ANNUAL INFORMATION FORM
FOR THE FINANCIAL YEAR ENDED MAY 31, 2019

SEPTEMBER 26, 2019

SUITE 501, 543 GRANVILLE STREET
VANCOUVER, B.C. V6C 1X8

METALLA ROYALTY & STREAMING LTD.
ANNUAL INFORMATION FORM
FOR THE FINANCIAL YEAR ENDED MAY 31, 2019

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INTRODUCTORY NOTES

Cautionary Note Regarding Forward-Looking Statements

This annual information form ("**AIF**") contains "forward-looking information" or "forward-looking statements" within the meaning of applicable securities legislation. Forward-looking information is provided as of the date of this AIF and Metalla Royalty & Streaming Ltd. ("**Metalla**" or the "**Company**") does not intend to and does not assume any obligation to update forward-looking information, except as required by applicable law. For this reason and the reasons set forth below, investors should not place undue reliance on forward-looking statements.

Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking information is based on reasonable assumptions that have been made by Metalla as at the date of such information and is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of Metalla to be materially different from those expressed or implied by such forward-looking information, including but not limited to: the impact of general business and economic conditions; the absence of control over mining operations from which Metalla will purchase precious metals or from which it will receive stream or royalty payments, and risks related to those mining operations, including risks related to international operations, government and environmental regulation, delays in mine construction and operations, actual results of mining and current exploration activities, conclusions of economic evaluations and changes in project parameters as plans are refined; problems related to the ability to market precious metals or other metals; industry conditions, including commodity price fluctuations, interest and exchange rate fluctuations; interpretation by government entities of tax laws or the implementation of new tax laws; the volatility of the stock market; competition; also, those risk factors discussed under the heading "*Risk Factors*" in this AIF.

Forward-looking information in this AIF includes disclosure regarding the gold, silver and other metal purchase agreements ("**Streams**" and each individually a "**Stream**") of Metalla, royalty payments to be paid to Metalla by property owners or operators of mining projects pursuant to net smelter returns ("**NSR**"), and other royalty agreements or interests ("**Royalties**" and individually a "**Royalty**"), the future outlook of Metalla and the mineral reserves and resource estimates for Endeavor Mine, Joaquin Mine, COSE Mine and Santa Gertrudis gold property (the "**Santa Gertrudis Property**"). Forward-looking statements are based on a number of material assumptions, which management of Metalla believe to be reasonable, including, but not limited to, the continuation of mining operations from which Metalla will purchase precious or other metals or in respect of which Metalla will receive Royalty payments, that commodity prices will not experience a material adverse change, mining operations that underlie Streams or Royalties will operate in accordance with disclosed parameters and such other assumptions as may be set out herein.

Although Metalla has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results to not be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information. Readers of this AIF should carefully review the risk factors set out in this AIF under the heading "*Risk Factors*".

Technical and Third-Party Information and Cautionary Note for United States Readers

Except where otherwise stated, the disclosure in this AIF relating to properties and operations in which Metalla holds Royalty, Stream or other interests, including the disclosure in this AIF under the heading "*Material Assets"* is based on information publicly disclosed by the owners or operators of these properties and information/data available in the public domain as at the date hereof, and none of this information has been independently verified by Metalla. Specifically, as a Royalty or Stream holder, Metalla has limited, if any, access to properties on which it holds Royalties, Streams, or other interests in its asset portfolio. The Company may from time to time receive operating information from the owners and operators of the mining properties, which it is not permitted to disclose to the public. Metalla is dependent on, (i) the operators of the mining properties and their qualified persons to provide information to Metalla, or (ii) on publicly available information to prepare disclosure pertaining to properties and operations on the properties on which the Company holds Royalty, Stream or other interests, and generally has limited or no ability to independently verify such information. Although the Company does not have any knowledge that such information may not be accurate, there can be no assurance that such third-party information is complete or accurate. Some reported public information in respect of a mining property may relate to a larger property area than the area covered by Metalla's Royalty, Stream or other interest. Metalla's Royalty, Stream or other interests may cover less than 100% of a specific mining property and may only apply to a portion of the publicly reported mineral reserves, mineral resources and or production from a mining property.

As at the date of this AIF the Company considers its Royalty and Stream interests in the Endeavor Mine, Joaquin Mine, COSE Mine and Santa Gertrudis Property to be its only material mineral properties for the purposes of National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("**NI 43-101**"). Information included in this AIF with respect to these material assets have been prepared in accordance with the exemption set forth in section 9.2 of NI 43-101.

Unless otherwise noted, the disclosure contained in this AIF of a scientific or technical nature for:

(a) the Endeavor Mine is based on the technical report entitled "*Endeavor Mine Cobar, New South Wales Australia Technical Report"* having an effective date of March 28, 2013 which technical report was prepared for Coeur Mining, Inc. ("**Coeur**") (formerly Coeur d'Alene Mines Corporation), and filed under Coeur's SEDAR profile on www.sedar.com, and on information prepared and disclosed by CBH Resources Limited ("**CBH**") and their parent company TOHO Zinc Co. Ltd. ("**Toho**") and can be found at http://www.toho-zinc.co.jp/. The information and data is available in the public domain as at the date hereof, and none of this information has been independently verified by the Company.

(b) the Joaquin Mine is based on the technical report entitled "*Technical Report for the Joaquin Property, Santa Cruz, Argentina - Pre-feasibility Study"* having an effective date of November 30, 2017 which technical report was prepared for Pan American Silver Corp. ("**Pan American**"), and filed under Pan American's SEDAR profile on www.sedar.com, and information that has been provided by Pan American and/or has been sourced from their news releases with respect to the Joaquin Mine.

(c) the COSE Mine is based on the technical report entitled "*NI 43-101 Technical Report Preliminary Economic Assessment Cap Oeste Suroeste (COSE) Project Santa Cruz Province, Argentina"* having an effective date of August 20, 2011 which technical report was prepared for Patagonia Gold Plc ("**Patagonia Gold**"), and filed under Patagonia Gold's SEDAR profile on www.sedar.com, and information that has been provided by Patagonia Gold and/or has been sourced from their news releases with respect to the COSE Mine.

(d) the Santa Gertrudis Property is based on the technical report entitled "*Technical Report, Updated Resource Estimate And Preliminary Economic Assessment On The Santa Gertrudis Gold Property, Sonora State, Mexico Latitude 30° 38' N Longitude 110° 33' W"* having an effective date of August 22, 2014 which technical report was prepared for GoGold Resources Inc. ("**GoGold**"), and filed under GoGold's SEDAR profile on www.sedar.com, and information that has been provided by GoGold and/or has been sourced from their news releases with respect to the Santa Gertrudis Property.

Unless otherwise indicated, all of the mineral reserves and mineral resources disclosed in this AIF have been prepared in accordance with NI 43-101. Canadian standards for public disclosure of scientific and technical information concerning mineral projects differ significantly from the requirements of the Industry Guide 7 ("**Guide 7**") adopted by the United States Securities and Exchange Commission (the "**SEC**") under the U.S. Securities Act of 1933, as amended. In particular, and without limiting the generality of the foregoing, the terms "Mineral Reserve", "Proven Mineral Reserve" and "Probable Mineral Reserve" are Canadian mining terms as defined in accordance with NI 43-101 and CIM Standards. These definitions differ from the definitions in Guide 7, and therefore may not qualify as reserves under SEC standards. Under Guide 7 standards, a "final" or "bankable" feasibility study is required to report reserves, the three-year historical average price is used in any reserve or cash flow analysis to designate reserves and the primary environmental analysis or report must be filed with the appropriate governmental authority. Under Guide 7 standards, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made.

In addition, the terms "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource" and "Inferred Mineral Resource" are defined in and required to be disclosed by NI 43-101; however, these terms are not defined terms under Guide 7 and are normally not permitted to be used in reports and registration statements filed with the SEC. Accordingly, resource information contained herein may not be comparable to similar information disclosed by U.S. companies under Guide 7. Investors are cautioned not to assume that any part or all of mineral deposits in these categories will ever be converted into reserves or that they can be mined economically or legally. "Inferred Mineral Resources" have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. Historical results or feasibility models presented herein are not guarantees or expectations of future performance. It cannot be assumed that all, or any part, of an inferred mineral resource will ever be upgraded to a higher category. Investors are cautioned not to assume that all or any part of an inferred mineral resource exists or that it can be economically or legally mined. Further, while NI 43-101 permits companies to disclose economic projections contained in pre-feasibility studies and preliminary economic assessments, which are not based on "reserves", U.S. companies have not generally been permitted to disclose economic projections for a mineral property in their SEC filings prior to the establishment of "reserves". Disclosure of "contained ounces" in a resource is permitted disclosure under Canadian reporting standards; however, Guide 7 normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in place tonnage and grade without reference to unit measures.

Accordingly, information contained in this AIF contains descriptions of our mineral deposits that may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder.

Charles Beaudry, M.Sc., P.Geo. and géo. for Metalla and a "Qualified Person" under NI 43-101 has reviewed and approved the written scientific and technical disclosure contained in this AIF.

This AIF also contains future-oriented financial information and financial outlook information (collectively, "**FOFI**") about the projected silver production from the Company's silver stream on the Endeavor mine which are subject to the same assumptions, risk factors, limitations and qualifications as set forth in the below paragraphs. FOFI contained in this AIF was made as of the date of this AIF and was provided for the purpose of providing further information about Metalla's anticipated future business operations. Metalla disclaims any intention or obligation to update or revise any FOFI contained in this AIF, whether as a result of new information, future events or otherwise, unless required pursuant to applicable law. FOFI contained in this AIF should not be used for purposes other than for which it is disclosed herein. Such future-oriented production information is provided for the purpose of providing information about management's current expectations and plans relating to the future. Readers are cautioned that such outlook or information should not be used for purposes other than for which it is disclosed in this AIF.

Currency Presentation

All dollar amounts referenced as "C$", "CAD" or "CAD$" are references to Canadian dollars, all references to "US$", "USD" or "USD$" are references to United States dollars.

The following table sets out the high and low rates of exchange for one U.S. dollar expressed in Canadian dollars in effect at the end of each of the following periods, the average rate of exchange for those periods, and the rate of exchange in effect at the end of each of those periods, each based on the rate published by the Bank of Canada.

	Year Ended May 31	
	2019	**2018**
Rate at end of period	C$1.3527	C$1.2948
Average rate during period	C$1.3224	C$1.2718
High rate for period	C$1.3642	C$1.3504
Low rate for period	C$1.2803	C$1.2128

CORPORATE STRUCTURE

Metalla was incorporated on May 11, 1983 pursuant to the *Company Act* (British Columbia) under the name Cactus West Explorations Ltd. The Company's name was changed to Cimarron Minerals Ltd. and its share capital was consolidated on a five (old) for one (new) basis, on April 29, 1996. On May 1, 2000, the Company's name was changed to DiscFactories Corporation, and its share capital was consolidated on a two (old) for one (new) basis and the Company was continued into the federal jurisdiction under the *Canada Business Corporations Act*. On February 20, 2007, the Company completed a change of business transaction pursuant to which it changed its name from DiscFactories Corporation to Excalibur Resources Ltd. On January 11, 2010, its share capital was consolidated on an eight (old) for one (new) basis. On December 1, 2016 it changed its name from Excalibur Resources Ltd. to Metalla, and completed a share consolidation on a three (old) for one (new) basis. On November 16, 2017, Metalla continued under the *Business Corporations Act* (British Columbia) ("**BCBCA**").

The Company's head office is located at 501-543 Granville Street, Vancouver, British Columbia, V6C 1X8, Canada. The Company's registered and records office is located at Suite 2300, 550 Burrard Street, Vancouver, British Columbia, V6C 2B5, Canada.

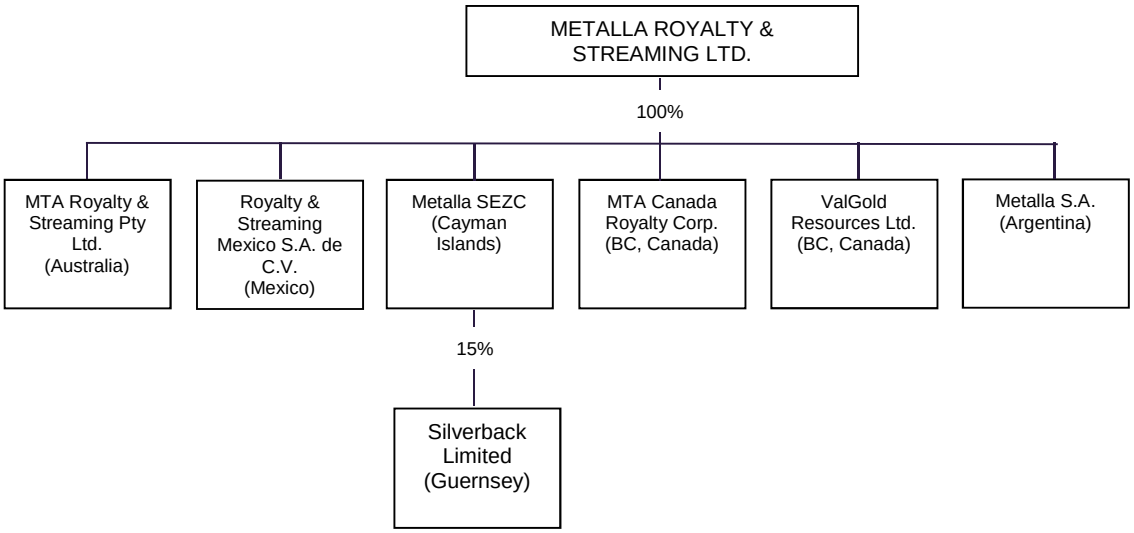
The Company is a reporting issuer in British Columbia, Alberta, Manitoba, Ontario, Nova Scotia, and Newfoundland. As at the date of this AIF the Company's common shares (the "**Common Shares**") are

listed on the TSX Venture Exchange (the "**TSX-V**") under the symbol "MTA", on the Frankfurt Exchange under the Symbol "X9CP", and on Over-the-counter markets under the symbol "MTAFF".

The Company has six material subsidiaries: (i) MTA Canada Royalty Corp. which was incorporated under the laws of British Columbia (ii) Valgold Resources Ltd. ("**Valgold**") which was incorporated under the laws of British Columbia; (iii) MTA Royalty & Streaming Pty Ltd. which was incorporated under the laws of Australia; (iv) Metalla S.A. which was incorporated under the laws of Argentina; (v) Royalty & Streaming Mexico, S.A. de C.V. which was incorporated under the laws of Mexico; and (vi) Metalla SEZC which was incorporated under the laws of Cayman Islands.

Inter-Corporate Relationship

The chart below illustrates the Company's material inter-corporate relationships as at the date hereof:



GENERAL DEVELOPMENT OF THE BUSINESS

Prior Business of Metalla

Prior to 2016, Metalla (operating as Excalibur Resources Ltd. at the time) was engaged in the business of exploration and development of mineral properties. Readers are referred to the public disclosure of Metalla (then referred to as Excalibur Resources Ltd.) for further information concerning the operations of Metalla prior to June 1, 2016.

Current Business of Metalla – 3 Year History

Acquisition of High Stream Corp.

On September 1, 2016, Metalla signed a binding agreement to acquire High Stream Corp., a specialty streaming and royalty finance company for 10,000,000 shares. As part of the transaction, Brett Heath, was appointed President and a director of Metalla, and subsequently was appointed Chief Executive Officer on June 19, 2017.

Acquisition of Royalties from International Explorers & Prospectors Inc. and Matamec Exploration Inc.

On November 15, 2016, Metalla acquired 100% of three NSRs on properties located in Timmins, Ontario for CAD$6 million in cash and CAD$4 million in Common Shares based on the achievement of various progress milestones determined by the expansion plans of the underlying operators of the mines. The acquisition included the following:

- Hoyle Pond Gold Mine – 1% NSR Royalty granted by Newmont Goldcorp Corporation ("**Goldcorp**") (formerly Goldcorp Inc.) on: (a) the leased mining rights located in Hoyle township, east of the Hoyle Pond Gold Mine, payable after production of 500,000 ounces gold equivalent; (b) the fee simple mining rights (patented claims) located in Hoyle township, east of the Hoyle Pond Gold Mine; and (c) the Colbert/Anglo Property mining rights located in Matheson township, east of the Hoyle Pond Gold Mine, with a right to buy back 0.375% of such NSR Royalty for an amount of CAD$500,000; and a 1% NSR Royalty on the Bint Property owned by Glencore PLC located in Matheson township, east of the Hoyle Pond Gold Mine.

- West Timmins Extension – up to 1.5% NSR Royalty on the West Timmins extension properties, owned by Pan American, subject to a buyback of 0.75% for CAD$750,000. The West Timmins mine was acquired by Pan American through the takeover of Tahoe Resources in 2019. The West Timmins mine is the flagship mine in the district for Pan American. Metalla has a 1.5% NSR Royalty on the Wallingford claim which lies on the extension of the Timmins Deposit. The Timmins deposit plunges towards the NW onto Metalla Royalty Claims and will cross the boundary at depth.

- DeSantis Mine Royalty – 1.5% NSR Royalty on the DeSantis properties, with a buyback of 0.5% for CAD$1 million. The DeSantis Project, which includes the past producing DeSantis Mine, covers approximately five km of strike length within the highly prospective geology of the Destor-Porcupine Deformation Zone, the main structure controlling gold deposits in the Timmins gold camp. The property is located approximately 11 km west of Goldcorp's Dome Mine and 14 km east of Lake Shore Gold Corp.'s Timmins Mine.

On June 1, 2017, Metalla consolidated its Hoyle Pond Extension royalties by acquiring NSR Royalties from Matamec Exploration Inc. for an upfront payment of CAD$500,000 in cash and 2,000,000 (post-consolidation) Common Shares valued at CAD$0.50 each, and 1,000,000 Common Share purchase warrants each with a term of 2 years with an exercise price of CAD$0.75. The NSR Royalties included the following:

- Hoyle Pond Gold Mine – 1% NSR Royalty granted by Goldcorp Inc. on: (a) the leased mining rights located in Hoyle township, east of the Hoyle Pond Gold Mine, payable after production of 500,000 ounces gold equivalent; (b) the fee simple mining rights (patented claims) located in Hoyle township, east of the Hoyle Pond Gold Mine; and (c) the Colbert/Anglo Property mining rights located in Matheson township, east of the Hoyle Pond Gold Mine, with a right to buy back 0.375% of such NSR Royalty for an amount of CAD$500,000;

- Bint Property – 1% NSR Royalty on the Bint Property located in Matheson township, east of the Hoyle Pond Gold Mine; and

- Montclerg Property – 1% NSR Royalty on the Montclerg Property located on the Pipestone Fault in the Timmins Gold Camp.

Completion of a Private Placement

On November 30, 2016, Metalla closed a non-brokered private placement for an oversubscribed total of 23,717,900 units of the Company at CAD$0.10 per unit for gross aggregate proceeds of CAD$2,371,790. Each unit consisted of one Common Share and one-half of one warrant. Each full warrant was exercisable to acquire an additional Common Share at CAD$0.15 per share for a period of two years from the closing date. These shares were issued prior to the 3 (old) for 1 (new) consolidation on December 1, 2016.

Listing on TSX-V and OTCQB

On December 2, 2016, Metalla commenced trading on the OTCQB Venture Marketplace and on February 2, 2018, Metalla commenced trading on the TSX-V as a Tier 1 issuer.

Completion of a Private Placement

On March 6, 2017, Metalla closed a non-brokered Private Placement for gross proceeds of CAD$3,216,818 for 6,433,636 units at a price of CAD$0.50 per unit. Each unit consisted of one Common Share and one half of one Common Share purchase warrant. Each full warrant was exercisable to acquire an additional Common Share at CAD$0.75 per Common Share for a period of two years from the closing date (subject to acceleration). On April 10, 2017, Metalla closed an additional tranche of 1,454,000 units for gross aggregate proceeds of CAD$727,000.

New Luika Gold Mine Stream

On May 16, 2017, Metalla acquired a 15% interest in Silverback Limited ("**Silverback**"). Silverback is a privately held Guernsey-based investment company that solely owns 100% of the New Luika Gold Mine silver stream which it purchased to provide the operator with construction financing for the underground mine transition. Details of the transaction include as follows: Metalla, through its ownership interest in Silverback, receives 15% of the silver produced from the New Luika Gold Mine operation under a silver streaming agreement, silver is purchased at 10% of spot (example US$1.80 per ounce at US$18 silver) upon delivery, and the stream continues through 2026. The New Luika Gold Mine is located in the Chunya Administrative District, Mbeya region in the Lupa Goldfield of southwest Tanzania, the second largest gold producing region in Tanzania in the 1900s. The property covers one prospecting license covering 49 km² and three mining licenses covering 16 km². The mine was Commissioned in August 2012 with new elution and electrowinning plant installed in the second quarter of 2014 and new crusher plant commissioned in September 2014. The processing facility uses a conventional three stage crushing, two mills in parallel and a carbon in leach operation.

Acquisition of Royalty and Streaming Portfolio from Coeur

On July 31, 2017 Metalla purchased a portfolio of 3 Royalties and 1 Stream from Coeur in exchange for a total of 14,546,597 Common Shares and an unsecured convertible debenture in the principal amount of US$6,677,475.63 (the "**Convertible Debenture**"). The Convertible Debenture included terms to automatically convert into Common Shares of Metalla at future financings or asset acquisitions to maintain Coeur's 19.9% interest until the outstanding principal was either converted in full or otherwise repaid. The Convertible Debenture was unsecured and bore interest at a rate of 5% per annum. The Convertible Debenture was fully converted by Coeur on February 17, 2019.

The portfolio included the following:

- Endeavor Silver Stream – Silver stream over the Endeavor Mine located in North-central New South Wales, Australia and once the region's largest zinc, lead and silver producer. Commissioned in 1983 as the Elura Mine, the site has been operated by CBH since 2003 at which time the site was renamed Endeavor. The Endeavor orebody is similar to others in the Cobar Basin in that it has the form of massive vertical pillars. Extraction of some 30 million tonnes of ore has occurred with remaining reserves expected to support production out to December 2020. Metalla has the right to buy 100% of the silver production up to 20.0 million ounces from the Endeavor Mine for an operating cost contribution of USD$1.00 for each ounce of payable silver, indexed annually for inflation, plus a further increment of 50% of the silver price when the market price of silver exceeds USD $7.00 per ounce. See *Material Assets* section for further information.

- Joaquin Project – a 2% NSR Royalty on the Joaquin Property. The Joaquin Property was purchased by Pan American for US$25 million in January 2017. The project is composed of seven contiguous claims, totaling 28,660 hectares. It is located in the Santa Cruz Province, Argentina, approximately 145 kilometers from Pan American's Manantial Espejo mine, where the Joaquin ore is planned to be processed. See *Material Assets* section for further information.

- Zaruma Gold Mine – a 1.5% NSR Royalty on the the Zaruma Gold Mine which is Core Gold's flagship project and is located in the Zaruma-Portovelo Mining District of southern Ecuador, 3km north of the town of Zaruma. This district is a significant, high-grade goldfield, having produced over 5 million ounces of gold historically.

- Puchuldiza Project – a 1.5% NSR Royalty on the Puchuldiza Project in Chile. In May of 2019, due to a failure of Regulus Resources Inc. to maintain the mining concessions in good standing, Metalla acquired 9 mining concessions underlying the 1.5% NSR Royalty for CAD$100,000 and subsequently extinguished the 1.5% NSR Royalty. Metalla currently holds 5 of the concessions in good standing and allowed 4 of the concessions to lapse.

Akasaba West Royalty

On May 14, 2018, Metalla acquired a 2% NSR Royalty on the Akasaba West Property. The Akasaba West Property is a gold-copper deposit located in the Bourlamaque and Louvicourt Townships, Val d'Or, Quebec. The Akasaba West Property is owned and operated by Agnico Eagle Mines Limited ("**Agnico**"). Agnico acquired the project in 2014 and has continued previous permitting and development activities, with a view to commencing mining activities in 2020.

Agnico will maintain its buy-back right of 1% for USD$7 million, and the Royalty will be payable after gold production on the claims comprising the property has exceeded 210,000 ounces.

Completion of Arrangement with ValGold Resources Ltd.

On July 31 2018, Metalla completed a plan of arrangement to acquire all outstanding common shares of ValGold which holds the Garrison Royalty (see *Garrison Royalty* section below for additional information) and an exploration and evaluation project. Under the terms of the arrangement, shareholders of ValGold received 0.1667 Common Shares for each ValGold common share. On the closing of this arrangement the following occurred:

- Metalla issued 9,659,973 Common Shares in exchange for common shares and in-the-money stock options of ValGold; and

- Outstanding Share purchase warrants of ValGold became exercisable to acquire up to 2,616,831 Common Shares at CAD$0.60 per Common Share, expiring October 6, 2019.

Garrison Royalty

As a result of the acquisition of ValGold, Metalla acquired a 2% NSR Royalty on a significant portion of the Garrison Project previously 100% owned by Osisko Mining Inc. ("**Osisko**"), including the claims which were the subject of an NI 43-101 compliant resource estimate in 2014. The Garrison Project is situated directly on the prolific Destor-Porcupine Fault Zone host to numerous gold mines. The Royalty covers the Garrcon, JonPol, and eastern portion of the 903 deposit. Osisko took over the Garrison Project in December 2015 when it acquired Northern Gold Mining Inc. and announced the start of a 20,000 metre drill program in July 2016. To-date, it has drilled 85,000 metres and made 11 announcements of drill results (the most recent on January 31, 2018) on all three main deposits on the property. On July 5, 2019, Osisko completed a plan of arrangement whereby the Garrison gold project was transferred via spin out to O3 Mining Corporation.

Loan Agreements

On November 7, 2018, Metalla entered into loan agreements with a syndicate of arm's length lenders (the "**Syndicate Lenders**") for aggregate principal amount of US$1,750,000 (the "**Syndicate Loan**"). The proceeds from the Syndicate Loan were used to pay, in part, the US$6 million cash portion of the acquisition price for the 2% NSR Royalty on the Santa Gertrudis Property (see sections titled *Santa Gertrudis Royalty* and *Material Assets* for further information). Terms of the Syndicate Loan included interest at a rate of 5.0% per annum, calculated annually, and a term of twelve months. As an inducement for providing the Syndicate Loan, Metalla agreed to provide the Syndicate Lenders an origination discount of US$52,500 in total and, to issue an aggregate of 525,000 non-transferable Common Share purchase warrants (the "**Loan Warrants**"). Each Loan Warrant entitles the holder to acquire one Common Share at an exercise price of CAD$0.85 for a period of two years.

On December 11, 2018, Metalla increased the Syndicate Loan by US$250,000 (the "**Syndicate Loan Increase**"). In connection with this increase, Metalla agreed to issue an aggregate of 75,000 non-transferable Common Share purchase warrants with each warrant entitling the holder to one Common Share of Metalla at an exercise price of CAD$0.85 for a period of two years.

On August 7, 2019, Metalla fully paid the amounts owing under the Syndicate Loan upon the initial drawdown of the Beedie Loan (see *Establishment of the CAD$12,000,000 Convertible Loan Facility* section below) and no amounts remain outstanding under the Syndicate Loan.

Santa Gertrudis Royalty

On November 7, 2018, Metalla acquired 2% NSR Royalty over the Santa Gertrudis Property located north of Hermosillo in Sonora, Mexico, for US$12 million, 1% of which can be bought back at any time for US$7.5 million. Agnico acquired the property for US$80 million (CAD$105 million) in cash in November of 2017. The property produced over 550,000 ounces of gold in the 1990's at an average head grade of 2.13 g/t gold. See *Material Assets* section for further information

COSE Royalty

On December 20, 2018, Metalla acquired a 1.5% NSR Royalty on certain mining rights located on the Cap-Oeste Sur East property located in the province of Santa Cruz, Argentina for a purchase price of USD$1.5 million cash (partially funded by the Syndicate Loan Increase). Metalla also received a right of

first refusal in favour of Metalla to acquire a future net smelter returns royalty that may be granted by, or received by, the seller (or an affiliate) on its Cap-Oeste mine.

The COSE Property is a gold and silver project located in the province of Santa Cruz, Argentina that is 100% owned by Minera Triton Argentina S.A., a wholly-owned subsidiary of Pan American. The COSE Property is a fully-permitted mine that has been developed at a total cost of USD$23.9 million, since Pan American acquired the property from Patagonia Gold for USD$15 million in May 2017. See *Material Assets* section for further information.

Completion of Private Placement

Metalla completed a private placement of 8,748,808 units in two tranches on December 21, 2018 and January 4, 2019 for aggregate gross proceeds of C$6,824,070. Each unit consisted of one Common Share and one half of one Common Share purchase warrant at price of C$0.78 per unit. Each warrant entitles the holder thereof to acquire one Common Share of the Company at a price of C$1.17 for a period of 24 months from the closing date of each tranche as applicable (subject to acceleration). This offering was led by Haywood Securities Inc., on behalf of a syndicate of agents, including PI Financial Corp. and Canaccord Genuity Corp. The net proceeds from this private placement are being used to finance Royalty and Stream acquisitions and for general and working capital purposes.

Acquisition of Fifteen Mile Stream Royalty

On February 12, 2019 Metalla acquired a 1% NSR Royalty on Atlantic Gold Corporation's ("**Atlantic Gold**") Fifteen Mile Stream Project for US$4,000,000 pursuant to a Royalty purchase agreement dated February 4, 2019. On July 19, 2019, Atlantic Gold was subsequently acquired by St. Barbara Limited. ("**St. Barbara**"). The Fifteen Mile Stream Project is a gold project located 57km northeast of Atlantic Gold's central milling facility at Touquoy and is readily accessible by highway. The project lies along the same geological trend as other related deposits – Touquoy, Beaver Dam and Cochrane Hill – and all are hosted within the same critical stratigraphy and structure, over a strike length of 80 km. The purchase price was satisfied by an upfront payment of US$2,200,000 in cash and 2,619,000 Common Shares. The Royalty is in connection with two claims which cover the Egerton-Maclean, Hudson, 149 East Zone, and the majority of the Plenty deposit which collectively comprise the Fifteen Mile Stream Project located in Nova Scotia, Canada. The Royalty covers all products mined or otherwise recovered from the Fifteen Mile Stream Project. For further details see *Material Assets* section below.

Acquisition of Alamos Royalty Portfolio – First Closing

On April 1, 2019, Metalla entered into an asset purchase agreement with Alamos Gold Inc. (together with its affiliates, "**Alamos**") for the acquisition of a Royalty portfolio of up to 18 NSR Royalties or options to acquire NSR Royalties including, but not limited to, the following assets:

- El Realito Royalty – 2% NSR Royalty on the El Realito Property which is owned and operated by Agnico located adjacent to its operating La India Mine. El Realito is a satellite deposit located adjacent to Agnico's operating La India Mine in Sonora, Mexico. Agnico can buyback 1% of the Royalty for US$4 million at any time and holds a 60-day right of first refusal on the sale of the 2% Royalty. See *Material Assets* section for further information.

- Wasamac Royalty – 1.5% NSR Royalty on the Wasamac Mine currently under development by Monarch Gold Corporation ("**Monarch**") located 15km west of Rouyn-Noranda in Quebec; Monarch has the right to buy back 0.5% of the NSR Royalty for a one-time payment of CAD$7.5 million at any time.

- La Fortuna Royalty Option – option to purchase a 1% NSR Royalty on the La Fortuna Mine currently under development by Minera Alamos Inc. located in Durango State, Mexico. Metalla has the option to purchase the 1% NSR Royalty from Alamos for US$0.6 million payable in cash or common shares at the option of Metalla for a period of two years.

- Beaufor Royalty – 1% NSR Royalty on the producing underground Beaufor Mine operated by Monarch, located 20km northeast of Val d'Or, Quebec.

- San Luis Royalty – 1% NSR Royalty on the San Luis property owned by SSR Mining Inc. ("**SSR**") and located in the Ancash Department, central Peru.

The first closing occurred on April 17, 2019 and Metalla issued 8,219,009 Common Shares for the initial acquisition of 13 NSR Royalties and 2 options to purchase NSR Royalties. Certain Royalties in the portfolio were subject to rights of first refusal, consents, and future options at agreed to prices were to be acquired at a second or additional closings.

Establishment of the CAD$12,000,000 Convertible Loan Facility

On April 23, 2019, Metalla announced that it had entered into a convertible loan facility (the "**Beedie Loan Facility**") of up to CAD$12.0 million (the "**Beedie Loan**") with Beedie Capital ("**Beedie**") to fund acquisitions of new Royalties and Streams. The Beedie Loan was funded by way of an initial advance of CAD$7.0 million within 90 days from closing, and the remaining CAD$5.0 million will be available for subsequent advances in minimum tranches of CAD$1.25 million. The initial drawdown of CAD$7.0 million occurred on August 7, 2019.

The Beedie Loan Facility carries an interest rate of 8.0% on advanced funds and 2.5% on standby funds available, with the principal payment due 48 months after the date the financing is completed (the "**Closing Date**") and is secured by certain assets of Metalla. The Beedie Loan can be repaid with no penalty after 18 months and carries no warrant coverage. The principal amount of the Beedie Loan will be convertible at any time at the option of Beedie into Common Shares at a conversion price of CAD$1.39 per Common Share, representing a 25% premium to the 30-day volume weighted average price as of March 15, 2019. Common Shares acquired on conversion will be subject to a four-month plus one day hold period from the date of advance.

Subsequent Events to May 31, 2019

Alamos Royalty Portfolio – Second Closing

On June 20, 2019, Metalla entered into an amended and restated asset purchase agreement and completed a second closing for the purchase of the El Realito Royalty (which was subject to a 60 day right of first refusal by Agnico) and the Biricu Royalty. As consideration for the Biricu Royalty, Metalla issued 10,299 Common Shares. Metalla also agreed to purchase from Alamos a Royalty on the Orion gold-silver project (that was not part of the existing Alamos Royalty portfolio) owned by Minera Frisco S.A.B. C.V. located in Nayarit, Mexico at a future third closing.

Additional Fifteen Mile Stream Royalty

On August 16, 2019, Metalla acquired a 3.0% NSR Royalty the Plenty project, which forms part of St. Barbara's Fifteen Mile Stream project, for CAD$2 million from a third-party in accordance with a purchase and sale agreement. As consideration for the transaction, Metalla made an upfront payment of CAD$0.5 million in cash, with an additional payment of up to CAD$1.5 million upon the exercise of

the Royalty payor's buy-back right to purchase two-thirds of the 3.0% NSR Royalty for a period of five years.

Other Royalties

For a list of Royalty interests held by Metalla and not described above, see the chart below under the section *Description of Business – Principal Product.*

DESCRIPTION OF THE BUSINESS

Metalla is a publicly traded precious metals royalty and streaming company listed on the TSX-V. In the last three years, Metalla has deployed over C$70 million across 15 transactions amassing a portfolio of 45 Royalties and Streams. Metalla's portfolio provides exposure to established counterparties, including Agnico, Goldcorp, Pan American, CBH, SSR and St Barbara.

A royalty is a non-dilutive asset level perpetual interest in the underlying project that when in production provides topline cash relative to the percentage of the royalty. Depending on the nature of a royalty interest and the laws applicable to it and the project, the royalty holder is generally not responsible for, and has no obligation to contribute to operating or capital costs or environmental liabilities. An NSR Royalty is generally based on the value of production or net proceeds received by an operator from a smelter or refinery for the minerals sold. These proceeds are usually subject to deductions or charges for transportation, insurance, smelting and refining costs as set out in the agreement governing the terms of the royalty.

Principal Product

The principal products of Metalla are: (i) precious metals that it has agreed to purchase pursuant to Stream agreements that it has entered into with mining companies; and (ii) Royalty payments pursuant to Royalty agreements acquired by Metalla or entered into with mining companies. Metalla is focused on precious metal streams and royalties for gold and silver.

The Company's material assets are its Stream and Royalty interests in the Endeavor Mine, Joaquin Mine, COSE Mine, and Santa Gertrudis Property.

The following table summarizes the Royalty and Stream interests that Metalla owns:

	Property	**Operator**	**Location**	**Stage**	**Metal**	**Terms**
1	Endeavor Mine	CBH	NSW Australia	Production	Zn, Pb, Ag	Stream on 100% of Ag
2	Joaquin Mine	Pan American	Santa Cruz, Argentina	Development	Ag, Au	2% NSR Royalty
3	Santa Gertrudis	Agnico	Sonora, Mexico	Development	Au	2% NSR Royalty
4	Fifteen Mile Stream	St Barbara	Nova Scotia	Development	Au	1% NSR Royalty
5	Fifteen Mile Stream	St Barbara	Nova Scotia	Development	Au	3% NSR Royalty
6	COSE Mine	Pan American	Santa Cruz, Argentina	Development	Ag, Au	1.5% NSR Royalty

	Property	Operator	Location	Stage	Metal	Terms
7	Garrison Mine	O3 Mining Corporation	Kirkland Lake, ON	Development	Au	2% NSR Royalty
8	New Luika	Shanta Gold	Lupa Goldfields, Tanzania	Production	Au	Stream on 15% of Ag
9	Hoyle Pond Extension	Goldcorp	Timmins, Canada	Development	Au	2% NSR, subject to 500Koz exemption
10	Zaruma	Core Gold	Ecuador	Development	Au	1.5% NSR Royalty
11	Timmins West Extension	Tahoe Resources	Timmins, Canada	Development	Au	1.5% NSR Royalty (subject to a 0.75% buyback)
12	Akasaba West	Agnico	Val d'Or, Canada	Development	Au, Cu	2% NSR Royalty, payable after 210Koz Au
13	TVZ Zone	Goldcorp	Timmins, Canada	Development	Au	2% NSR Royalty
14	Dufferin East	Resource Capital	Halifax, Canada	Development	Au	1.0 % NSR Royalty
15	El Realito	Agnico	Sonora, Mexico	Development	Au	2.0 % NSR Royalty
16	La Fortuna	Minera Alamos Inc.	Durango, Mexico	Development	Au	Option – 1.0 % NSR Royalty
17	Wasamac	Monarch	Rouyn-Noranda, Quebec	Development	Au	1.5% NSR Royalty
18	Beaufor Mine	Monarch	Val d'Or, Quebec	Development	Au	1.0% NSR Royalty
19	San Luis	SSR	Peru	Development	Au	1.0% NSR Royalty
20	DeSantis Mine	Canadian Gold Miner	Timmins, Canada	Exploration	Au	1.5% NSR Royalty
21	Bint Property	Glencore	Timmins, Canada	Exploration	Au	2% NSR Royalty
22	Colbert/Anglo	Goldcorp	Timmins, Canada	Exploration	Au	2% NSR Royalty
23	Montclerg	IEP	Timmins, Canada	Exploration	Au	1% NSR Royalty
24	Pelangio Poirier	Pelangio Exp.	Timmins, Canada	Exploration	Au	1% NSR Royalty

	Property	Operator	Location	Stage	Metal	Terms
25	DNA	Detour Gold	Cochrane, Canada	Exploration	Au	2% NSR Royalty
26	Beaudoin	Explor Resources	Timmins, Canada	Exploration	Au, Ag	0.4% NSR
27	Sirola Grenfell	Golden Peak Res.	Kirkland Lake, Canada	Exploration	Au	0.25% NSR Royalty
28	Mirado Mine	Orefinders	Kirkland Lake, Canada	Exploration	Au	1% NSR Royalty + Option
29	Solomon's Pillar	Sage Gold	Greenstone, Canada	Exploration	Au	1% NSR Royalty
30	Puchuldiza	Not Applicable	Chile	Exploration	Au	1.5% NSR Royalty[1]
31	Los Patos	Private Party	Venezuela	Exploration	Au	1.5% NSR Royalty
32	Big Island	Copper Reef Mining	Flin Flon, Manitoba	Exploration	Au	2% NSR Royalty
33	Biricu	Guerrero Ventures	Guerrero, Mexico	Exploration	Au	2% NSR Royalty
34	Boulevard	Independence Gold	Yukon, Ontario	Exploration	Au	1% NSR Royalty
35	Camflo Northwest	Monarch	Val d'Or, Quebec	Exploration	Au	1% NSR Royalty
36	Edwards Mine	Waterton	Wawa, Ontario	Exploration	Au	1.25% NSR Royalty
37	Goodfish Kirana	War Eagle Mining	Kirkland Lake, Ontario	Exploration	Au	1% NSR Royalty
38	Kirkland-Hudson	Kirkland Lake Gold	Kirkland Lake, Ontario	Exploration	Au	2% NSR Royalty
39	Pucarana	Buenaventura	Peru	Exploration	Au	Option – 1.8% NSR Royalty
40	Capricho	Pucara Resources	Peru	Exploration	Au	1% NSR Royalty
41	Lourdes	Pucara Resources	Peru	Exploration	Au	1% NSR Royalty
42	Santo Tomas	Pucara Resources	Peru	Exploration	Au	1% NSR Royalty
43	Guadalupe/Pararin	Pucara Resources	Peru	Exploration	Au	1% NSR Royalty

	Property	Operator	Location	Stage	Metal	Terms
44	Tower Mountain	Private Party	Canada	Exploration	Au	2% NSR Royalty[2]
45	Orion	Minera Frisco	Mexico	Exploration	Au, Ag	2.75% NSR Royalty[2]

[1] 1.5% Royalty has subsequently been extinguished upon acquisition of the underlying concessions by Metalla. See heading *General Development of the Business – Current Business of Metalla - 3 Year History - Acquisition of Royalty and Streaming Portfolio from Coeur* above.
[2] Under contract to be acquired.

Further details regarding the purchase agreements entered into by Metalla in respect of certain Stream and Royalty acquisition agreements with respect to development or production properties can be found under the section *General Development of the Business* above.

Competitive Conditions

Metalla will compete with other companies that operate in the stream and royalty market segment to acquire Streams and Royalties. Metalla will also compete with companies that provide financing to mining companies. Metalla also competes with other precious metals focused companies for capital and human resources. See section *Description of the Business – Risk Factors – Competition*.

Components

Metalla expects to purchase or acquire Royalties or Streams as previously described above under section *Description of the Business*.

Employees

As at the date of this AIF, Metalla has a total of 3 full time and 5 part time employees. No management functions of Metalla are performed to any substantial degree by persons other than the directors and executive officers of the Company.

Foreign Operations

Metalla currently purchases or expects to purchase precious or other metals or receives or expects to receive payments under Royalties from mines or operations in Australia, Argentina, Mexico, Canada, Tanzania, Ecuador, Peru, and Chile. Metalla may in the future purchase precious metals or receive payments under Royalties from mines or operations in other countries. Changes in legislation, regulations or governments in such countries are beyond Metalla's control and could adversely affect the Company's business. The effect of these factors cannot be predicted with any accuracy by Metalla or its management. See section *Description of the Business – Risk Factors – International Interests* in this AIF.

RISK FACTORS

Investors should carefully consider all of the information disclosed in this AIF prior to investing in the securities of Metalla. In addition to the other information presented in this AIF, the following risk factors should be given special consideration when evaluating an investment in such securities. These risk factors could materially affect Metalla's future operating results and could cause actual events to differ materially from those described in forward-looking statements relating to Metalla. The risk factors described in this AIF are not the only risks that Metalla faces. Additional risks or uncertainties that Metalla

does not have any knowledge of or are currently deemed as immaterial, could also materially adversely affect Metalla.

Risks Relating to Metalla

Changes in Commodity Prices that underlie Royalty, Stream or Other Interests

The price of Metalla's Common Shares may be significantly affected by declines in commodity prices. The revenue derived by Metalla from its asset portfolio will be significantly affected by changes in the market price of commodities that underlie the Royalty, Stream or other investments or interests of Metalla. Metalla's revenue is particularly sensitive to changes in the price of gold and silver. The cash flow derived from the Endeavor Mine and New Luika Gold Mine Streams is 100% dependent on the future price of silver. The price of gold, silver and other commodities fluctuates daily and are affected by factors beyond the control of Metalla, including levels of supply and demand, industrial development, inflation and interest rates, the U.S. dollar's strength and geo-political events. External economic factors that affect commodity prices can be influenced by changes in international investment patterns, monetary systems and political developments.

All commodities, by their nature, are subject to wide price fluctuations and future material price declines will result in a decrease in revenue and may cause a suspension or termination of production by relevant operators, which would result in a complete cessation of revenue from applicable Royalties, Streams or working interests. Even if Metalla worked to ensure a diversification of commodities that underlie its Royalties and Streams, the commodity market trends are cyclical in nature and a general downturn in commodity prices could result in a significant decrease in overall revenue.

Metalla Has No Control Over Mining Operations

Metalla is not directly involved in the operation of mines. The revenue Metalla may derive from its portfolio of Royalty and Stream assets is based entirely on production from third-party mine owners and operators. Metalla is party to precious metal purchase agreements to purchase a certain percentage of precious metals or other metals produced by certain mines and operations and Metalla expects to receive payments under Royalty agreements based on production from certain mines and operations, however, Metalla will not have a direct interest in the operation or ownership of those mines and projects. The owners and operators generally will have the power to determine the manner in which the properties are exploited, including decisions to expand, continue or reduce, suspend or discontinue production from a property, decisions about the marketing of products extracted from the property and decisions to advance exploration efforts and conduct development of non-producing properties. The interests of third-party owners and operators and those of Metalla in respect of a relevant project or property may not always be aligned. The inability of Metalla to control the operations for the properties in which it has a Royalty, Stream or other interest may result in a material adverse effect on the profitability of Metalla, the results of operations of Metalla and its financial condition. Except in a limited set of circumstances as may be specified in a specific Stream or Royalty, Metalla will not receive compensation if a specific mine or operation fails to achieve or maintain production or if the specific mine or operation is closed or discontinued. In addition, a number of mining operations in respect of which Metalla holds a Royalty or Stream interest ("**Mining Operations**") are currently in exploration stage and may not commence commercial production and there can be no assurance that if such operations do commence production that they will achieve profitable and continued production levels. In addition, the owners or operators may take action contrary to policies or objectives of Metalla; be unable or unwilling to fulfill their obligations under their agreements with Metalla; have difficulty obtaining or be unable to obtain the financing necessary to move projects forward; or experience financial, operational or other difficulties, including insolvency, which could limit the owner or operator's ability to perform its obligations under

arrangements with Metalla. Metalla is also subject to the risk that a specific mine or project may be put on care and maintenance or have its operations suspended, on both a temporary or permanent basis.

The owners or operators of the projects or properties in which Metalla holds a Royalty or Stream interest may from time to time announce transactions, including the sale or transfer of the projects or of the operator itself, over which Metalla has little or no control. If such transactions are completed it may result in a new operator controlling the project, who may or may not operate the project in a similar manner to the current operator which may positively or negatively impact Metalla. If any such transaction is announced, there is no certainty that any such transaction will be completed, or completed as announced, and any consequences of such non-completion on Metalla may be difficult or impossible to predict.

Metalla is subject to the risk that Mining Operations may shut down on a temporary or permanent basis due to issues including but not limited to economic conditions, lack of financial capital, flooding, fire, weather related events, mechanical malfunctions, community or social related issues, social unrest, the failure to receive permits or having existing permits revoked, collapse of mining infrastructure including tailings ponds, expropriation and other risks. These issues are common in the mining industry and can occur frequently. There is a risk that the carrying values of Metalla's assets may not be recoverable if the mining companies operating the Mining Operations cannot raise additional finances to continue to develop those assets. The exact effect of these factors cannot be accurately predicted, but the combination of these factors may result in the Mining Operations becoming uneconomic resulting in their shutdown and closure. Metalla is not entitled to purchase gold, other commodities, receive royalties or other economic benefit from the Mining Operations if no gold or other commodities are produced from the Mining Operations.

Variations in Foreign Exchange Rates

The operations of Metalla are subject to foreign currency fluctuations and inflationary pressures, which may have a material adverse effect on the profitability of Metalla, its result of operations and financial condition. There can be no assurance that the steps taken by management to address such fluctuations will eliminate the adverse effects and Metalla may suffer losses due to adverse foreign currency fluctuations.

Delay Receiving or Failure to Receive Payments

Metalla is dependent to a large extent upon the financial viability and operational effectiveness of owners and operators of the relevant mines and mineral properties underlying Metalla's Streams and Royalties. Payments from production generally flow through the operator and there is a risk of delay and additional expense in receiving such revenues. Payments may be delayed by restrictions imposed by lenders, delays in the sale or delivery of products, the ability or willingness of smelters and refiners to process mine products, recovery by the operators of expenses incurred in the operation of the Royalty or Stream properties, the establishment by the operators of reserves for such expenses or the insolvency of the operator. Metalla's rights to payment under the Royalties/Streams must, in most cases, be enforced by contract without the protection of the ability to liquidate a property. This inhibits Metalla's ability to collect amounts owing under its Royalties/Streams upon a default. Additionally, some agreements may provide limited recourse in particular circumstances which may further inhibit Metalla's ability to recover or obtain equitable relief in the event of a default under such agreements. In the event of a bankruptcy of an operator or owner, it is possible that an operator may claim that Metalla should be treated as an unsecured creditor and, therefore, have a limited prospect for full recovery of revenue and a possibility that a creditor or the operator may claim that the Royalty or Stream agreement should be terminated in the insolvency proceeding. Failure to receive payments from the owners and operators of the relevant

properties or termination of Metalla's rights may result in a material and adverse effect on Metalla's profitability, results of operations and financial condition.

Third-Party Reporting

Metalla relies on public disclosure and other information regarding specific mines or projects that is received from the owners or operators of the mines or other independent experts. The information received may be susceptible to being imprecise as the result of it being compiled by certain third parties. The disclosure created by Metalla may be inaccurate if the information received contains inaccuracies or omissions, which could create a material adverse effect on Metalla. Further, Metalla must rely on the accuracy and timeliness of the public disclosure and other information it receives from the owners and operators of the Mining Operations, and uses such information in its analyses, forecasts and assessments relating to its own business and to prepare its disclosure with respect to the Streams and Royalties. If the information provided by such third parties to Metalla contains material inaccuracies or omissions, the Company's disclosure may be inaccurate and its ability to accurately forecast or achieve its stated objectives may be materially impaired, which may have a material adverse effect on Metalla.

In addition, a Royalty or Stream agreement may require an owner or operator to provide Metalla with production and operating information that may, depending on the completeness and accuracy of such information, enable Metalla to detect errors in the calculation of Royalty or Stream payments that it receives. As a result, the ability of Metalla to detect payment errors through its associated internal controls and procedures is limited, and the possibility exists that Metalla will need to make retroactive revenue adjustments. Of the Royalty or Stream agreements that Metalla enters into, some may provide Metalla the right to audit the operational calculations and production data for associated payments; however, such audits may occur many months following the recognition by Metalla of the applicable revenue and may require Metalla to adjust its revenue in later periods.

As a holder of an interest in a Royalty or Stream, Metalla will have limited access to data on the operations or to the actual properties underlying the Royalty or Stream. This limited access to data or disclosure regarding operations could affect the ability of Metalla to assess the performance of the Royalty or Stream. This could result in delays in cash flow from that which is anticipated by Metalla based on the stage of development of the properties covered by the assets within the portfolio of Metalla.

Disclosure Regarding Operations

Some Royalties or Streams may be subject to confidentiality arrangements which govern the disclosure of information with regard to the Royalty or Stream and, as such, Metalla may not be in a position to publicly disclose non-public information with respect to certain Royalties or Streams. The limited access to data and disclosure regarding the operations of the properties in which Metalla has an interest, may restrict the ability of Metalla to enhance its performance which may result in a material and adverse effect on the profitability of Metalla, results of operations for Metalla and financial condition. There can be no assurance that Metalla will be successful in obtaining these rights when negotiating the acquisition of Royalties or Streams.

Strategy for Acquisitions

As Metalla executes on its business plan it intends to seek to purchase additional Royalties and Streams from third parties. Metalla cannot offer any assurance that it can complete any acquisition or proposed business transactions on favourable terms or at all, or that any completed acquisitions or proposed transactions will benefit Metalla.

At any given time Metalla may have various types of transactions and acquisition opportunities in various stages of review, including submission of indications of interest and participation in discussions or negotiations in respect of such transactions. This process also involves the engagement of consultants and advisors to assist in analyzing particular opportunities. Any such acquisition or transaction could be material to Metalla and may involve the issuance of securities by Metalla to fund any such acquisition. Any such issuance of securities may result in substantial dilution to existing shareholders and may result in the creation of new control positions. In addition, any such acquisition or other Royalty or Stream transaction may have other transaction specific risks associated with it, including risks related to the completion of the transaction, the project operators or the jurisdictions in which assets may be acquired.

Additionally, Metalla may consider opportunities to restructure its Royalties or Streams where it believes such a restructuring may provide a long-term benefit to Metalla, even if such restructuring may reduce near-term revenues or result in Metalla incurring transaction related costs. Metalla may enter into one or more acquisitions, restructurings or other Royalty and Streaming transactions at any time.

Metalla Cash Flow Risk

Metalla is not directly involved in the ownership or operation of mines. Metalla's Royalty, Stream and other interests in properties or projects are subject to most of the significant risks of the operating mining company. Metalla's cash flow is dependent on the activities of third parties which could create risk that those third parties may, have targets inconsistent to Metalla's targets, take action contrary to Metalla's goals, policies or objectives, be unwilling or unable to fulfill their contractual obligations owed to Metalla, or experience financial, operational or other difficulties or setbacks, including bankruptcy or insolvency proceedings, which could limit a third-party's ability to perform under a specific third-party arrangement. Specifically, Metalla could be negatively impacted by an operator's ability to continue its mining operations as a going concern and have access to capital. A lack of access to capital could result in a third-party entering a bankruptcy proceeding, which would result in Metalla being unable to realize any value for its Stream, Royalty or other interest.

Rights of other Interest-Holders

Some Royalty and Stream interests are subject to: (i) buy-down right provisions pursuant to which an operator may buy-back all or a portion of the Royalty or Stream, (ii) pre-emptive rights pursuant to which certain parties have the right of first refusal or first offer with respect to a proposed sale or assignment of a Royalty or Stream to Metalla, or (iii) claw back rights pursuant to which the seller of a Royalty or Stream to Metalla has the right to re-acquire the Royalty or Stream. Holders may exercise these rights such that certain Royalty and Stream interests would no longer be held by Metalla. Any compensation received as a result may be significantly less than Metalla had budgeted receiving for the applicable Royalty or Stream and may have a material adverse effect on Metalla's income and business.

Defects in Royalties and Streams

A defect in the Royalties and Streams and/or the underlying contract may arise to defeat or impair the claim of Metalla to such Royalty or Stream.

Change in Material Assets

As at the date of this AIF, the Endeavor Mine Stream, Joaquin Mine Royalty, COSE Mine Royalty, and Santa Gertrudis Gold Royalty are currently material assets to Metalla, although as new assets are acquired or move into production, the materiality of each of the assets of Metalla will be reconsidered. Any adverse development affecting the operation of, production from or recoverability of mineral reserves from the Endeavor Mine, Joaquin Mine, COSE Mine, and Santa Gertrudis Property, or any

other significant property in the asset portfolio from time to time, such as, but not limited to, unusual and unexpected geologic formations, seismic activity, rock bursts, cave-ins, flooding and other conditions involved in the drilling and removal of material, any of which could result in damage to, or destruction of, mines and other producing facilities, damage to life or property, environmental damage, or the inability to hire suitable personnel and engineering contractors or secure supply agreements on commercially suitable terms, may have a material adverse effect on the profitability of Metalla, the financial condition of Metalla and results of its operations.

Dependence on Key Personnel

Metalla is dependent on the services of a small number of key management personnel. The ability of Metalla to manage its activities and its business will depend in large part on the efforts of these individuals. There can be no assurance that Metalla will be successful in engaging or retaining key personnel. The loss of the services of a member of the management of Metalla could have a material adverse effect on the Company. From time to time, Metalla may also need to identify and retain additional skilled management and specialized technical personnel to efficiently operate its business. The number of persons skilled in the acquisition of Royalties and or Streams is limited and competition for such persons is intense. Recruiting and retaining qualified personnel is critical to the success of Metalla and there can be no assurance that Metalla will be successful in recruiting and retaining the personnel it needs to successfully operate its business. If Metalla is not successful in attracting and retaining qualified personnel, the ability of Metalla to execute on its business model and strategy could be affected, which could have a material and adverse impact on its profitability, results of operations and financial condition.

Dividends

Payment of dividends on Metalla's securities is within the discretion of Metalla's board of directors and will depend upon Metalla's future earnings, cash flows, acquisition capital requirements and financial condition, and other relevant factors. Although Metalla currently pays a regular dividend, there can be no assurance that it will be in a position to continue to declare dividends in the future due to the occurrence of one or more of the risks described herein.

Competition

Metalla will compete with other companies for Streams and Royalties. Other companies may have greater resources than Metalla. Any such competition may prevent Metalla from being able to secure new Streams or acquire new Royalties. Future competition in the royalty and streaming sector could materially adversely affect Metalla's ability to conduct its business. There can be no assurance that Metalla will be able to compete successfully against other companies in acquiring new Royalty and or Stream interests. In addition, Metalla may be unable to acquire Royalties or Streams at acceptable valuations which may result in a material and adverse effect on Metalla's profitability, results of operations and financial condition.

Project Operators may not Respect Contractual Obligations

Royalty, Stream and other interests in properties or projects are contractual in nature. Parties to contracts do not always honour contractual terms and contracts themselves may be subject to interpretation or technical defects. To the extent grantors of Royalties, Stream and other interests do not abide by their contractual obligations, Metalla may be forced to take legal action to enforce its contractual rights. Such litigation may be time consuming and costly and there is no guarantee of success. Further, any such litigation may also be required to be pursued in foreign jurisdictions. Any pending proceedings or actions or any decisions determined adversely to Metalla, may have a material and adverse effect on

Metalla's profitability, results of operations, financial condition and the trading price of the Common Shares of Metalla.

Enforceability

The status of Royalties at law can be uncertain and varies from jurisdiction to jurisdiction and in certain jurisdictions a Royalty may not be a registrable interest which runs with the land. As a result it may be difficult for Metalla to enforce its rights with respect to Royalties against a third party. Such a failure may result in the loss of the Company's rights to such a Royalty in the event a third party assigns title to the underlying property.

Conflicts of Interest

Certain directors and officers of Metalla also serve as directors and/or officers of other companies that are involved in natural resource explorations, development and mining operations, including Paladin Energy Ltd., Argosy Minerals Ltd., Azarga Metals Corp., Atico Mining Corporation, Auramex Resources Corp, Mountain Boy Minerals Ltd., Romios Gold Resources Ltd., Thunderstruck Resources Ltd., Galena Mining Ltd., Crystal Lake Mining Corp., Comet Resources Limited, Tempus Resources Limited, Amwolf Capital Corp. and Palladium One Mining Inc., and consequently there exists the possibility for such directors and officers to be in a position where there is a conflict of interest. Any decision made by any such directors and officers will be made in accordance with their duties and obligations to deal in good faith and in the best interests of Metalla and its shareholders. Each director that is in a conflict of interest is required to declare such conflict and abstain from voting on a matter in which that director is conflicted in accordance with applicable law.

Global Financial Conditions

Market events and conditions, including the disruptions in the international credit markets and other financial systems, in China, Japan and Europe, along with political instability in the Middle East and Russia and falling currency prices expressed in United States dollars have resulted in commodity prices remaining volatile. These conditions have also caused a loss of confidence in global credit markets, excluding the United States, resulting in the collapse of, and government intervention in, major banks, financial institutions and insurers and creating a climate of greater volatility, tighter regulations, less liquidity, widening credit spreads, less price transparency, increased credit losses and tighter credit conditions. Notwithstanding various actions by governments, concerns about the general condition of the capital markets, financial instruments, banks and investment banks, insurers and other financial institutions caused the broader credit markets to be volatile and interest rates to remain at historical lows. These events are illustrative of the effect that events beyond the Company's control may have on commodity prices, demand for metals, including gold, silver, copper, lead and zinc, availability of credit, investor confidence, and general financial market liquidity, all of which may adversely affect the Company's business. Global financial conditions have always been subject to volatility. Access to public financing has been negatively impacted by sovereign debt concerns in Europe and emerging markets, as well as concerns over global growth rates and conditions.

These factors may impact the ability of Metalla to obtain both debt and equity financing in the future and, if obtained, on terms favourable to Metalla. Increased levels of volatility and market turmoil can adversely impact the operations of Metalla and the value and the price of the Common Shares of the Company could be adversely affected.

Future Financing; Future Securities Issuances

There can be no assurance that Metalla will be able to obtain adequate financing in the future or that the terms of such financing will be favourable. Failure to obtain such additional financing could impede the funding obligations of Metalla or result in delay or postponement of further business activities which may result in a material and adverse effect on Metalla's profitability, results of operations and financial condition. Metalla may require new capital to continue to grow its business and there are no assurances that capital will be available when needed, if at all. It is likely that, at least to some extent, such additional capital will be raised through the issuance of additional equity, which could result in dilution to shareholders.

Repayment of Current Credit Facility

Metalla's credit facilities and financing agreements mature on various dates. There can be no assurance that such credit facilities or financing agreements will be renewed or refinanced, or if renewed or refinanced, that the renewal or refinancing will occur on equally favourable terms to Metalla. Metalla's ability to continue operating may be adversely affected if Metalla is not able to renew its credit facilities or arrange refinancing, or if such renewal or refinancing, as the case may be, occurs on terms materially less favorable to Metalla than at present. Metalla's current credit facilities and financing agreements impose covenants and obligations on Metalla. There is a risk that such loans may go into default if there is a breach in complying with such covenants and obligations, which could result in the lenders realizing on their security and causing the shareholders to lose some or all of their investment.

Litigation affecting Properties

Potential litigation may arise on a property on which Metalla holds or has a Royalty or Stream interest (for example, litigation between joint venture partners or between operators and original property owners or neighbouring property owners). Metalla will not generally have any influence on the litigation and will not generally have access to data. Any such litigation that results in the cessation or reduction of production from a property (whether temporary or permanent) could have a material and adverse effect on Metalla's profitability, results of operations, financial condition and the trading price of the Common Shares of Metalla.

Changes in Tax Laws Impacting Metalla

There can be no assurance that new tax laws, regulations, policies or interpretations will not be enacted or brought into being in the jurisdictions where Metalla has interests that could have a material adverse effect on Metalla. Any such change or implementation of new tax laws or regulations could adversely affect Metalla's ability to conduct its business. No assurance can be given that new taxation rules or accounting policies will not be enacted or that existing rules will not be applied in a manner which could result in the profits of Metalla being subject to additional taxation or which could otherwise have a material adverse effect on the profitability of Metalla, Metalla's results of operations, financial condition and the trading price of the Common Shares of Metalla. In addition, the introduction of new tax rules or accounting policies, or changes to, or differing interpretations of, or application of, existing tax rules or accounting policies could make Royalties, Streams or other investments by Metalla less attractive to counterparties. Such changes could adversely affect the ability of Metalla to acquire new assets or make future investments.

Credit and Liquidity Risk

Metalla is exposed to counterparty risks and liquidity risks including, but not limited to: (i) through the companies with which Metalla has Streams and Royalty agreements with; (ii) through financial

institutions that hold Metalla's cash and cash equivalents; (iii) through companies that have payables to Metalla; (iv) through Metalla's insurance providers; and (v) through Metalla's lenders. Metalla is also exposed to liquidity risks in meeting its operating expenditure requirements in instances where cash positions are unable to be maintained or appropriate financing is unavailable. These factors may impact the ability of Metalla to obtain loans and other credit facilities in the future and, if obtained, on terms favourable to Metalla. Also, if these risks materialize, the Company's operations could be adversely impacted and the trading price of its securities could be adversely affected.

Information Systems and Cyber Security

Metalla's information systems, and those of its counterparties under the Streams and Royalties agreements and vendors, are vulnerable to an increasing threat of continually evolving cybersecurity risks. Unauthorized parties may attempt to gain access to these systems or Metalla's information through fraud or other means of deceiving Metalla's counterparties. Metalla's operations depend, in part, on how well Metalla and its suppliers, as well as counterparties under the Streams and Royalties agreements, protect networks, equipment, information technology systems and software against damage from a number of threats. The failure of information systems or a component of information systems could, depending on the nature of any such failure, adversely impact Metalla's reputation and results of operations. Although to date Metalla has not experienced any material losses relating to cyber-attacks or other information security breaches, there can be no assurance that Metalla will not incur such losses in the future. Metalla's risk and exposure to these matters cannot be fully mitigated because of, among other things, the evolving nature of these threats. As a result, cyber security and the continued development and enhancement of controls, processes and practices designed to protect systems, computers, software, data and networks from attack, damage or unauthorized access remain an area of attention.

Activist Shareholders

Publicly-traded companies are often subject to demands or publicity campaigns from activist shareholders advocating for changes to corporate governance practices, such as executive compensation practices, social issues, or for certain corporate actions or reorganizations. There can be no assurance that Metalla will not be subject to any such campaign, including proxy contests, media campaigns or other activities. Responding to challenges from activist shareholders can be costly and time consuming and may have an adverse effect on Metalla's reputation. In addition, responding to such campaigns would likely divert the attention and resources of Metalla's management and board of directors, which could have an adverse effect on Metalla's business and results of operations. Even if Metalla were to undertake changes or actions in response to activism, activist shareholders may continue to promote or attempt to effect further changes and may attempt to acquire control of Metalla. If shareholder activists are ultimately elected to the board of directors, this could adversely affect Metalla's business and future operations. This type of activism can also create uncertainty about Metalla's future strategic direction, resulting in loss of future business opportunities, which could adversely affect Metalla's business, future operations, profitability and Metalla's ability to attract and retain qualified personnel.

Reputation Damage

Reputational damage can be the result of the actual or perceived occurrence of any number of events, and could include any negative publicity, whether true or not. While Metalla does not ultimately have direct control over how it is perceived by others, reputational loss could have a material adverse impact on our financial performance, financial condition, cash flows and growth prospects.

Expansion of Business Model

Metalla's operations and expertise have been focused on the acquisition and management of Royalty and Stream interests. Metalla may pursue acquisitions outside this area, including acquiring and/or investing in and/or developing resource projects. Expansion of Metalla's activities into new areas would present challenges and risks that it has not faced in the past, including many of the risks described under the section *Risks Related to Mines and Mining Operations*. The failure to manage these challenges and risks successfully may result in a material and adverse effect on Metalla's profitability, results of operations, financial condition and the trading price of Metalla securities.

Ineffective Controls

Metalla has determined that it did not have effective disclosure controls and procedures or internal control over financial reporting as at May 31, 2019, due to the following material weaknesses in internal control over financial reporting: (i) given the size of the Company and its finance team, the Company lacked the resources to enforce appropriate segregation of duties in certain financial processes, including journal entries, revenue and acquisitions of stream and royalty interests; (ii) there were not yet appropriate processes and controls in place to review the accounting treatment of significant transactions, including acquisitions of stream and royalty interests; and (iii) the Company did not yet have key entity level controls, including formal risk management controls or a system of internal controls around financial reporting. Management is evaluating and intends to implement, as soon as practicable, steps intended to remedy these weaknesses; however, no assurance can be provided that the Company will be able to develop and maintain effective controls. In addition, the Company's internal control over financial reporting may not prevent or detect misstatements because of the inherent limitations of internal controls, including the possibility of human error, the circumvention or overriding of controls, poorly designed or ineffective controls, or fraud. Failure to maintain effective controls could subject the Company to additional costs, adversely affect the Company's stock price if shareholders or other third parties have less confidence in the Company, or subject the Company to potential regulatory actions.

Risks Related to Mines and Mining Operations

Risk Factors applicable to Owners and Operators of Properties in which Metalla holds an Interest

To the extent that they relate to the production of minerals from or the continued operation of, properties in which Metalla holds a Royalty or Stream interest, Metalla will be subject to the risk factors applicable to the owners and operators of such mines or projects.

Exploration, Development and Operating Risks

Mining involves a high degree of risk. Mines and projects in which Metalla has or may enter into a precious metal purchase agreement or Royalty agreement are subject to all of the hazards and risks normally encountered in the exploration, development and production of metals, including weather-related events, unusual and unexpected geology formations, seismic activity, rock bursts, cave-ins, pit-wall failures, flooding, environmental hazards and the discharge of toxic chemicals, explosions and other conditions involved in the drilling, blasting and removal of material, any of which could result in damage to, or destruction of, mines and other producing facilities, damage to property, injury or loss of life, environmental damage, work stoppages, delays in production, increased production costs and possible legal liability. Any of these hazards and risks and other acts of God could shut down Mining Operations temporarily or permanently. Mining Operations are subject to hazards such as equipment failure or failure of retaining dams around tailings disposal areas which may result in environmental pollution and consequent liability for the owners or operators of the Mining Operations.

The exploration for, development, mining and processing of mineral deposits involves significant risks which even a combination of careful evaluation, experience and knowledge may not eliminate. While the discovery of an ore body may result in substantial rewards, few properties which are explored are ultimately developed into producing mines. Major expenditures may be required to locate and establish mineral reserves, to develop metallurgical processes and to construct mining and processing facilities at a particular site. It is impossible to ensure that the exploration or development programs planned by the owners or operators of Mining Operations will result in profitable commercial Mining Operations. Whether a mineral deposit will be commercially viable depends on a number of factors, some of which are: cash costs associated with extraction and processing, the particular attributes of the deposit, such as size, grade and proximity to infrastructure; metal prices which are highly cyclical; government regulations, including regulations relating to prices, taxes, royalties, land tenure, land use, importing and exporting of minerals and environmental protection; and political stability. The exact effect of these factors cannot be accurately predicted, but the combination of these factors may result in one or more of the Mining Operations not receiving an adequate return on invested capital. Accordingly there can be no assurance the Mining Operations which are not currently in production will be brought into a state of commercial production.

Climate Change

Governments are moving to introduce climate change legislation and treaties at the international, national, state/provincial and local levels. Regulation relating to emission levels (such as carbon taxes) and energy efficiency is becoming more stringent. The Paris climate accord was signed by 195 countries in December 2015 and marked a global shift toward a low-carbon economy.

If the current regulatory trend continues, Metalla expects that this will result in increased costs at some of the Mining Operations which could adversely impact the profitability or viability of such operations and may result in reduction or cessation of production which in turn would have an impact on the Company's revenue. In addition, the physical risks of climate change may also have an adverse effect on some of the Mining Operations. These risks include the following:

- *sea level rise*: changes in sea level could affect ocean transportation and shipping facilities which are used to transport supplies, equipment and workforce to some of the Mining Operations and products from those operations to world markets.

- *extreme weather events*: extreme weather events (such as increased frequency or intensity of hurricanes, increased snow pack, prolonged drought) have the potential to disrupt some of the Mining Operations. Extended disruptions to supply lines could result in interruption to production.

- *resource shortages*: some of the Mining Operations depend on regular supplies of consumables (diesel, tires, sodium cyanide, et cetera) and reagents to operate efficiently. In the event that the effects of climate change or extreme weather events cause prolonged disruption to the delivery of essential commodities, production efficiency at some of the Mining Operations is likely to be reduced.

There is no assurance that efforts to mitigate the risks of climate changes will be effective and that the physical risk of climate change will not have an adverse effect on the Mining Operations and their profitability.

Commodity Prices

Metal prices are subject to fluctuation and any future significant decline could result in mines, Mining Operations and project development to cease. Owners and operators of mines and development

projects could be forced to cease operations or discontinue development of a particular project, which could materially adversely affect Metalla's business operations and profitability.

Environmental Risks

All phases of mine operation or development are subject to governmental regulation including environmental regulation in the various jurisdictions in which they operate. Environmental legislation is evolving in a manner which will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and heightened responsibility for companies and their officers, directors and employees. There is no assurance that future changes in environmental regulation, if any, will not adversely affect the mines and projects in which Metalla has an interest. Also, unknown environmental hazards may exist on the properties at present which were caused by previous or existing owners or operators of the properties and which could impair the commercial success, levels of production and continued feasibility and project development and mining operations on these properties. One or more of the mining companies may become liable for such environmental hazards caused by previous owners or operators of the properties.

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

Government Regulation, Permits and Authorizations

The exploration and development activities related to mine operations are subject to extensive laws and regulations governing exploration, development, production, exports, taxes, labour standards, waste disposal, protection and remediation of the environment, reclamation, historic and cultural resources preservation, mine safety and occupational health, handling, storage and transportation of hazardous substances and other matters.

The costs of discovering, evaluating, planning, designing, developing, constructing, operating and closing specific mine operations in compliance with such laws and regulations are significant. It is possible that the costs and delays associated with compliance with such laws and regulations could become such that the owners or operators of mines or projects would not proceed with the development of, or continue to operate, a mine. Moreover, it is possible that future regulatory developments, such as increasingly strict environmental protection laws, regulations and enforcement policies thereunder and claims for damages to property and persons resulting from mining operations could result in substantial costs and liabilities for the owners or operators of mines or projects in the future such that they would not proceed with the development of, or continue to operate, a mine.

Government approvals, licences and permits are currently, and will in the future be, required in connection with Mining Operations. To the extent such approvals are required and not obtained, Mining Operations may be curtailed or prohibited from proceeding with planned operations, which could have an impact on the business and financial condition of Metalla. Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed.

Amendments to current laws, regulations and permits governing operations and activities of mining companies, or more stringent implementation thereof, could have a material adverse impact on Mining

Operations, resulting in increased capital expenditures or production costs, reduced levels of production at producing properties or abandonment or delays in development of properties.

Permitting and Access

The operation of a mine or project is subject to receipt and maintenance of permits from appropriate governmental authorities. The owners and operators of the mines and projects in which Metalla has an interest may be subject to delays in connection with obtaining access to the property and all necessary renewals of permits for existing operations, additional permits for any possible future changes to operations, or additional permits associated with new legislation. Prior to any development on any of the properties, permits from appropriate governmental authorities may be required. There can be no assurance that the owners or operators of the mines or projects will continue to hold all permits necessary to develop or continue operating at any particular property.

Infrastructure

Natural resource exploration, development and mining activities are dependent on the availability of mining, drilling and related equipment in the particular areas where such activities are conducted. A limited supply of such equipment or access restrictions may affect the availability of such equipment to the owners and operators of mines or projects and may delay exploration, development or extraction activities. Certain equipment may not be immediately available or may require long lead time orders. The lack of availability on acceptable terms or the delay in the availability of any one or more of these items could prevent or delay exploration, development or production at a mine or project. Mining, processing, development and exploration activities depend, to one degree or another, on adequate infrastructure. Reliable roads, bridges, power sources and water supply are important determinants which affect capital and operating costs. Unusual or infrequent weather phenomena, sabotage, government or other interference in the maintenance or provision of such infrastructure could adversely affect operations at a mine or project.

Dependence on Operator's Employees

Production from the properties in which Metalla holds an interest depends on the efforts of operators' employees. There is competition for persons with mining expertise. The ability of the owners and operators of such properties to hire and retain geologists and persons with mining expertise is key to those operations. Further, relations with employees may be affected by changes in the scheme of labour relations that may be introduced by the relevant governmental authorities in the jurisdictions in which those operations are conducted. Changes in such legislation or otherwise in the relationships of the owners and operators of such properties with their employees may result in strikes, lockouts or other work stoppages, any of which could have a material adverse effect on such operations, results of operations and financial condition of Metalla. If these factors cause the owners and operators of such properties to decide to cease production at one or more of the properties, such decision could have a material adverse effect on the business and financial condition of Metalla.

Mineral Resource and Mineral Reserve Estimates

Mineral reserve and or mineral resource estimates for a specific mine or project may not be correct. The figures for mineral resources and mineral reserves in this AIF are estimates only and were obtained from public disclosure in respect of the Endeavor Mine, Joaquin Mine, COSE Mine, and Santa Gertrudis Property. There can be no assurance that estimated mineral reserves and mineral resources will ever be recovered or recovered at the rates as estimated. Mineral reserve and mineral resource estimates are based on sampling and geological interpretation, and, are uncertain because samples used may not be representative. Mineral reserve and mineral resource estimates require revision (either to

demonstrate an increase or decrease) based on production from the mine or project. The fluctuations of commodity prices and production costs, as well as changes in recovery rates, may render certain mineral reserves and mineral resources uneconomic and may result in a restatement of estimated reserves and/or mineral resources.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Due to the uncertainty of inferred mineral resources, there is no assurance that inferred mineral resources will be upgraded to proven and probable mineral reserves as a result of continued exploration.

Depleted Mineral Reserve Replacement

Mines have a limited time of operation as a result of the proven and probable mineral reserves attributed to a specific mine. A mining company operating a specific mine will be required to replace and expand mineral reserves depleted by a mine's production to maintain production levels over a long term. It is possible to replace depleted mineral reserves by expanding known ore bodies through exploration, locating new deposits or acquiring new mines or projects. Mineral exploration is highly speculative in nature. It can take several years to develop a potential site of mineralization. There is no assurance that current or future exploration programs conducted by mining companies will be successful. There is a risk that the depletion of mineral reserves by mining companies that Metalla has contracted with will not be replenished by discoveries or acquisitions which could reduce the income Metalla would have expected to receive from a particular Royalty or Stream.

Uninsured Risks

The mining industry is subject to significant risks that could result in damage to, or destruction of, mineral properties or producing facilities, personal injury or death, environmental damage, delays in mining, monetary losses and possible legal liability. Mining companies may or may not maintain insurance in adequate amounts, including insurance for workers' compensation, theft, general liability, all risk property, automobile, directors and officers liability and fiduciary liability and others. Such insurance, however, contains exclusions and limitations on coverage. Accordingly, a mining company's insurance policies may not provide coverage for all losses related to their business (and may not cover environmental liabilities and losses). The occurrence of losses, liabilities or damage not covered by such insurance policies could have a material adverse effect on the mining companies' profitability, results of operations and financial condition.

Land Title

Although title to specific mines or projects has been or will be reviewed by or on behalf of Metalla, no assurances can be given that there are no title defects affecting the properties and mineral claims owned or used by specific mines or projects. Companies may not have conducted surveys of the claims in which they hold direct or indirect interests; therefore, the precise area and location of such claims may be in doubt. It is possible that a specific mine or project may be subject to prior unregistered liens, agreements, transfers or claims, including native land claims, and title may be affected by, among other things, undetected defects. In addition, mining companies may be unable to operate the specific mine or project as permitted or to enforce their rights with respect to that specific mine or project which may ultimately impair the ability of these owners and operators to fulfill their obligations under their agreements with Metalla.

International Interests

Certain operations that underlie Metalla's Streams and Royalties are conducted, or will be conducted, outside of Canada, including in Australia, Argentina, Mexico, Tanzania, Ecuador, Peru, Chile, and

Venezuela and could be exposed to political, economic or other risks or uncertainties. These types of risks or uncertainties may differ between countries and can include but are not limited to, terrorism, hostage taking, military repression, crime, political instability, currency controls, fluctuations in currency exchange rates, inflation rates, labour unrest, risk of war or civil unrest, expropriation and nationalization, renegotiation or nullification of mining or mineral concessions, licenses, permits, authorizations and contracts, illegal mining or mineral exploration, taxation changes, modifications, amendments or changes to mining and mineral laws, regulations, policies, and changes to government regulations in respect of foreign investment and mining.

Changes, if any, in mining or investment policies or shifts in political attitude may adversely affect the operations or profitability of the Mining Operations in these countries. 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, income taxes, expropriation of property, foreign investment, maintenance of claims, environmental legislation, land use, land claims of local people, water use, mine safety and the rewarding of contracts to local contractors or requiring foreign contractors to employ citizens of, or purchase supplies from, a particular jurisdiction or the imposition of additional local or foreign parties as joint venture partners with carried or other interests. Failure to comply strictly with applicable laws, regulations and local practices relating to mineral right applications and tenure, could result in loss, reduction or expropriation, cancellation or dispute of licenses or entitlements which could result in substantial costs, losses and liabilities in the future.

The occurrence of these various factors and uncertainties related to the economic and political risks for operations in foreign jurisdictions cannot be accurately predicted and could have an adverse effect on the Mining Operations resulting in substantial costs, losses and liabilities in the future.

Developing Economies

Certain operators are subject to risks normally associated with the conduct of business in developing economies. Risks may include, among others, problems relating to power supply, labour disputes, delays or invalidation of governmental orders and permits, corruption, uncertain political and economic environments, civil disturbances and crime, arbitrary changes in laws or policies, foreign taxation and exchange controls, nationalization of assets, opposition to mining from environmental or other non-governmental organizations or changes in the political attitude towards mining, empowerment of previously disadvantaged people, local ownership requirements, limitations on foreign ownership, power supply issues, limitations on repatriation of earnings, infrastructure limitations and increased financing costs. The above risks may limit, disrupt or negatively impact the operator’s business activities.

Permitting, Construction and Development

Metalla may hold Royalties or Streams over mines and projects that may be in various stages of permitting, construction, development and expansion. Construction, development and expansion of such mines or projects is subject to numerous risks, including, but not limited to: delays in obtaining equipment, materials, and services essential to completing construction of such projects in a timely manner; delays or inability to obtain all required permits; changes in environmental or other government regulations; currency exchange rates; labour shortages; and fluctuation in metal prices. There can be no assurance that the owners or operators of such mines or projects will have the financial, technical and operational resources to complete the permitting, construction, development and expansion of such mines or projects in accordance with current expectations or at all.

Indigenous Peoples

Various international and national laws, codes, resolutions, conventions, guidelines, and other materials relate to the rights of indigenous peoples. Metalla holds Royalty or Stream interests on operations located in some areas presently or previously inhabited or used by indigenous peoples. Many of these materials impose obligations on government to respect the rights of indigenous people. Some mandate that government consult with indigenous people regarding government actions which may affect indigenous people, including actions to approve or grant mining rights or permits. The obligations of government and private parties under the various international and national materials pertaining to indigenous people continue to evolve and be defined. The mining companies' current or future operations are subject to a risk that one or more groups of indigenous people may oppose continued operation, further development, or new development on those projects or operations on which Metalla holds a Royalty or Stream interest. Such opposition may be directed through legal or administrative proceedings or protests, roadblocks or other forms of public expression against the Company or the owner/operators' activities. Opposition by indigenous people to such activities may require modification of or preclude operation or development of projects or may require the entering into of agreements with indigenous people. Claims and protests of indigenous people may disrupt or delay activities of the owners/operators of Metalla's Royalty or Stream assets.

Risks Related to the Securities of Metalla

Securities of Metalla are subject to Price Volatility

Capital and securities markets have a high level of price and volume volatility, and the market price of securities of many companies have experienced wide fluctuations in price which have not necessarily been related to the operating performance, underlying asset values or prospects of such companies. Factors unrelated to the financial performance or prospects of Metalla include macroeconomic developments in North America and globally, and market perceptions of the attractiveness of particular industries or asset classes. There can be no assurance that continued fluctuations in mineral or commodity prices will not occur. As a result of any of these factors, the market price of the Common Shares of Metalla at any given time may not accurately reflect the long-term value of Metalla.

In the past, following periods of volatility in the market price of a company's securities, shareholders have instituted class action securities litigation against them. Such litigation, if instituted, could result in substantial cost and diversion of management attention and resources, which could significantly harm profitability and the reputation of Metalla.

Limitations on the enforcement of Civil Judgments

A substantial portion of the assets of Metalla are located outside of Canada. As a result, it may not be possible for investors in the securities of Metalla to collect on judgments obtained in courts in Canada predicated on the civil liability provisions of securities legislation of certain of the provinces and territories of Canada.

Dilution

Metalla may issue additional securities in the future in connection with acquisitions, strategic transactions, financings or for other purposes. To the extent additional securities are issued, Metalla's existing securityholders could be diluted and some or all of Metalla's financial measures could be reduced on a per share basis. Additionally, Metalla securities issued in connection with a transaction may not be subject to resale restrictions and, as such, the market price of Metalla's securities may decline if certain large holders of Metalla securities or recipients of Metalla securities in connection with

an acquisition, sell all or a significant portion of such securities or are perceived by the market as intending to sell such securities. In addition, such issuances of securities may impede Metalla's ability to raise capital through the sale of additional equity securities in the future.

Evolving Corporate Governance and Public Disclosure Regulations

Metalla is subject to changing rules and regulations promulgated by a number of United States and Canadian governmental and self-regulated organizations, including the United States Securities and Exchange Commission, the Canadian Securities Administrators, the exchanges listing Metalla's securities, and the Financial Accounting Standards Board. These rules and regulations continue to evolve in scope and complexity making compliance more difficult and uncertain. Metalla's efforts to comply with these and other new and existing rules and regulations have resulted in, and are likely to continue to result in, increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities.

MATERIAL ASSETS

As at the date of this AIF the Company's Stream on the Endeavor Mine and Royalties on the Joaquin Mine, COSE Mine, and Santa Gertrudis Property are its material assets. A description of each mine is included below.

Endeavor Mine, Australia

Metalla holds a 100% stream interest on the silver produced from the Endeavour Mine.

A technical report was prepared for Pan American pursuant to NI 43-101 entitled *"Endeavor Mine Cobar, New South Wales Australia Technical Report"* having an effective date of March 28, 2013 (the "**Endeavor Report**").

The following description of the Endeavor Mine has been prepared in reliance, in part, on the Endeavor Report and readers should consult the Endeavor Report to obtain further particulars on the Endeavor Mine. The Endeavor Report is available for review under Coeur's profile on SEDAR (www.sedar.com).

While the Company does not have any knowledge that such information is not accurate, the Company has not independently verified this information and there can be no assurance that such third-party information is complete or accurate. See section *Introductory Notes – Technical and Third-Party Information*.

Project Description, Location and Access

CBH is a mineral resource company producing zinc, lead, and silver from the Endeavor Mine in west-central New South Wales, Australia. The mine is located 53km northwest of the town of Cobar, in what is referred to as the Cobar Field. The mine is operated by Endeavor Operations Pty Ltd ("**EOPL**"), which is now wholly owned by Toho, a publically-traded company listed on the Tokyo stock exchange.

CBH's mineral tenure consists of five contiguous mining leases that together total 4,096 hectares, all of which have been legally surveyed. All known mineralized zones in which mining operations are currently conducted and in which Mineral Reserves and Mineral Resources exist are contained within these leases. All required permits and licenses are in place and current. The property is not subject to any known third-party royalties, back-in rights, payments, or other agreements or encumbrances, except a royalty to the government of New South Wales in the amount of 4% of net revenue (subject to

deductions) and a mortgage held by Metalla over the mining leases that includes a floating charge over the properties as security of CBH's obligations under its agreement with Metalla.

Metalla has the right to buy 100% of the silver production up to 20.0 million ounces (7.1 million ounces have been delivered to date) from the Endeavor Mine for an operating cost contribution of US$1.00 per ounce of payable silver, indexed annually for inflation, and a further increment of 50% of the amount by which silver price exceeds US$7.00 per ounce.

CBH has allocated more resources and capital from development of new stopes on the existing mineralized zone to developing the recently discovered Deep Zinc Lode at depth. CBH has advised the plan is to carry out further drilling to firm up the Deep Zinc Load resource with initial results expected in July to September 2019.They will be considering the economic viability of continuing to develop those deeper areas to eventually sequence into an expanded mine plan.

The Endeavor Mine is an entirely underground operation accessed by decline and shaft haulage with a concentrator, drying, storage and rail facilities on the mine lease. In extracting the mineral, ore is mined from underground and stockpiled on the surface. From here it is treated in a concentrator where froth floatation separates the particles of valuable zinc, lead and silver minerals from the waste. Metal concentrates are then dried for rail freighting with the lead concentrate shipped to smelters at Port Pirie in South Australia and zinc concentrates to Newcastle for export into overseas markets predominately China.

On May 29, 2018, CBH advised the Company of an updated mine plan, which includes 1.6 million Ag ounces forecasted to be produced through December 2020. CBH also had exploration success at depth with a potential new zone called the "Deep Zinc Lode," which has the potential to extend the mine life even further. CBH has adopted a rolling mine plan with increased drilling and new frequent updates every two to three years.

On July 17, 2019, CBH announced that they will scale back production from 25,000t/month to 17,000t/month and staff for the remainder of 2019 while focusing on infill drilling of the new Deep Zinc Lode Resource to better appraise its future viability. A production decision on the Deep Zinc Lode is expected in the fourth quarter of 2019 with the potential to add 3-5 years of production.

History

The Endeavor Mine and associated mill facility is an underground silver and base metal operation in production since 1983 located in north-central New South Wales, Australia, about 30 miles (18 kilometers) northwest of the community of Cobar, accessible by paved road. The ore reserves at Endeavor are covered by five consolidated mining leases issued by the state of New South Wales to Cobar, a wholly-owned subsidiary of CBH, which in turn is a wholly-owned subsidiary of Toho. The leases form a contiguous block of 10,121 acres in size and expire between 2019 and 2027. The mine employs bulk mining methods and utilizes a conventional flotation mill to produce a concentrate that is sold to a third-party smelter. Power to the mine and processing facilities is provided by the grid servicing the local communities.

The Endeavor Mine was once the region's largest zinc, lead, and silver producer. Commissioned in 1983 as the Elura Mine, the site has been operated by CBH since 2003 and was then renamed as the Endeavor Mine. The orebody at the Endeavor Mine has the form of massive vertical pillars, which is similar to others found in the Cobar Basin. Extraction of approximately 30 million tonnes has occurred as of February 28, 2019.

Geological Setting, Mineralization and Deposit Types

At Endeavor, silver, lead, zinc and lesser amounts of copper mineralization are contained within sulfide lenses hosted in fine-grained sedimentary rocks of the Paleozoic-aged Amphitheatre Group. Sulfide lenses are elliptically-shaped, steeply-dipping to the southwest and strike to the northwest. Principal ore minerals are galena, sphalerite and chalcopyrite. Silver occurs with both lead- and zinc-rich sulfide zones.

The Cobar Basin is situated in the northern central portion of what is referred to as the Lachlan orogen, which is broken into Southwestern, Western, Central, and Eastern belts. The central and southern portion of the Central Belt consists of Silurian granites of the Wagga Tin Belt, which abuts the Cobar Basin to the north. The Eastern belt consists of Ordovician calc-alkaline volcanic/volcaniclastic rocks which host a variety of mineralization types, including porphyry-style copper/gold deposits (Lake Cowal and Cadia) and epithermal deposits (Peak Hill and Gidginbung). Other deposits in the orogen occur in Ordovician/Devonian turbidite sequences and include the gold deposits at Ballarat.

North-south-trending basins in the region were developed due to regional crustal extension during the late Silurian Lachlan orogen (Glen, 1985). The Cobar Basin is a graben (down-dropped) block that hosts the Cobar Field, a mineralized belt that extends approximately 80km in a north-south direction and up to 40 km east-west along the basin's eastern margin. Mineralized deposits that have recently been exploited in the Cobar Field include the CSA, Peak, New Occidental, and New Cobar operations adjacent to and south of the town of Cobar, and the Endeavor operation.

The stratigraphic units present in and around the Cobar Basin are summarized in the table below:

Age	**Supergroup**	**Group**	**Formation**
Early Devonian	Cobar	Winduck	-
		Ampitheatre	Biddibirra
			CSA Siltstone
		Kopyje	-
		Nurri	Chesney
			Great Cobar Slate
Unconformity			
Cambrian-Silurian	-	Girilambone	-

The Cobar Supergroup consists of a sequence of Early Devonian turbidites. A fault contact separates the Devonian Nurri Group from the underlying Cambrian/Ordovician Girilambone Group. The Nurri Group consists of the Great Cobar Slate (mudstones, siltstones, and fine-grained sandstones) and the Chesney Formation, a thick sequence of turbidites that overlie a coarse basal conglomerate. The Great Cobar Slate/Chesney contact is the loci for the Peak, New Occidental, and New Cobar gold deposits.

The Kopyje Group overlies the Nurri Group, and consists mainly of shallow marine shelf sediments confined to the eastern margin of the Cobar Basin. These rocks occur at depth below the main Endeavor Mine workings in the Elura/Endeavor deposit, and provide an important limestone reef exploration target.

The Amphitheatre Group, which overlies the Kopyje Group in the Endeavor Mine area, is generally found to partially interfinger with the Nurri Group to the west in the Cobar Basin. The Amphitheatre group consists of the basal CSA Siltstone, a thin-bedded turbidite sequence containing carbonaceous siltstones and mudstones and lesser fine-grained sandstones, and the overlying Biddibirra Formation. Of the lithologies that comprise this group, the CSA Siltstone is by far the most economically significant lithology, hosting the CSA and Elura/Endeavor deposits.

The lithologies of the Cobar Basin have all been subjected to regional metamorphism which produced pervasive lower greenschist facies. Few occurrences of younger intrusive rocks in the Basin have been documented.

Mineralization within the Early Devonian rocks of the Cobar Basin is associated with zones of shearing and deformation. The Elura/Endeavor deposit is hosted by the CSA Siltstone to the west of the zone of intense deformation and faulting found at the eastern margin of the basin. In the general mine area, the CSA sequence consists of +900m of thick, banded, dark gray siltstones and minor fine grained sandy siltstones that transition at depth to the shelf sediments that comprise the Kopyje Group. The deposit is situated at the intersection of a north-northwest-trending system of synforms and antiforms and the northeast-trending Buckwaroon Fault, where sub-vertical axial plane cleavage provided excellent structural preparation for mineralizing fluids. No major off-setting structures have been identified in or around the mine.

The Elura/Endeavor deposit as currently defined consists of seven massive sulfide lenses that collectively trend northwest and plunge sub-vertically to the west. The Main Zone, located on the southern end of the deposit and comprised of two zones joined over much of their vertical extent, was the focus of the majority of the mine's production prior to CBH's acquisition of the operation. The five smaller lenses are collectively referred to as the Northern Pods.

The Elura/Endeavor Zn/Pb/Cu/Ag deposit occurs within a belt of steeply-dipping and folded Devonianaged siltstone, argillite and limestone. The deposit consists of several steeply-dipping pods of massive to semi-massive sulfide lenses trending NNW which are best developed in the CSA siltstone, although these pods do extend into the underlying fossiliferous and crystalline limestone.

The massive sulfide mineralization that comprises the Elura/Endeavor deposit occurs in mineable concentrations in at least seven massive sulfide lenses (termed pods) that collectively trend northwest-southeast (±N15-20ºW) and plunge steeply to the west. These lenses consist of the Main Zone (a combination of two converging zones) located on the southern end of the deposit, and five smaller lenses collectively referred to as the Northern Pods. The size of the lenses varies from 100m along strike by 300m down dip by 50m across strike in the Main Zone to less than 30m along strike by 50m down dip by 5m across strike in the Northern Pods. Exploration has also discovered a new zone or pod occurring proximal and west of the northern-most zone (6) of the main trend.

The mineralization in the Main Zone and Northern Pods is discordant with bedding in the CSA siltstone, the host to all currently known economic mineralization at the mine. Zoning of the sulfides within each lens is gradational, moving outwards from a central core dominated by pyrrhotite into strongly pyritic mineralization on the outer edges of the central portion of the massive sulfide lenses. Surrounding the central massive sulfide core is a zone of silicified pyrite/pyrrhotite stockwork vein mineralization in silicified siltstones or quartz breccias. Peripheral to this zone, the CSA siltstone host is strongly chlorite altered, folded, and faulted.

The massive sulfide mineralization is subdivided into 6 zones. These are:

- **PO** – This zone comprises the very central core of the massive sulfide (grain size 0.5mm to 5mm) lenses, with mineralization consisting of massive banded pyrrhotite with lesser galena and sphalerite around pyrite clots. The PO zone mineralization gradually transitions to a surrounding pyrite-dominant zone. The metal grades in the zone average 9% Zn and 6% Pb.

- **PY** – Like the mineralization found in the PO zone, PY zone sulfides (which also include galena and sphalerite) are coarse grained (0.5mm to 10mm), banded, and typically surround pyrite clots. Galena and sphalerite also occur as infillings of fractures and grain boundaries. The average metal grades in the zone are the same as the PO zone - 9% Zn and 6% Pb.

- **SIPY** – (Silica Pyrite) Surrounding the PY zone is a lower grade zone of dense stockwork veining in silicified CSA siltstones. Vein fillings consist of pyrite dominant sulfides and quartz. Typical metal content averages around 12% combined Zn/Pb.

- **SIPO** – (Silica Pyrrhotite) though texturally similar to the SIPY zone, pyrrhotite replaces pyrite as the dominant sulfide in the SIPO zone. Metal grades are very similar to those found in the SIPY zone.

- **VEIN** – This zone consists of lower-grade mineralization in both sharp and gradational contact with the inner SIPO zone. Where gradational, the contact is defined by a combined lead/zinc cutoff grade of 10%.

- **MINA** – Surrounding the VEIN zone is a halo of lower-grade mineralization that consists of fine-grained pyrrhotite, pyrite, galena, and sphalerite replacing siderite clots in the CSA siltstone

Vertically, the Main Zone (sometimes referred to as the “Main Lode”) and Northern Pods are fairly uniformly mineralized over the extent of the deposit mined to date. The lead and zinc grades of material mined from the upper levels of the Main Zone in the early years of mine production were generally higher than the grades found in the latest Mineral Reserve estimate. Silver grades in the upper levels are also typically higher than the grades in the current Mineral Reserve, often exceeding 100 g/t Ag.

At the very top of the Elura/Endeavor deposit is a zone of gossan. This zone of strong oxidation locally contains high-grade silver and oxide lead and zinc mineralization. Little detailed information is available for this zone.

The Elura/Endeavor deposit is a sediment-hosted, massive sulfide (SHVS), structurally-controlled base metal deposit enriched with economic concentrations of zinc, lead, and silver and lesser amounts of copper. Although the origin of this and other deposits in the Cobar Field is subject to debate, recent workers believe that the deposits are epigenetic and formed as part of the basin formation and compression sequence.

Exploration

Since January 1, 2011, CBH completed geophysical surveys and a total of 27 exploration drill holes. Since January 1, 2010, the only exploration work other than drilling completed by CBH consisted of three trial MIMDAS (Mt.Isa Mines Data Acquisition System) lines in October 2010 surveyed by Geophysical Resources and Services Pty Ltd (GRS) extending north from the edge of the known Endeavor deposit.

Diamond drilling in CY 2011 and CY 2012 tested Anomaly A and other drilling targets in its vicinity that were identified by the three IP lines, with mixed results. Anomaly B was tested by nine reverse circulation

(RC) holes, one of which was deepened by diamond drilling. No significant mineralization was intersected in any of these holes.

In December 2011, Southern Geoscience Consultants Pty. Ltd. (SGC), based in Belmont, Western Australia, supervised down-hole transient electromagnetic (DHTEM) surveys conducted by Outer-Rim Exploration Services (ORE) in diamond core holes NP 1042 and NP 1043 drilled from the 560 Level, and in one deep exploration hole (NP 1047) drilled beneath the lowest mine level to test for additional sulfide mineralization around these holes and in close proximity to the known Endeavor deposit. A second deep exploration hole (NP 1056) designed to test for sulfide mineralization at the contact between the CMS siltstone and the underlying limestone was completed to a depth of 800.5m in early CY 2012, but no subsequent DHTEM survey was done in this hole. However, according to the Endeavor technical staff, this hole was cased after drilling was halted, which could allow for completion of a future DHTEM or other down-hole geophysical survey.

In September 2012, CBH retained an independent consultant to examine and model the MT (magnetotelluric) data component of the three trial MIMDAS lines completed in 2010 and assess the suitability of the method for exploration on the Endeavor tenement. This modeling indicated the presence of a strong conductor at approximately 500m depth in the center of the southern-most line that appears to correlate with the main Endeavor mineralization or its associated mineralized halo. There is also a faint conductor defined on line L1200, which appears to perhaps be an off-line expression of the conductor on L1000.

Drilling

Since discovery of the mineralized trend that includes the Elura/Endeavor deposit, surface geochemical sampling, auger drilling, and diamond drilling has taken place all along the trend's 8 km strike length. Diamond drilling has sampled the entire 1.2 km-long strike length of the deposit at depths ranging from near-surface to nearly 1,500m below the surface. Core from this drilling has provided material for sampling the mineralization in the deposit.

Total drilling in the Elura/Endeavor deposit consists of approximately 2,065 drill holes as of January 1, 2013 that were completed from both the surface and from underground drill stations. This includes 57 drill holes totaling 5,610 meters completed between July 1, 2009 and June 30, 2010, and 35 holes (26 diamond drill and 9 reverse circulation) totaling 7,365m completed between July 1, 2010 and January 1, 2013. Core sizes drilled since discovery of the deposit include NQ (47.6mm-diameter), BQ (36.5mm-diameter), LTK-48 (35.6mm diameter), and also AQ (27.0mm-diameter) in certain areas in the main mineralized zone.

As previously described, underground core holes are drilled from stations located along the main access ramps or adjacent to access cross-cuts and lateral drifts. While this results in a concentration of holes in fans at fairly regular intervals, hole intercepts "off section" are common. Overall drill coverage varies, but most of the un-mined portions of the deposit containing the current Mineral Reserves have been drilled on a spacing of at least 40 m by 20 m. CBH's planned drill hole spacing for definition of measured Mineral Resources is 20 m by 15 m, and over 75% of the portion of the deposit that contains Mineral Resources and Mineral Reserves has been drilled at this spacing.

Sampling, Analysis, and Data Verification

CBH's underground sampling procedures have included semi-continuous chip samples along the ribs of development drifts and crosscuts, across heading faces, and collection of representative grab samples of development muck piles. These samples have been used to help define mineable mineralization boundaries in some areas having wider drill spacing. However these samples have

invariably been located at the margins of ore zones, and such samples were not used in Mineral Reserve estimation or for the purpose of grade control. Grade control at the mine has been primarily achieved by visual inspection of faces to determine approximate lead and zinc content.

Sampling of core from a diamond drill hole begins at the first occurrence of base metal and iron sulfides in the core. Zones of high grade lead and zinc within lower grade mineralization can be easily distinguished visually in the core. Within geologic assemblages, the maximum and minimum sample lengths were reported to be 3.0 m and 0.20 m, respectively, with sample interval breaks adjusted to respect geologic features (lithologic contacts, contacts between the various mineralization zones, vein contacts, etc.).

To obtain the samples for assay, drill core was sawn longitudinally in half using diamond core saws, including a fully automated Almonte diamond core saw that was commissioned in March 2011. One-half of the core is sent for assay and the remaining half is retained in the core storage facility. Random examinations of core by the Qualified Person responsible for this Technical Report during the two site visits indicate that core was carefully sawn and replaced in core boxes for storage, with sample intervals ("from" and "to") and sample numbers clearly indicated in the boxes. The ½-core samples sent for assay were placed in heavy duty plastic bags and stapled closed. Sample tags with the sequential data stream numbers were stapled to each bag and the same numbers were marked on the outside of the bags. The Qualified Person responsible for this Technical Report notes that this sampling method and approach were also in place prior to CBH's acquisition of the Endeavor Mine operations, according to the February 12, 2002 report, "Independent Technical Review – Elura Mine Operations". For check sampling of core ("core duplicates"), the ½-core remaining in storage was sawn in half again, providing ¼ of the original core for shipment to the secondary laboratory for check assay.

Mineral Processing and Metallurgical Testing

Current mining consists of underground longhole stoping between sublevels that range from 45m to 60m apart vertically and recovery of crown and rib pillars. In the longhole stopes, ore is broken by blasting rings of holes while retreating from an open slot raise. Broken muck is picked up on the lower sublevel by LHD units and loaded into underground trucks for haulage to the underground crusher on 6 Level. Crushed ore is hoisted up the production shaft to the surface. Mine production was scaled back in 2008 due to low metal prices that resulted from the global financial crisis and development shortfalls to an average of approximately 38,000 tonnes of ore per month, equivalent to about 450,000 tonnes per annum ("**tpa**"). During fiscal year (FY) 2009/2010 production increased slightly to 488,000 tpa, after which the mining rate steadily increased up to the current rate of 720,000 tpa. The official planned ore production rate is 720,000 tpa for 2013 through 2017, then declining in the final year of the plan.

Approximately 136,400 m3 of paste fill was placed in calendar year 2012, along with an additional 20,600 m3 of rock fill. A total of 163,900 m3 of paste fill and 14,000 m3 of rock fill are planned to be placed in 2013. Current plans are to continue to reduce the amount of paste fill required. This will occur because the bulk of future production will come from the mining of crown and rib pillars and other remnant blocks that will not require filling as mining permanently retreats from these areas.

The Endeavor process plant is a conventional grinding-differential flotation mill originally designed to treat approximately 1.1 million tonnes of ore per year, but currently the plant is operating by campaigning at the mine production level of 720,000 tpa. The mineralization in the deposit is fine-grained and complex, with the lead/zinc mineralization occurring in association with a similarly fine-grained iron sulfide matrix. While this requires that the material from the mine be finely ground (to 80% passing 95 microns) in order to liberate the zinc- and lead-bearing minerals (sphalerite and galena, respectively), the current mill configuration is more than capable of handling the planned mine production of 720,000 tpa. The mill currently produces separate lead and zinc concentrates which are shipped off-site for

smelting and refining and recovery of contained metal values. A copper flotation circuit was added to the plant as part of the 2008 upgrades and is currently only operated when the copper values are high enough to justify the additional operating costs. The payable silver values recovered from Endeavor ore are associated with lead concentrate. Process plant recovery of silver ranged from 43.6% to 60.0% between 1999 and 2010. As silver grades have declined, silver recovery has also decreased. Future silver recovery is projected to range between 37.6% and 45.0% based upon recent operating history. Silver values reporting to the zinc concentrate are not payable under current smelting contracts.

Mineral Resource and Reserve Estimates

Mineral Resources Estimate

The Endeavor Mineral Resources as of June 30, 2012 are summarized in the table below.

Total Mineral Resources – Inclusive of Mineral Reserves

Category	Tonnes	Average Grades			Contained Ag Ounces
		Zn (%)	Pb (%)	Ag (g/t)	
Measured	11,700,000	8.1	5.0	82	30,847,000
Indicated	2,500,000	7.4	4.8	81	6,511,000
Total	**14,200,000**	**8.0**	**5.0**	**82**	**37,357,000**
Inferred	400,000	6.8	4.3	92	1,183,000

As of June 30, 2012:
The estimation of June 30, 2012 Mineral Resources – Inclusive of Mineral Reserves is based on the model developed for the June 30, 2011 Mineral Resource estimate the Independent Consultant to CBH, using a cutoff grade of 7.0% combined Zn + Pb for the Measured and Indicated Resources, and a cutoff grade of 3.7% combined Zn + Pb for Inferred Mineral Resources, and using the following Mineral Resource Classification Parameters. This model was not updated for the June 30, 2012 Mineral Resource estimate:

- Measured: Average sample spacing $\leq$ 25 meters and a minimum of 5 composite samples from 2 drill holes;
- Indicated: Average sample spacing $\geq$ 25 meters but $\leq$ 49 meters, and a minimum of 5 composite samples from 2 drill holes;
- Inferred: Average sample distance < 3 times the variogram range for Zn and a minimum of 2 composite samples.

The table below shows remaining Mineral Resources exclusive of the Mineral Reserves. Due to rounding, there may be some minor variations in tonnes, grades or contained ounces.

Remaining Mineral Resources – Exclusive of Mineral Reserves

Category	Tonnes	Average Grades			Contained Ag Ounces
		Zn (%)	Pb (%)	Ag (g/t)	
Measured	9,651,200	8.2	5.0	68	21,088,100
Indicated	274,000	4.4	5.2	351	3,090,426
Total	**9,925,200**	**8.2**	**5.0**	**76**	**24,179,000**
Inferred	3,200,000	6.8	4.8	37	3,200,000

Remaining Mineral Resources are exclusive of Mineral Reserves and have no demonstrated economic viability.
The estimation of June 30, 2012 Mineral Resources – Exclusive of Mineral Reserves is based on the model developed for the June 30, 2011 Mineral Resource estimate the Independent Consultant to CBH, using a cutoff of 7.0% combined Zn + Pb for Measured and Indicated Mineral Resources and a cut-off of 3.7% combined Zn + Pb for Inferred Mineral Resources, and using

the following Mineral Resource classification parameters – This model was not updated for the June 30, 2012 Mineral Resource estimate:

- Measured; average sample spacing ≤ 25 meters and a minimum of 5 composite samples from 2 drill holes.
- Indicated; average sample spacing ≤ 49 meters, > 25 meters, minimum of 5 composite samples from 2 drill holes.
- Inferred, average sample distance < 3 time variogram range for Zn and minimum of 2 composite samples

Mineral Reserve Estimate

The total Endeavor Proven and Probable Mineral Reserves (measured in metric tonnes, percent zinc, percent lead and grams of silver per tonne) as of June 30, 2012 that are planned for extraction by underground mining methods are summarized in the table below:

Proven and Probable Mineral Reserves as of June 30, 2012

Category	Tonnes	Average Grades			Contained Ag Ounces
		Zn (%)	Pb (%)	Ag (g/t)	
Proven	2,049,000	7.4	4.8	148	9,757,000
Probable	2,275,000	7.6	4.8	49	3,588,000
Total	**4,324,000**	**7.5**	**4.8**	**96**	**13,345,000**

Effective January 2011, CBH converted to a calendar year budget. However, CBH elected to retain its practice of updating Mineral Resource and Mineral Reserve estimates on a fiscal year basis. The parameters for estimation of the June 30, 2012 Mineral Reserves are as follows:

- Exchange Rate: $0.98 US to $1.00 Aus;
- Metal prices used for Mineral Reserves and Resources were US$2,200 per metric ton of lead, $2,200 per metric ton of zinc and $34 per ounce of silver;
- Metallurgical Recovery Assumption: Pb: 70%; Zn: 81%; Ag: 45%;
- Mining Dilution: Underground: 5% (Primary Stopes); 5% (Secondary Stopes); 5% (Tertiary Stopes); 5% (Remnant Stopes); 5% (Small Mining Blocks);
- Mining recovery: 90% (Primary Stopes); 90% (Secondary Stopes); 90% (Tertiary Stopes); 90% (Remnant Stopes); 50% (Small Mining Blocks).

Mining Operations

Pre-CBH Operations

Prior to CBH's acquisition of the Endeavor mine, because of the cylindrical geometries of the mineralized bodies that comprise the Elura/Endeavor deposit Pasminco chose to employ longhole open stoping methods to mine ore from the Main Zone and Northern Pods, With this method, both up-holes and down-holes were drilled from sublevels spaced approximately 60m vertically apart. After development of a slot raise between sublevels at the ends of a planned stope blocks, rows of long-holes were then blasted sequentially into the void created by the open slot raise, and ore was mucked from the lower sublevel by load-haul dump (LHD) units. Ore was then loaded into trucks which hauled the material up the ramp system to the underground crusher on 6 Level. After crushing, the majority of the ore was hoisted up the main production shaft to the mill on surface.

Because Pasminco's overall mine plan strategy was to develop and mine the deposit from the top down by linking main levels with a ramp system for access, it was necessary to leave crown pillars between the draw levels of stopes and the uppermost drill sublevels in the stope blocks immediately below. As mining progressed, Pasminco elected to leave stopes as open voids, reportedly due to the unsuitability of the mill tailings for use as backfill material. This resulted in widespread local ground failures between open stope voids, culminating in a major collapse within the southern half of the Main Zone that extended

from the upper levels of the mine down to the 6 Level, approximately 100m below the tops of the Northern Pods. In other areas, the lack of backfill resulted in the sterilization of substantial quantities of ore left in rib pillars between the open voids that failed. It is believed that this significant loss of ore may have been a major reason for subsequent high-grading of lower un-mined portions of the Main Zone and in the Northern Pods.

CBH Operating Strategy (2003 to Present)

After acquiring the Elura Mine operation in October 2003 and re-naming it the Endeavor Mine, CBH instituted two major changes to the mine plan and operating procedures at the mine. These were

- Implementation of Gulf-Powertrans Roadtrain® underground haulage trucks, and
- Design of a paste backfill system, which would allow for more efficient ground control and subsequent recovery of rib pillars between existing voids.

The 55-tonne Gulf-Powertrans Roadtrains® haulage units consisted of highway trucks that pulled a powered trailer. LHD's loaded the Roadtrains® on the draw levels, which then hauled the material to the underground crusher on 6 Level and dumped it into an ore collection trench. The Roadtrains® also hauled ore directly to the crusher on surface when hoisting was curtailed in the shaft. This haulage approach was fraught with problems, many of which were caused by poor haulage road maintenance. Use of the Roadtrains® was curtailed in the September 2008 when production was scaled back as a result of low metal prices. Currently Endeavor uses conventional underground trucks for haulage of ore from the lower levels to the 6 Level crusher facility.

Mine Development

A new 2,500m-long 5m by 5m decline for access from the surface to 3 Level (300m depth) was completed in March 2008. This decline allows one-way traffic in and out of the mine, significantly reducing haulage delays when shaft issues require truck haulage of ore all the way to the surface. Standard 5m by 5m development drives are advanced using twin boom jumbos to drill 3.5m rounds. The development for FY 2009/2010 totaled 1,257m, calendar year 2011 development totaled 761m, and 2012 development totaled 1,014m. Projected development for calendar year 2013 is 982m.

Processing and Recovery Operations

Processing

The Endeavor mill is a conventional grinding-differential flotation mill originally designed to treat approximately 1.1 million tonnes of ore per year to produce separate lead and zinc concentrates. In March 2008, as part of a plant upgrade a pebble rejection system was installed for the removal of oversize material from the AG mill, followed by commissioning of a tertiary ball mill in June 2008. These upgrades increased plant capacity to 1.3 Mtpa (which could be pushed to as high as 1.6 Mtpa with further optimization). However, both current and forecast ore production (720,000tpa) from the mine falls considerably short of mill capacity, resulting in frequent plant shutdowns due to lack of ore. Concentrates produced in the plant are shipped off site for smelting and refining and recovery of contained metal values.

After grinding and conditioning, lead concentrate is floated from the ore using lime, Aerophine® and frother as reagents. Zinc concentrate is then floated using lime, sodium isopropyl xanthate, copper sulphate and Powercon® as the reagents. The flotation process for lead and zinc each utilizes a twin conditioning tank stage followed by rougher and scavenger flotation. The products from the first stages of flotation are then upgraded using various cleaner flotation stages with regrind stages as required. The

lead and zinc final concentrates are thickened and filtered to produce dry concentrates ready for shipping. Waste products and residual reagents from the process are piped to the tailings storage facility. Concentrates are stockpiled in a concentrate shed and subsequently loaded by front-end loader into rail cars. Zinc concentrate is sent by rail to the CBH-owned Newcastle ship loader and lead concentrate is sent by rail to the Port Pirie smelter owned by Nyrstar in South Australia. All rail cars are covered during transportation.

Crushing

Ore is crushed to 80% passing 165 mm in two primary jaw crushers located both underground and on the surface. Ore from the mine is either transported by underground trucks to the surface for crushing via the main haulage decline or it crushed on the 3 Haulage level and then hoisted to the surface and placed in a 10,000-tonne capacity live stockpile. Ore then feeds from the stockpile through four vibrating feeders and is conveyed to the two-stage grinding circuit.

Primary Grinding

Depending on ore availability, between 80 and 200 tonnes of ore per hour is fed from the stockpile to a 7.3 m x 2.44 m fully autogenous grinding (AG) mill, which can be operated as a semi-autogenous mill with the addition of an up to 8% charge of 125mm steel balls. The AG mill operates in open circuit, discharging a 40% passing 45 microns product downstream to two sequential ball mill circuits operating in closed circuit with a bank of Warman Cavex® cyclones. The cyclone overflow (80% passing 95 microns) is then screened to remove trash such as shotcrete fibres before it is sent to the flotation circuit.

Lead Flotation

Cyclone overflow reports to the lead rougher flotation circuit, which consists of two continuous conditioning tanks, two parallel banks of nine 8.5m^3 cells, with the last three cells of each bank serving as scavengers. Rougher concentrate is then sent to a 185kW regrind mill prior to three stages of cleaning, which takes place in two parallel banks of six 5.7m^3 cleaning cells, followed by re-cleaning in single bank of five 5.7m^3 and three 2.8 m^3 cells. Lead flotation produces a concentrate grade of 50% Pb. The second cleaner tail returns to the front end of the first cleaner tail and combines with the rougher concentrate. The third cleaner tail returns to the front end of the second cleaner. The scavenger concentrate returns to the second conditioning tank prior to rougher flotation. The lead scavenger tail and first cleaner tail are fed to the zinc flotation circuit.

Zinc Flotation

Feed to the zinc flotation circuit is first passed through two conditioning tanks where lime is added for pH control, copper sulphate is added for activation of sphalerite, and a sulphonate is added as an iron depressant. Zinc rougher concentrate is re-ground in a 185kW sand mill prior to cleaning/scavenging. Open-circuit roughing/scavenging occurs in two parallel banks of nine 8.5m^3 cells, with the last three cells of each bank being the scavengers. Zinc rougher concentrate is re-ground in an 185kW sand mill prior to cleaning, which occurs in three stages in order to achieve a budget final concentrate grade of 50% zinc. The scavenger concentrate returns to second zinc conditioning tank and the zinc scavenger tails and first cleaner tails are sent to final tails thickener.

Copper Flotation

The copper flotation circuit (installed in 2008) currently is not in use.

Concentrate Dewatering and Storage

Lead concentrates are passed through one 25m-diameter thickener and then dewatered in a pressure filter to achieve concentrate moisture of 7%. Zinc concentrate use a similar dewatering system to achieve concentrate moisture of 10%. Current concentrate storage capacity is approximately 7,000 tonnes.

Tailings Disposal

Tailings slurry is thickened in a 50m-diameter thickener and pumped to the existing tailings storage facility. In FY2009/2010 dried tailings were reclaimed for paste fill, a process that continued until curtailment of underground paste filling in CY2011. All process water, runoff and mine water is recycled for use in the concentrator to reduce the demand on the raw water supply.

Infrastructure, Permitting, and Compliance Activities

The infrastructure at Endeavor includes plant and machinery with nameplate capacity in excess of 1 million tpa, a high security water license, fully sealed road to site and electricity distribution infrastructure capable of supporting significantly higher production rates. CBH also owns over 80 houses and 60 units in Cobar that it leases to employees at significantly discounted rates.

The Endeavor Mine is located 53km northwest of the town of Cobar in west-central New South Wales, Australia. Access from Cobar is via the paved Louth Road approximately 33 km and then 15km along the paved Elura Mine Road to the mine gate.

The active mining and processing areas are fenced to maintain perimeter safety and security.

The mine is fully supported with electricity, telephone and radio communications. On-site infrastructure includes production water wells, office, maintenance, warehouse and various ancillary facilities.

The mine is an entirely underground operation accessed by traditional shaft hoisting and decline haulage with concentrator, drying, storage and rail facilities on the mine lease.

Metal concentrates are dried for rail freighting to smelters in Port Pirie in South Australia and overseas, predominately Japan.

The on-site infrastructure for the Endeavor mine is complete and stable and the mine is operating and processing ore.

Capital and Operating Costs

The interest in the property is limited to the rights to a maximum of 20.0 million ounces of payable silver contained in the Mineral Reserves and Mineral Resources within the Endeavor mine. As a result of this limited interest, Metalla has no hand in the estimation of or the capture of capital and operating costs for the Endeavor Mine.

Exploration, Development, and Production

On May 29, 2018, Metalla received an updated rolling 3-year mine plan from CBH. The mine plan includes 1.6 million Ag ounces forecasted to be produced through December 2020. The new mine plan provides for three years of production guidance, adding eighteen months from the previous mine plan. Higher metal price assumptions (mainly zinc) in the mine plan have allowed an increase in the volume of economically viable reserves. In the most recent exploration program, CBH has discovered a new deposit at depth called the ‘Deep Zinc Lode’. In order to extend the mine life at Endeavor beyond 2021,

further exploration programs have been established to find resource and reserve extensions in the Deep Zinc Lode area. If these programs are successful, then operations could continue in 2021 and beyond.

Based on the CBH mine plan, Metalla estimates that future production from Endeavor will be:

Calendar Year	**2018**	**2019**	**2020**	**Total**
Silver Production (Ounces)	525,000	755,000	320,000	1,600,000

The Deep Zinc Lode includes material presently classified as an inferred resource. CBH intends further drilling to upgrade the inferred resource to a measured status with the goal of including it in a future reserve update. That drilling is to be conducted from underground drill stations off the ramp as the ramp approaches the target zones. Drilling from near the target zones is far more cost-effective than drilling from higher in the mine.

Joaquin Mine, Argentina

Metalla holds a 2% NSR interest on the Joaquin Mine.

A technical report was prepared for Pan American pursuant to NI 43-101 entitled "*Technical Report for the Joaquin Property, Santa Cruz, Argentina - Pre-feasibility Study*" dated November 30, 2017 (the "**Joaquin Report**").

The following description of the Joaquin Mine has been prepared in reliance, in part, on the Joaquin Report and Pan American's Annual Information Form dated March 12, 2019 ("**Pan American AIF**"), and readers should consult the Joaquin Report and the Pan American AIF to obtain further particulars on the Joaquin Mine. The Joaquin Report and Pan American AIF is available for review under Pan American's profile on SEDAR (www.sedar.com).

While the Company does not have any knowledge that such information is not accurate, the Company has not independently verified this information and there can be no assurance that such third-party information is complete or accurate. See section *Introductory Notes – Technical and Third-Party Information*.

Project Description, Location, and Access

Joaquin is an advanced stage silver-gold property located in Santa Cruz Province, approximately 100 kilometres northeast of the town of Gobernador Gregores. The property is accessed from Provincial Route 25, either from Gobernador Gregores 40 kilometres to the east or from Puerto San Julian 170 kilometres to the west, and then via Provincial Route 12 leading north for 120 kilometres to the Las Vallas estancia. From Las Vallas, the property and camp are accessed by a local road leading west for 15 kilometres. All of the roads are gravel. Commercial air services are available in El Calafate, Argentina, approximately 330 kilometres to the southwest of Gobernador Gregores.

On February 10, 2017, Pan American acquired 100% of the property from Coeur. The consideration for the acquisition was USD$25.0 million, comprised of USD$15.0 million in cash and USD$10.0 million of Pan American's common shares valued as of January 13, 2017 (525,654 total common shares), plus a 2.0% NSR Royalty on the property. Duties and royalties payable to the government include a Santa Cruz Provincial Royalty of 3% on margin and an export duty on silver and gold doré. There are no other known back-in rights, payments, agreements, or encumbrances in place. Pan American's operations in Argentina are subject to government taxes, fees and duties.

The property mineral rights are held under seven contiguous concessions with a total area of approximately 12,000 hectares covering the entire mineral resource and mineral reserve, and proposed underground mine and surface infrastructure. Pan American has acquired responsibility for the annual payments required to maintain the concessions and has agreements in place granting it surface rights and access to the property, and to Pan American's knowledge, all obligations required for the conduct of activities at the property are currently in good standing. While there are no known significant factors or risks that Pan American currently anticipate will affect access or title, or the right or ability to perform work on the property, including permitting and environmental liabilities, a general discussion of the risks relating to Pan American's operations is provided in the Pan American AIF.

History

Mirasol Resources Ltd ("**Mirasol**"), which had a 100% interest in the property, discovered mineralization in the Joaquin area, including the La Morocha, La Negra, Joaquin Main, and La Morena prospects, during an evaluation of regional targets in 2004. Following reconnaissance work and sampling of the prospects in 2005, Mirasol and Coeur signed an agreement for the property in November 2006, granting Coeur an option to earn up to a 71% managing interest in a joint venture, subject to certain conditions. The first diamond drilling programs on the property began in late 2007 and continued annually until 2013. Coeur disclosed the results of mineral resource estimates at the La Morocha and La Negra deposits in 2011, 2012, and 2013, using open pit mining and on-site agitated leach and heap leach processing assumptions. Additionally, Coeur carried out geological mapping, surface sampling, geophysical surveys, spectral studies, and metallurgical studies. On December 21, 2012, Coeur acquired 100% ownership of the property through the acquisition of Mirasol's remaining 49% interest in the property. Coeur's activity on the property significantly decreased from 2014.

Pan American acquired the Joaquin property in February 2017 and are proceeding with an approximately USD$37.8 million capital investment, excluding USD$3.6 million in recoverable value added tax ("**VAT**"), to construct an underground mine at La Morocha.

Geological Setting, Mineralization, and Deposit Types

The property is located within the Deseado Massif geological province. Regional bedrock comprises ignimbrites and tuffs of the Chon Aike Formation, which hosts silver and gold mineralization on the property within a northwest trending structure that dips 45° to the northeast and trends for 375 metres, between 110 metres and 310 metres below surface. The majority of the mineralization is hosted within a silicified breccia. Silver is present as native silver, bromargyrite, and acanthite/argentite, with lesser stromeyerite, freibergite, and pyrargyrite/stephanite. The sulphide content is low and consists principally of pyrite and galena.

Exploration in the property area was focussed principally on the discovery and delineation of low sulphidation, silver-gold epithermal mineralization of the type well documented throughout the Deseado Massif. Mineralization at Joaquin is classified as low sulphidation hydrothermal breccia.

Exploration

The first geological reconnaissance and geochemical sampling at the property was undertaken by Mirasol during 2005 and 2006. Following the agreement between Coeur and Mirasol, exploration was undertaken in the form of geological mapping, rock chip geochemical sampling, ground and aerial geophysical surveys, clay studies, mineralogical studies, and diamond drilling. This work resulted in the identification of the La Morocha, La Negra, Joaquin Main, Joaquin Norte, and La Morena prospects. A program of geological mapping at 1:20,000 scale, ASTER alteration mapping, and structural

interpretation was carried out over these prospects, as well as geological mapping and rock chip geochemical sampling over the majority of the concessions.

Three ground magnetic surveys undertaken in 2009 by Akubra S.A. of Mendoza, Argentina, showed a clear magnetic response at La Morocha and a low magnetic response at La Negra. In 2010, an airborne magnetic survey covering 3,420 line kilometres over the property area, in north-south lines spaced every 200 metres, was carried out by Geodatos Limitada of Mendoza, Argentina, which produced magnetic lineaments over La Morocha and La Negra.

Exploration potential exists at the La Negra deposit, where two steeply dipping trends of mineralization located 350 metres apart along strike have been defined by wide spaced drilling (60 metres along strike) but is currently uneconomic by either open pit or underground methods, assuming transport to Manantial Espejo for processing. The northern zone is 170 metres long and 20 metres in depth, and defined by 16 drillhole intersections with average downhole widths of 5.2 metres and average grades of 1,497 parts per million ("**ppm**") silver and 0.45 parts per million gold. The southern zone is 300 metres long and 125 metres in depth, and defined by 24 drillhole intersections with average downhole intersection widths of 2.0 metres and average grades of 454 ppm silver and 1.06 ppm gold.

Drilling

Diamond drilling on the property was completed by Coeur with a program of 54,811 metres in 348 holes between 2007 and 2013 and by Pan American with a program of 6,996 metres in 51 holes during 2017. Pan American's drilling included 39 holes for 6,479.4 metres at La Morocha and 12 holes at La Negra for 517 metres. Drillhole spacing at La Morocha is 25 metres along strike and between 30 metres and 60 metres down dip. At La Negra, drillhole spacing is 60 metres along strike.

Sampling, Analysis, and Data Verification

All drill core has been split with a diamond saw for sampling by Coeur or Pan American geologists. Samples are transported to the laboratory using a third-party commercial transportation company. The sample chain of custody follows standard industry practice.

Coeur used Alex Stewart laboratories in Mendoza, Argentina ("**Alex Stewart**"), as the primary laboratory from 2007 until the end of 2009, with another approximately 1,100 samples assayed at ALS Chemex in Lima, Peru ("**ALS**"). The laboratory was then switched to ALS, with sample preparation in Mendoza, Argentina and geochemical analysis in La Serena, Chile. The samples were dried if necessary, then crushed in a jaw crusher, riffle split to obtain a 300 gram subsample, and pulverized to 75 microns. All samples were assayed for silver and gold using fire assay with gravimetric finish, using a 50 gram charge at Alex Stewart and a 30 gram charge at ALS.

Pan American used Alex Stewart. The samples were dried, crushed to 80% passing #10 mesh, riffle split to obtain a 600 gram sub-sample, then pulverized to 95% passing #140 mesh. Samples were assayed for silver and gold using fire assay with AA finish with a 50 gram charge.

Quality control measures implemented during the drilling programs included the submission of blanks, certified standards, and duplicate samples dispatched with the drill samples. We believe that the preparation, analytical, and security procedures followed for the samples are sufficient and reliable for the purpose of the mineral resource and mineral reserve estimates.

Mineral Processing and Metallurgical Testing

The available metallurgical test work includes cyanide leaching, flotation, sulphuric acid leaching followed by cyanide leaching, bottle roll tests with particle size and cyanide concentration optimization, and grinding and thickening tests. This work has shown that the silver and gold in the La Morocha ore is recoverable by agitated cyanide leaching in tanks at the Manantial Espejo processing facilities. The metallurgical recovery of both gold and silver is estimated to average 81%.

There are no known material issues or deleterious elements that could have a significant effect on the economic extraction of the Joaquin ore.

Mineral Resource and Mineral Reserve Estimates

Pan American's management estimates that mineral reserves at Joaquin, as at December 31, 2018, are as follows:

Joaquin Mineral Reserves [1, 2]			
Reserve Category	**Tonnes (Mt)**	**Grams of Silver per tonne**	**Grams of Gold per tonne**
Probable	0.47	721	0.41
TOTAL	0.47	721	0.41

Notes:
1 Estimated using prices of USD$18.50 per ounce of silver and USD$1,300 per ounce of gold. Totals may not add due to rounding.
2 Mineral reserve estimates for Joaquin were prepared under the supervision of, or were reviewed by a Qualified Person as that term is defined in NI 43-101.

Management estimates that mineral resources at Joaquin, as at December 31, 2018, are as follows:

Joaquin Mineral Resources[1, 2]			
Reserve Category	**Tonnes**	**Grams of Silver per tonne**	**Grams of Gold per tonne**
Indicated	58000	385	0.58
Inferred	6000	389	1.29

Notes:
1 Mineral resources are in addition to mineral reserves. Estimated using prices of USD$25 per ounce of silver and USD$1,400 per ounce of gold.
2 Mineral reserve estimates for Joaquin were prepared under the supervision of, or were reviewed by a Qualified Person as that term is defined in NI 43-101.

Mineral resource estimates were prepared using ordinary kriging within three dimensional geological interpretations using industry standards software. The block model was classified for measured, indicated, and inferred confidence categories depending on the location of the block relative to the number of drillhole intersections available to estimate each block, as well as other factors affecting confidence in the estimate.

Dilution was applied to the estimate using the estimated grade of the waste material. For mineral resources, an NSR value was applied to each block based on grade, metallurgical recovery, mineral

resource metal prices, and estimated costs. Potentially mineable stope shapes were generated around the diluted mineralized zones based on geometrical, geotechnical, and economic NSR cut-off value constraints. No mining recovery factors were considered for the estimation of mineral resources.

For mineral reserves, an NSR value was applied to each block based on grade, metallurgical recovery, mineral reserve metal prices, and estimated costs. The same dilution parameters used for mineral resources were applied for mineral reserves. Additionally, mining recovery assumptions account for expected losses during mining based on mining method. Stope designs were created around the diluted mineralized zones based on geometrical, geotechnical, and economic NSR cut-off value constraints. The inventory within these stopes was further refined to exclude material in pillars, in spatial outliers, within poor geometric stope shapes, and any other unmineable stopes. Resources and reserves are reported separately within the stope shapes.

Mineral reserve estimates are based on a number of assumptions that include metallurgical, taxation and economic parameters. Increasing costs, lower metal prices or increasing taxation could have a negative impact on the estimated mineral reserves. There are currently no known factors that may have a material negative impact on the estimated mineral reserves or mineral resources at Joaquin.

Mining Operations

Mining will be undertaken using underground methods with ore hauled by diesel trucks from underground to surface stockpiles. The deposit dips from 40° to 45° and has widths of less than one metre up to 40 metres. Three variants of underground cut and fill mining methods were selected to suit this geometry, including traditional cut and fill, drift and fill, and post pillar cut and fill, using mine development waste rock for backfill.

Processing and Recovery Operations

The Joaquin ore will be trucked to Manantial Espejo and processed at the existing cyanide leach plant using conventional crushing, semi-autogenous/ball mill grinding, concentration, leaching, thickening, counter current decantation thickening, Merrill Crow precipitation, cyanide neutralization, conventional pulp tailings disposal, and conventional silver and gold doré bar production from melting of the Merrill Crowe precipitate.

All production of Joaquin ore at the Manantial Espejo mine will be in the form of doré bars, which will be refined at arm's length refineries prior to the sale of refined silver and gold to bullion banks and traders. Pan American anticipates entering into multi-year refining contracts for the production from Joaquin. Pan American has not had any difficulty in securing contracts for the sale of its Manantial Espejo doré and similarly does not anticipate difficulties for Joaquin doré, however, there can be no certainty that Pan American will always be able to do so or what terms will be available at the time.

Infrastructure, Permitting, and Compliance Activities

The planned mine workings, ore stockpiles, temporary waste rock stockpiles, roads, and power and water lines are expected to be located within the boundaries of the mining leases and surface rights controlled by Pan American. Surface infrastructure, such as camps, offices, fuel and tanks, and maintenance facilities, will also be utilized. No processing facilities will be present on site. Road haulage trucks will transport the ore to the processing facilities at Manantial Espejo, located 145 kilometres by gravel road to the south of Joaquin.

Joaquin is located in the cold, semi-arid ecoregion of the Patagonian Steppe, more than 100 kilometres from the closest community, Gobernador Gregores. Environmental baseline studies have been

completed to Argentine and international standards. Those studies show that the potentially impacted areas are relatively small in scale and hold environmental values that are well represented throughout the region. Permits have been approved for construction of camp and surface facilities. Operations permits were approved as an expansion of the Manantial Espejo environmental impact assessment ("**EIA**") in order to allow commencement of the decline ramp. No material delays to the advancement of the project is anticipated due to permitting.

A closure cost estimate for Joaquin was prepared according to State of Nevada approved Standardized Reclamation Cost Estimator (SRCE) methodology and the estimated present value of reclamation costs for the Joaquin development property was de minimus.

Capital and Operating Costs

Over the life of mine, the estimated initial capital cost is USD$37.8 million, excluding project acquisition costs, and including mine development and equipment, infrastructure, permitting and studies, general and administrative, and contingency costs. A USD$3.6 million allowance is estimated for recoverable VAT payments that are paid using capital funds prior to the commencement of production. Based on the underground mine schedule, the total life of mine operating cost is estimated to be USD$96.2 million, including all ore mining, transport, and processing costs. The transport of the ore from Joaquin to the processing facilities at Manantial Espejo is estimated at a total operating cost over the life of mine of USD$18.9 million.

Based on the results of the Joaquin Report completed in 2017, excluding the purchase price, the estimated life of mine cash flow of the project was USD$14.1 million, with project payback estimated to occur approximately 18 months after construction completion. The net present value ("**NPV**") stated in the Joaquin Report at a 5% discount rate was USD$9.1 million and USD$5.1 million at a 10% discount rate. The IRR of the project was anticipated to be 18%. However, the project economics are likely to be negatively impacted by certain recent developments, including the export duty on silver and gold doré introduced in September 2018.

Exploration, Development, and Production

During 2018, Pan American constructed a 40-person modular camp, access roads, and infrastructure related to water supply, removed and preserved soil for the waste dump, purchased mining equipment, and began developing the decline access. Pan American plans to continue to develop the decline and the associated mine infrastructure with ore production occurring between late 2019 and the end of 2021.

Developments Following Joaquin Report and Pan American AIF

As of June 30, 2019, Pan American reported that their mineral reserves on the Joaquin Mine were:

Property	Location	Classification	Tonnes (MT)	Ag (g/t)	Contained Ag (Moz)	Au (g/t)	Contained Au (koz)
Joaquin	Argentina	Probable	0.5	721	11.0	0.41	6.2

COSE Mine, Argentina

Metalla holds a 1.5% NSR interest on the COSE Mine.

A technical report was prepared for Patagonia Gold pursuant to NI 43-101 entitled "*NI 43-101 Technical Report Preliminary Economic Assessment Cap Oeste Suroeste (COSE) Project Santa Cruz Province, Argentina*" dated August 20, 2011 (the "**COSE Report**").

The following description of the COSE Mine has been prepared in reliance, in part, on the COSE Report and Patagonia Gold's Annual Information Form dated May 29, 2013 (the "**Patagonia AIF**") and readers should consult the COSE Report and Patagonia AIF to obtain further particulars on the COSE Mine. The COSE Report and Patagonia AIF is available for review under Patagonia Gold's profile on SEDAR (www.sedar.com). Patagonia Gold subsequently sold the COSE Project to Pan American in 2017, and therefore Patagonia Gold is referred to below as the 'former property owner'.

While the Company does not have any knowledge that such information is not accurate, the Company has not independently verified this information and there can be no assurance that such third-party information is complete or accurate. See section *Introductory Notes – Technical and Third-Party Information*.

Project Description and Location

The COSE Project is situated in the central portion of the El Tranquilo I MD claim approximately two kilometres to the southeast of the Cap-Oeste Project, which is also located within the El Tranquilo I MD claim.

The COSE deposit is contained in a 250 metre by 250 metre square with lower left corner at northing 4,686,600.00, easting 2,391,400.00 rotated clockwise at 320 degrees. Mineralised areas outside of this square are in the Cap-Oeste Project, which is described in the Patagonia AIF. The COSE Report was prepared separately from the Cap-Oeste Project due to the highly distinctive mineralization at the COSE Project: small tonnages of bonanza-grade mineralization in steeply-dipping, narrow vein configuration, which is currently planned to be mined underground. This contrasts with the Cap-Oeste Project, which has medium-grade, disseminated mineralization, which could possibly be mined by open-pit or open-cut methods.

The EIA for the El Tranquilo property block included a provision for the development of a decline access for underground drilling at the COSE Project, as well as bulk sampling for metallurgical test works, and a provision for a further 200,000 metres of drilling at the COSE Project. In March 2011, the subsidiary of the former property owner retained Ausenco Vector to commence baseline studies, with the objective of establishing the pre-development environmental and social characteristics of the COSE Project and its surroundings, and to prepare an updated EIA for the mining of the COSE deposit. The updated EIA was approved by the State Secretary of Mining in May 2012 and is valid for a period of two years.

Pursuant to an agreement entered into between the subsidiary of the former property owner and Barrick Exploraciones Argentina S.A. and Minera Rodeo S.A., as amended (the "**Barrick Agreement**"), all future production of mineral products from the COSE Project is subject to the royalty granted under that agreement. The COSE Project occurs wholly within the Estancia La Bajada, which was purchased in December 2008, including the farmhouse and outbuildings.

Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Patagonian region of southern South America is characterized by arid, windy and generally treeless expanses of rolling hills, interspersed with isolated plateaus which rise to elevations of 250 to 1,000 metres above sea level. The southeastern portion of the COSE Project area is characterized by a predominant northwest-southeast aligned pattern of undulating hills between elevations of 350 and 500 metres above sea level. In the northwestern portion of the COSE Project area, topography has a

generally low relief and is relatively flat-lying. Vegetation constitutes approximately 50% of the ground cover and is characterized by grass and bushes.

The average annual rainfall at the COSE Project area is estimated to be 300 millimetres, the majority of which falls in the period from June to September of each year. Snow frequently accumulates at the COSE Project site between June and August, and infrequent snowfall events can deliver up to 100 millimetres of snow, based on limited historical data. Temperatures at the COSE Project area are characteristic of the central plateau of the Santa Cruz Province, with short warm summers and winters with temperatures commonly reaching below 0°C. Based on regional data, the annual average temperature is approximately 8.9°C. Field work is generally feasible from September to June while mid-winter (June-August) is typically a recess period. In the absence of excessive snow and rain, exploration occasionally continues in this period due to frozen ground conditions which permit access over otherwise wet areas.

The principal zone of interest at the COSE Project occupies a low ridge which extends over an approximate northwest-southeast trending, 120 metre by 900 metre area. Access to the COSE Project is gained by way of a track which extends to the west for approximately 3.5 kilometres from the main access road that connects Estancia la Bajada and the Cap-Oeste Project area.

There is abundant unoccupied land in the area, which could eventually serve as the site for mining and processing facilities.

It should be noted that, on rare occasions (in the order of once per decade), access to the COSE Project may be affected by falls of volcanic ash emanating from volcanoes in the Chilean Andes to the west. Such events may hamper or make impossible access for periods of days to weeks. The last such major occurrences were Mount Hudson in 1991, lasting for approximately 12 weeks, and Mount Puyehue in 2011, which is still erupting intermittently although not causing any significant travel disruptions or inconvenience to operations, the main eruption in 2011 lasting for a 10-week period.

Despite the general scarcity of surface water throughout the area, several significant fresh water springs (each producing more than four litres per second) occur in a northwest trending geologically controlled corridor extending from within the northwestern portion of the COSE Project area to at least approximately two kilometres further to the northwest. Water supplies for drilling and exploration camp amenities are obtained from these local springs and water courses with permission of the surface owners and provincial authorities.

From Perito Moreno, the COSE Project is accessed via the partially-sealed National Highway 40 heading south for approximately 166 kilometres, passing through the township of Bajo Caracoles to a junction titled “Cinco Buzones”. This highway infrastructure is currently being upgraded to an all bitumen double lane highway. A secondary improved gravel road is then followed east for approximately 42 kilometres to the Cap-Oeste Project site, approximately five kilometres to the northwest of the Estancia La Bajada.

Within each individual regional population centre, including Perito Moreno and Bajo Caracoles, electrical power is supplied via local diesel generators. Within the COSE Project area, electrical power is supplied through company-owned or leased generators. The closest fixed line telephone to the area is situated in Bajo Caracoles (65 kilometres from the Cap-Oeste Project), and since there is no mobile network coverage throughout the COSE Project area, communication from the exploration camp at Estancia La Bajada is via satellite phones and satellite-based broadband internet.

To the extent practical, the subsidiary of the former property owner utilized local communities to source food, accommodation, fuel, minor vehicle repairs and field labour. More specialized goods and services must be obtained in Caleta Olivia (Santa Cruz Province), Comodoro Rivadavia (Chubut province) or

Buenos Aires. The local workforce comprises mainly unskilled workers who receive safety, environmental and exploration methodology training. Senior project management and engineering positions are generally filled by professionals from outside the local communities.

There is sufficient availability of surface rights and access to facilitate construction of mining related infrastructure including processing, leaching, tailings; and waste stockpile facilities within the proposed project area if warranted.

History

No historic mineral production is known to have occurred within or in close proximity to the COSE Project. The earliest modern exploration in the area was reportedly carried out during the mid-1990s by Western Mining Corporation and Homestake Mining Co. ("**Homestake**"), which initially targeted the area using Landsat imagery. Interpretation of this imagery highlighted the presence of regional-scale, northwest-trending lineaments and large zones of coincident clay alteration, which served to focus the reconnaissance mapping and sampling programs. This work led to the staking of exploration claims by Homestake's subsidiary, Minera Patagonia S.A., which claims were held until they expired in July 2002. Subsequent to the merger between Barrick Gold Corporation ("**Barrick**") and Homestake, the ground was again staked as the El Tranquilo project by Barrick's subsidiary, Minera Rodeo S.A.

The combined Homestake-Barrick exploration programs conducted throughout the El Tranquilo property block during this period included:

- Target generation incorporating information from the Homestake Mining geochemical database, supplemented by ASTER and Landsat Band Ratio image analysis;
- Regional scale geological and structural mapping (1:25,000 to 1:100,000) and TM based alteration mapping at 1:50,000;
- 224 metres of trenching;
- Geochemical sampling including 334 lag samples, 569 regional rock chip samples and 469 sawn channel samples taken from 11 trenches (1,694 metres);
- Pole-Dipole Induced Polarization and resistivity surveying along eight lines spaced 150 to 300 metres apart, totalling 27 line kilometres;
- Regional spaced ground magnetic surveying along 16 lines spaced 100 metres apart, totalling 35.2 line kilometres; and
- Petrographic studies.

As a result of this program of work, several significant gold-silver targets were defined along a series of subparallel, northwest trending structural lineaments which proved to contain the COSE deposit. In summary, the Homestake-Barrick exploration program defined a 10 kilometre wide by 25 kilometre long northwest trending epithermal district hosting extensive zones of precious and trace element anomalism, hydrothermal alteration, and coincident chargeability/resistivity targets. Within this area, three main corridors have subsequently been delineated: the COSE, Breccia Valentina, and Vetas Norte Corridors.

Subsequent to the execution of the Barrick Agreement in February 2007, the subsidiary of the former property owner commenced exploration activities at the COSE Project that included gridding, surveying, trenching, and drilling programs. In 2008, the subsidiary of the former property owner commissioned an initial mineral resource estimate of the mineralization that had been delineated at the COSE Project at

that time. Following the 2009 exploration season, the subsidiary of the former property owner elected to commission a second resource estimate to include the expanded drill database.

Geological Setting

The COSE Project is located in the Deseado Massif geological province, which occupies an area of approximately 60,000 square kilometres or 6,000,000 hectares in the northern third of Santa Cruz Province. The Deseado Massif and a second uplifted block, the Somuncura Massif (exposed in Chubut and Rio Negro provinces to the north), are interpreted to have developed during large-scale continental volcanism accompanying extensional rifting of the Gondwanaland supercontinent and the opening of the Atlantic Ocean. The bedrock comprises a bimodal suite of andesitic to rhyolitic ignimbrites and tuffs, with lesser quantities of flows and intrusions, which were erupted over a 50 million year interval in the middle to late Jurassic age (125 to 175 million years ago). Its areal extent places this geological province amongst the most extensive rhyolite platforms worldwide. The Deseado Massif is bordered by two Cretaceous petroliferous basins, the San Jorge Basin to the north, which separates it from the Somuncura Massif, and the Austral-Magallanes Basin to the south. These basins contain thick sequences of non-marine sedimentary rocks which host Argentina's largest producing oil and gas fields. The middle to late Jurassic age represents the most important period of tectonic and magmatic activity, which is responsible for the epithermal extensional style mineralization developed in the Deseado Massif. The basement is composed of a north-south oriented system of fault blocks. These define the most important structures of the Deseado Massif in terms of associated mineralization.

Within the area of the COSE Project, the Jurassic volcanic suite is comprised dominantly of rocks assigned to the Chon Aike Formation within the Bahia Laura Group. The volcanic stratigraphy of the Bahia Laura Group is the best exposed rock sequence in the Deseado Massif, covering more than half of its area, and comprises three formational members:

- La Matilde Formation (upper age of approximately 142 million years ago): fine grained fossiliferous lacustrine sediments, volcano-sedimentary rocks and airborne tuffs.

- Chon Aike Formation (166-150 million years ago): high-silicon, high-potassium rhyolitic to rhyodacitic ignimbrites, tuffs and lesser volcanic breccias, flows and domes which attain a cumulative thickness of up to 1,200 metres. Volcanic rocks assigned to the Chon Aike Formation are coincident in space and time with the most significant precious metal deposits in the province.

- Bajo Pobre Formation (175-166 million years ago): andesitic to basaltic flows, agglomerates, and minor hypabyssal porphyry intrusives which intercalate upwards with mafic tuffs, conglomerates and sediments. Olivine basalts common in the lower part of the formation are thought to be products of fissure eruptions from rifts related to early stages of the Gondwana breakup and continental separation.

The Bahia Laura Formation is underlain by an extensive sequence of basement rocks ranging in age from Precambrian to early Jurassic. Younger cover sequences include small windows (less than 300 metres in diameter) of flat-lying Tertiary marine sediments (which have filled structural controlled and/or erosional basins) and alkalic basalts, which form extensive plateaus throughout the region. Finally, unconsolidated Quaternary glaciofluvial sediments form characteristic elevated gravel terraces throughout the province.

In a regional structural sense, northwest-southeast extensional faults active during the period of Jurassic volcanism formed grabens, half-grabens and horst blocks with pervasive eastern dips. Since the Jurassic period, rocks have been cut by normal faults that probably represent reactivated basement fracture zones. The Jurassic rocks have undergone only minor subsequent deformation and remain

relatively flat to gently dipping, except on a local scale proximal to faults and subvolcanic intrusions. Fault kinematics are consistent with regional east-west to northeast-southwest extension as has been documented for many low sulphidation, epithermal precious metal deposits throughout the province.

The bedrock at the COSE Project comprises a greater than 300-metre thick sequence of rhyolitic ignimbrite and tuff units of the Chon Aike Formation. Based on extensive drilling of the target, the Chon Aike rocks have been further split into twelve, gently south-west dipping units. This detailed geologic subdivision has permitted determination of relative fault displacements, and, in addition, permitted construction of detailed geologic sections which reveal important lithologic controls on the type and distribution of precious metals mineralization.

The COSE deposit is broadly coincident with a prominent IP geophysical anomaly which extends southeastward from the Cap-Oeste Project. The northeastern margin of this anomaly corresponds to the Bonanza Fault and its proposed extension, the COSE Fault. The juxtaposition of differing rock types across the COSE Fault requires normal displacement of at least 50 metres, west side down. The COSE Breccia Fault, which is intimately related to the high grade shoot, is interpreted as a second order zone of brecciation and gouge, subparallel to and southwest of the COSE Fault.

As currently understood, the COSE mineralised shoot lies in the immediate hanging wall of the COSE Breccia Fault. Where mineralization would project to surface, the orthogonal distance between the COSE Breccia Fault and COSE Fault is approximately 40 metres, with the two structures converging to the southeast.

A prominent series of west-northwest trending, sub-vertical fracture sets transects the COSE Project area and are best developed in the fiamme-rich, lapilli tuff unit. It has been proposed that the intersection of one of these broadly spaced fracture sets with the COSE Breccia Fault acted as a secondary structural control on the location of the COSE shoot. The line of intersection of these two structures closely corresponds with the interpreted pitch axis of the high grade mineralization down the plane of the COSE Breccia Fault.

Exploration

Upon signing the Barrick Agreement in 2007, the subsidiary of the former property owner began exploration activities throughout the El Tranquilo property block. The COSE deposit was discovered in 2008, initially in trench samples and subsequently in drill intersections. Since that time, exploration has focused on establishing a core resource in the area of strongest epithermal mineralization. An additional 7 holes totalling 2,907 metres were completed in second quarter 2012 with further drilling planned to track the mineralised Bonanza fault structure between Cap-Oeste and COSE occurrences.

Mineralization

Mineralization at the COSE Project is of the epithermal, low sulfidation type, based on the presence of fine-grained replacement quartz and adularia, widespread illite alteration, bladed textures indicative of hydrothermal boiling, and a mineral assemblage dominated by marcasite, arsenopyrite and silver-bearing sulphosalts. The presence of anomalous copper and molybdenum associated with higher grade gold-silver mineralization suggests a component of magmatic-derived fluid.

The COSE deposit occurs predominantly as hydrothermal breccia, in combination with replacement, veinlet and disseminated styles of mineralization, rather than as one or more discrete quartz veins. This is somewhat atypical for the Deseado Massif deposits, perhaps reflecting a lack of open space during hydrothermal fluid flow.

Drilling to date has defined a high grade shoot, approximately 130 metres long and 12 to 15 metres wide, situated in the immediate hanging wall of the COSE Breccia Fault. The mineralised shoot pitches steeply over an approximate 120-metre vertical interval, extending from 135 metres to 255 metres vertically below surface. Blind to the surface, mapping, trench sampling and drilling confirm that the high grade shoot is overlain by a broad zone of more diffuse mineralization which yields low level precious metal and trace element anomalism.

Two main styles of mineralization are apparent in drill cores from the COSE Project. Higher grade gold-silver concentrations are hosted by a distinctive suite of sinuous to weakly bifurcating breccias, comprising argillic altered fragments of volcanic host rock in a matrix of fine grained grey quartz, illite, and carbonaceous material. Precious metals occur as native metal, alloys and sulfides, in close association with base metal sulfides, pyrite, and arsenopyrite. Lower grade mineralised envelopes, in which precious metals occur in veinlets and disseminations, are exhibited in the immediate hanging wall and footwall rocks to breccias at the COSE Project.

Drilling

All of the drilling discussed below was carried out by the subsidiary of the former property owner, as the COSE Project was previously undrilled. Two drilling campaigns have been conducted by the subsidiary of the former property owner at the COSE Project. Drilling of reverse circulation and diamond holes at the COSE Project was carried out under contract by Major Drilling S.A., utilizing truck and track mounted Universal UDR 650 rigs.

In 2008, two reverse circulation holes totalling 300 metres were drilled on Section 8488N inclined 50° as a step-back pair along an azimuth of 065° in order to intersect the COSE Fault and broadly transect the geophysical anomaly perpendicular to strike. During the period September 2009 to June 2010, a total of 41 diamond drill holes totalling 9,980 metres were drilled between grid sections 8413N and 8663N, over a 250 metre strike length. With the exception of one hole (CSE-026-D) all drilling was inclined at an azimuth of 050° at varying dips between 50° and 70° in order to broadly intersect the overall structure orthogonally with increasing depth. Subsequent to the high grade intersection in hole CSE-013-D, most drill holes were collared on nominal 12.5 metre spaced sections, extending approximately 40 metres to the northwest and southeast, respectively, in order to provide greater definition of the COSE shoot.

A total of 12 geological sections were generated by the subsidiary of the former property owner geologists using Mapinfo/Discover GIS software, which incorporate interpreted lithological boundaries, zones of oxidation, mineralization, structural features and gold values.

Sampling and Analysis

The subsidiary of the former property owner field technicians processed each one-metre sample collected during reverse-circulation drilling programs by:

- Weighing on-site of the sample and recording sample weight and type (for example, dry, moist or wet).
- Riffle splitting to achieve a representative four-kilogram sub-sample which was bagged immediately in a plastic polyurethane bag (dry samples), or in polypropylene cloth bags (wet samples).

- Cleaning the riffle splitter between each sample interval with compressed air sourced from the drilling rig, and thoroughly cleaning the cyclone between drill holes, with every effort made to ensure quality control on-site.

During drilling, the diamond core samples were managed according to the following protocol:

- Extracted core was immediately placed in a core cradle, ensuring that core was maintained intact and in the correct order.

- Core was washed and subsequently oriented in order to reconstruct the core in its predrilled in situ position as much as possible.

- In combination with placement of the drilling depth blocks, the individual metre limits were marked on the core.

- Recovery length and percentage of both the total drilled interval and each complete unit depth metre interval was calculated and recorded on the drill log sheet.

- Rock quality designation ("**RQD**") for each core run was measured.

- In order to standardize sampling methodology and allow for reconstruction of the drill hole in half core, the convention of utilizing the left hand side of each cut core portion for subsequent geochemical analysis and the right hand piece to be retained as the reference core was applied. At the end of each sample interval, a perpendicular saw cut was made to clearly mark the end and beginning of the consecutive sample. During the cutting, the core sample intervals and corresponding numbers were repeatedly crosschecked.

- Core was carefully placed into the numbered wooden core boxes in which metre intervals were marked on core, and core boxes, with wooden depth blocks inserted in the corresponding position.

- Half core samples for individual intervals were placed in clean, tagged plastic sample bags which were immediately closed after sampling, and the corresponding interval in the core was marked with a stapled aluminum tag. After the individual samples were bagged they were placed in numbered burlap bags and subsequently weighed and recorded ready for transport. The marking, sampling, and bagging process was conducted by the subsidiary of the former property owner field technicians under supervision of the project geologist.

Sampling was performed on site, in the case of trenching and reverse circulation drilling, and at the Estacia La Bajada base camp, in the case of diamond core.

No sample reduction of any of type was conducted at the base camp other than the ½ splitting of the diamond core. The only sample reduction that took place in the field was the splitting of the reverse circulation samples.

Samples pending shipment were stored on-site at Estancia La Bajada in a secure storage area and shipped weekly by way of a contracted private courier in a closed and locked truck compartment. The samples were transported directly to the designated laboratory in Mendoza, Argentina and were always accompanied by a required provincial transport permit in addition to a shipping dispatch and a letter addressing the particular analyses required, sample numbers, quantity and weights for the laboratory. The subsidiary of the former property owner data manager was notified immediately upon reception of the samples in the laboratory by the laboratory staff.

Alex Stewart Assayers Argentina S.A., which is an internationally recognized and accredited independent laboratory compliant to ISO Certified-9001:2000 standards, was contracted for the geochemical analysis of the samples generated during the drilling campaigns at the COSE Project. Acme Analytical Laboratories of Vancouver, British Columbia, an ISO-certified laboratory independent of the subsidiary of the former property owner, performed check assays on selected samples. Quality control procedures conducted by the subsidiary of the former property owner include the routine inclusion of certified geochemical standards, blanks and sample duplicates (reverse circulation percussion) which are submitted with geochemical samples to the laboratories and check assaying.

Based on results from the 16,588 metres drilled throughout the program, overall diamond drilling core recoveries averaged 98.7%. The drill core recovery within the main COSE Breccia reported good but lower overall average recoveries (97.6%), the enhanced loss being a consequence of the commonly clay rich breccia matrix, fault gouge and fractured rock. The reverse-circulation drilling recoveries were 98.0% for oxide zones and 98.6% for partial oxide zones. Recovery data was only calculated for data received up to the completion date of the Chlumsky, Armbrust & Meyer, LLC scoping study.

Measurements of specific gravity ("**SG**") were performed by Alex Stewart and on-site by the subsidiary of the former property owner on a total of 94 individual, ½ HQ-size core pieces taken from one-metre drill core intervals, for which the average dry sample weight was 0.66 kilograms. The specific gravity for a total of 64 samples was measured by Alex Stewart and 30 samples were determined by the subsidiary of the former property owner. The global average of all the specific gravity values based on all rock, oxidation and mineralization types for the 94 samples was 2.39 and the standard deviation was 0.10, which gives an approximate 95% confidence limits on the density of plus or minus 1%, and which is adequate for a feasibility study. The peak specific gravity values (2.59, 2.57 and 2.51) related to intervals from weakly silicified breccia gouge with relatively high sulfide mineral concentrations. The COSE Report authors recommended that the three high density values be reviewed to determine if there is a correlation between higher grades and higher densities. Depending on the results, additional specific gravity measurements may be desirable.

In the COSE Report, the COSE Report authors stated that, on the basis of statistical checks, and the checks of data entry, it believed that the exploration database was prepared according to NI 43-101 norms and was suitable for the development of geological and grade models.

Metallurgical Testing

SGS Minerals Services ("**SGS**") in Santiago, Chile performed several tests on a set of samples from the COSE Project including: assays of gold in the metallic fractions, cyanide leaching in bottle tests and gravity separation tests. A total of 70 samples were received by SGS, which were composited into 25 samples at the subsidiary of the former property owner's request.

The gravity tests were run utilizing a lab-model Knelson concentrator. In general the gold recovery averaged 60% and the silver recovery averaged 35%. In the rolling-bottle cyanide-leach tests the results were slightly better, with gold recovery averaging above 76% and the average silver recovery being 55%. It was determined that a simple solution was not at hand to increase recoveries of both the gold and silver, and that more extensive tests were needed to investigate higher recovery methods.

Mineral Reserves Estimates

The mineral resource estimate for the COSE Project is summarized in the following tables.

Summary of Estimated Mineral Resources(1) (Undiluted) – COSE Project

Category	Tonnes	Grade (grams per tonne)			Contained Metal (ounces)		
		Gold	Silver	AuEq(2)	Gold	Silver	AuEq(2)
Indicated	20,637	60.06	1,933.07	96.21	39,850	1,282,582	63,835
Inferred(3)	13,758	60.06	1,933.07	96.21	26,566	855,055	42,557

(1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.
(2) Gold equivalent (AuEq) values are calculated at a ratio of 53.5:1 gold:silver, based on a gold price of $1,204 per troy ounce and a silver price of $23.75 per troy ounce and gold and silver recoveries of 95% and 90%, respectively.
(3) The quantity and grade of reported inferred resources in this estimation are conceptual in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral source. It is uncertain if further exploration will result in the upgrading of the inferred resources into an indicated or measured resources category.

The mineral resources, adjusted for dilution and mining recovery, are summarized in the following tables.

Summary of Estimated Mineral Resources(1) (Diluted) (1) – COSE Project

Category	Tonnes	Grade (grams per tonne)			Contained Metal (ounces)		
		Gold	Silver	AuEq(2)	Gold	Silver	AuEq(2)
Indicated	23,467	51.76	1,665	87.19	39,049	1,256,541	62,536
Inferred(3)	15,644	51.76	1,665	87.19	26,032	837,694	41,692

(1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.
(2) Gold equivalent (AuEq) values are calculated at a ratio of 53.5:1 gold:silver, based on a gold price of $1,204 per troy ounce and a silver price of $23.75 per troy ounce and gold and silver recoveries of 95% and 90%, respectively.
(3) The quantity and grade of reported inferred resources in this estimation are conceptual in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral source. It is uncertain if further exploration will result in the upgrading of the inferred resources into an indicated or measured resources category.
(4) Dilution of 0.25 metres either side of the stope and a 98% recovery factor was applied to calculate the diluted mineral resources.

Preliminary Economic Assessment

Mining capital expenditures were estimated at USD$24,440,000, which includes the 1,980 metres of main decline ramp access, resource development, cross cuts and stoping of the resource. Total cost per tonne for production during the 11-month production period was estimated at USD$167 per tonne and total development cost was estimated at USD$14,252,000. The three alternative treatment or process routes considered for the treatment of resources from the COSE Project include:

- Direct shipping, which involves mining and crushing of the material on-site and then shipping the resources via road and sea to a suitable smelter for direct smelting to recover the gold and silver.

- Construction of a crushing and cyanide leaching circuit at the La Bajada property and processing through a Merrill Crowe circuit and production of doré on-site.

- Gravity separation and smelting of gold and silver to produce doré on-site.

Process facility capital expenditure estimates and metal recoveries for the three separate treatment routes are shown in the table below.

CAPEX Estimates and Metal Recoveries for Treatment Options

Treatment Route	CAPEX Requirement	Metal Recoveries	
		Gold	Silver
Direct Shipping	$2.7 million	93%	90%
High NaCN Leach Merrill Crowe	$8.1 million	87%	65%
Gravity Concentrate-Smelting	$5.9 million	60%	50%

It is assumed that the entire project will be constructed and mined out in a 23 month period with a 12 month period of pre-production. The production rate is estimated at 3,600 t/month. The overall mining cost is estimated at USD$14,252,000 and the process capital cost is estimated at USD$2,768,000. Both estimates have a confidence level of ±30%. The project operating costs are estimated at USD$413 per diluted tonne of mineralization or USD$167 per equivalent ounce of gold produced. Base case metal prices used for the preliminary economic assessment set out in the COSE Report and in the Patagonia AIF are USD$1,204 per ounce of gold and USD$23.75 per ounce of silver, with recoveries of 95% and 90%, respectively.

Base case metal price assumptions represent a trailing 36-month and future looking 24-month calculated price. All cash flow calculations are based on an undiscounted model due to total project timeline of 23 months and include a 10% Royalty payable for exported concentrates. Dilution of 0.25 metres on either side of the stope and a 98% recovery factor was applied to calculate the diluted mineral resources.

Based on the direct shipping option treatment route, the results of preliminary economic analysis include:

- Cash cost of USD$167 per AuEq ounce produced.

- Net revenue of USD$63.8 million.

- Net present value of USD$56.8 million at a discount rate of 8%.

- Internal rate of return of 870%.

A sensitivity analysis was run on gold and silver pricing and the results are set out below. The sensitivity analysis was run on the direct shipping option treatment route only due to the smaller initial capital expenditure and higher potential revenue.

Sensitivity Analysis

Gold Price ($)	**Silver Price** ($)	**Net Present Value** (millions of $)
1,204	23.75	63.8
1,000	20	46.5
1,100	22	55.2
1,400	30	84.7
1,418	35	93.8

It is expected that 68% of contained gold and silver will be mined within the first four months of production, enabling payback of capital after just 14 months following commencement of the decline.

Exploration and Development

The subsidiary of the former property owner has received approval within the El Tranquilo EIA from the State Secretary of Mining for the development of a decline access for underground drilling at COSE as well as a bulk sampling for metallurgical test works. With the receipt of the mineral resource estimate and preliminary economic assessment set out in the COSE Report, the subsidiary of the former property owner would then be able to finalize the permit application for the mining of the entire orebody and the construction of infrastructure and processing facilities on-site at the COSE Project for approval.

Although COSE itself is closed off, the mineralised structure containing the COSE deposit remains open at depth and along strike. Future deeper drilling in order to expand the deposit will be carried out from underground. Additional drilling is planned between the COSE Project and the Cap-Oeste Project to the northwest.

Construction of the COSE Project workshop, storage facilities and 70-man camp were completed in 2012. Three long lead-time items of critical mining equipment including an underground load haul dump scoop tram, a 30 tonne underground truck and a twin boom jumbo drill have been purchased and received at the site. The underground mine design is complete and a qualified contractor has been selected for the construction of the portal, underground decline access and the mining of the COSE Project, and is pending completion of legal due diligence. The Company is considering various options for processing including direct shipping to smelter and carbon-in-leach.

Construction of the portal and underground decline access has been delayed and all available effort and funds were focused on the Lomada Project heap leach in 2012. In the meantime, the heavy mining equipment and infrastructure purchased for the COSE Project is currently being utilised on the Lomada Project main heap leach construction.

Drilling re-commenced in February 2013 on the Cap-Oeste structure to further explore this highly prospective zone. In March 2013 a drill program commenced on the highly prospective corridor between the COSE deposit and the Cap-Oeste deposits in order to follow up the high grade intersections encountered in the 2012 drill campaign. The initial program is expected to comprise 100 diamond core drill holes for 12,700 metres. Additional drills will be brought in as and when required should potential mineral resources be identified.

Developments Following COSE Report and Pan American AIF

On January 21, 2019, Pan American announced a later startup of COSE production related to a change in the mining method. The modification takes into account the current ground conditions and directly transfers the existing miner expertise from the Manantial Espejo operation. The change requires additional upfront development, which is expected to result in an approximate six-month delay in commencing production at COSE now scheduled for calendar third quarter of 2019, which resulted in rescheduling some of the ounces originally planned for the calendar year 2019 into 2020.

On April 29, 2019, Metalla announced that Pan American advanced the development of the COSE and Joaquin projects in Argentina. Production at both mines is expected to start in the second half of 2019. At COSE, development of the underground access decline also continued, along with the commencement of construction on the first underground electrical substation. Pan American has outlined capital expenditures at Joaquin and COSE in 2019 to complete development and bring both mines into production totaling US$20M. Both projects remain on budget.

On August 7, 2019, Pan American disclosed in their second quarter results and related conference call that they spent a combined US$7.0 million on the Joaquin and COSE projects during the second quarter of 2019. Underground development and ground support system implementation is continuing to advance as they move closer to production. Development at COSE has extracted 1,500 tonnes at 2600g/t silver and 33g/t gold which is currently stockpiled on surface. This grade compares favorably with the reserve grade at COSE of 918g/tsilver and 17.7g/t gold. At COSE, Pan American expects that production in late 2019 will be limited to development material with stope production in the first quarter of 2020.

As of June 30, 2019, Pan American reported that their mineral reserves on the COSE Property were:

Property	**Location**	**Classification**	**Tonnes (MT)**	**Ag (g/t)**	**Contained Ag (Moz)**	**Au (g/t)**	**Contained Au (koz)**
COSE	Argentina	Probable	0.1	918	2.2	17.7	43.3

Santa Gertrudis, Mexico

Metalla holds a 2% NSR interest on the Santa Gertrudis Mine.

A technical report was prepared for GoGold pursuant to NI 43-101 entitled "*Technical Report, Updated Resource Estimate And Preliminary Economic Assessment On The Santa Gertrudis Gold Property, Sonora State, Mexico Latitude 30° 38' N Longitude 110° 33' W*" dated August 22, 2014 (the "**Santa Gertrudis Report**").

The following description of the Santa Gertrudis Mine has been prepared in reliance, in part, on the Santa Gertrudis Report and GoGold's Annual Information Form dated December 14, 2016 (the "**GoGold AIF**") and readers should consult the Santa Gertrudis Report and GoGold AIF to obtain further particulars on the Santa Gertrudis Mine. The Santa Gertrudis Report and GoGold AIF is available for review under GoGold's profile on SEDAR (www.sedar.com). GoGold subsequently sold the Santa Gertrudis Project to Agnico on November 2, 2017, and therefore GoGold is referred to below as the 'former property owner'.

While the Company does not have any knowledge that such information is not accurate, the Company has not independently verified this information and there can be no assurance that such third-party information is complete or accurate. See section *Introductory Notes – Technical and Third-Party Information*.

Summary

The Santa Gertrudis Project is a past-producing gold mine that was acquired in April 2014 as part of the former property owner's purchase of Animas Resources Inc. ("**Animas**"). In September 2014, the former property owner released the results of the Santa Gertrudis PEA that upgraded the previous historic resource estimate to 810,000 ounces of gold indicated (23.3 Mt at 1.08 g/t Au) and 255,000 ounces gold inferred (7.7 Mt at 1.02 g/t Au). As a past producer, the Santa Gertrudis Project has infrastructure in place including numerous pits already worked with haul roads in place to facilitate the commencement of mining activities. In September of 2016, the former property owner began toll milling high grade material and by the end of that month had poured 383 ounces of gold. The former property owner planned to will move forward with construction of a vat leach plant, with construction on phase one beginning in October 2016. The former property owner intended to use the revenue generated from the toll milling to provide cash flow during the phase one construction. The Santa Gertrudis Project is located in northern Sonora State, México. As of the date of this AIR, the property is 100% held by Agnico.

The Santa Gertrudis Project contains several former producing gold mines. Approximately 565,000 ounces of gold were produced in the district from what is now part of the property between 1991 and 2000. A total of 8,244,000 tonnes at an average recovered grade of approximately 2.13 g/t Au were open pit mined from 22 sedimentary-rock-hosted, disseminated gold deposits. This mining includes production by Phelps Dodge Mining Company ("**Phelps Dodge**") and Campbell Red Lake Resources Inc. ("**Campbell**") from the Santa Gertrudis Project and production at the Amelia Mine, one of the concessions that form part of the Santa Gertrudis Project.

The former property owner had released updates regarding the Santa Gertrudis Project since the date of the Santa Gertrudis PEA which are discussed below.

Project Description and Location

The Santa Gertrudis Project is located in the Santa Teresa mining district, Arizpe, Cucurpe, and Imuris Municipalities, in northeastern Sonora State, México. It is situated 170 kilometres south of Tucson, Arizona, 180 kilometres north of Hermosillo, México and 40 kilometres east of the town of Magdalena de Kino. The latitude is 30°38'N and the longitude is 110°33'W.

The Santa Gertrudis Project comprises 50 concessions covering a total of 41,989.9 hectares. The Santa Gertrudis Project is a combination of several claim blocks owned by several different companies, including concessions staked by Animas on the northwest, west and southwest boundaries of the original claim block.

The claims are all contiguous, although there are small inliers within the claim block that were not controlled by the former property owner, and have expiry dates ranging from December 16, 2036 to May 6, 2058. The surface rights to the concessions are owned by the local community, Ejido, Seis de Enero, as well as various landowners, and a land access agreement is required to conduct any work on the property. Currently, there are several such agreements in place between various landowners and Coanzamex, First Silver Reserve, S.A. de C.V., and Recursos Escondidos, S.A. de C.V. The Santa Gertrudis Project is not subject to royalties.

The former property owner was responsible for the following reclamation obligations in the event of the abandonment of the project or transfer of the concessions:

- To neutralize, restore, and reforest all the residual and marginal material, the product of old operation (leach pads and depleted mineralized fields);

- Close and reforest operation roads, as well as fence and stabilize mining pit slopes; and
- Dismantle and remove facilities, infrastructure and solid waste in general from the projects.

Request also needed to be made of the appropriate authority for consent to reactivate mine development at either of the Santa Gertrudis or the Amelia Mines, by the former property owner. Application must be accompanied by a manifestation of environmental impact, particular modality, a study of environmental risk, modality analysis of risk and of a technical study for the change of use of the grounds. Consent was received on March 2, 2015.

Climate, Access, Local Resources, and Infrastructure

Access to the Santa Gertrudis Project is via a 39 kilometre gravel road, leading from the paved Magdalena-Cucurpe Highway. There is also a network of unpaved roads (ranch, exploration and ore-haulage roads) that provide excellent access throughout the property. Hermosillo is the capital of Sonora and is located approximately two hours south of the property via a well-maintained four-lane highway. It is the main economic center for the state and region, as well as an important centre for agricultural and manufacturing.

The property lies within a basin and range physiographic province, the landscape of which is defined by abrupt changes in elevation, alternating between narrow faulted mountain chains and flat arid valleys or basins. Property elevations vary from around 1,200 metres to 1,700 metres above sea level. The nearest weather station to the project, located approximately 40 kilometres northeast of the property reports an average yearly temperature of 15.3°C, an average monthly maximum temperature of 23.5°C in the months of June to September and an average monthly minimum of 7.4°C in December and January. The climate is semi-arid desert and there is a dry season from the spring and early summer and a rainy season in the mid to late summer and fall that often causes flash floods in the arroyos. The Santa Gertrudis Project can be operated all year round.

Past mining activities have left an exploration camp, office, water tank, drill sample handling facilities, and permitted water well. There is sufficient land to conduct a mining operation, including waste disposal, processing facilities and pads for heap leaching. Potential power sources include local generators or a 20 kilometre power line extension to the camp.

History

Past production from open-pit mining was carried out by previous operators between 1991 and 2000 at numerous deposits primarily located in the north-central region of the Santa Gertrudis Project area. These past mining activities have left water-filled historic-mined pits, waste piles and a lined, zero-discharge historic leach pad at the Santa Gertrudis Project and two lined pads near the Amelia Mine.

Investigations in the 1980’s undertaken by Phelps Dodge showed potential for Carlin-type sedimentary rock-hosted, disseminated gold deposits on the property. The first major discovery was made in 1986, a feasibility study was completed in 1988 and production from the Santa Gertrudis Project mine-site commenced in May of 1991 from a heap leach operation which produced at 3,000 tonnes per day. Historic exploration drilling includes over 208,727 metres of reverse circulation drilling and 66,333 metres of core drilling. This work tested over 100 target areas and was generally conducted to shallow depths of around 150 metres around known deposits and to around 100 metres in other target areas.

An historic resource estimate covering all of the property, excluding the Amelia Mine, was completed by Campbell in 2000, which was not compliant with NI 43-101 guidelines.

Geological Setting

Three north-south-trending physiographic provinces transect the State of Sonora, México. From west to east these are the Basin and Range, the Transition Zone, and the High Plateau (Sierra Madre Occidental). The Santa Teresa mining district is within the extreme eastern margin of the Basin and Range, at the western edge of the Transition Zone. The physiography of the district consists of closely spaced ranges that form topographical highs with relatively narrow intervening shallow valleys. This region contains a wide variety of rock types and ages, with Tertiary volcanic rocks predominating. The principal regional structural elements are the north-trending Basin and Range normal faults. The Sierra Madera core complex is located west of the Santa Teresa district, and it may be responsible for some of the observed structural features seen in the region. The bulk of México's copper production occurs in the Basin and Range province, principally at Cananea and La Caridad. Regionally, gold occurrences are commonly associated with Tertiary dilational faults, many of which occur in calcareous sedimentary rocks, and locally, some replacement-type mineralization is reported. There also are a number of stockwork epithermal vein gold occurrences within the region, and the Cristina deposit in the Santa Teresa mining district is an excellent example of this style of gold mineralization.

The Santa Teresa mining district contains approximately thirty gold deposits that are hosted in rocks correlative with the Upper Jurassic-Lower Cretaceous Bisbee Group clastic and carbonate lithologies of southeastern Arizona. These gold deposits occur in a northwest-trending belt that is approximately 20 kilometres long and up to 8 kilometres wide. The Bisbee Group correlative rocks in the district are a minimum 1,300 metres thick and are equivalent, in ascending order, to the Glance Conglomerate, Morita Formation, Mural Limestone, and Cintura Formation.

Exploration and Drilling

<u>The former property owner's 2015 Exploration and Drilling Programs</u>

On May 5, 2015, the former property owner announced it had drilled numerous high-grade gold drill holes in the proposed open-pit zones at Santa Gertrudis (see GoGold's press release dated May 5, 2015). The drilling was designed to confirm historic mineralization and to test targets in the immediate vicinity of the open-pit resource in the Santa Gertrudis PEA. The drilling program confirmed the downdip high-grade extension at the Dora pit structure, and also confirmed that the oxide zone continues below the previously thought depth of the oxide mineralization. These holes confirmed the higher grades at the Dora structure and identified the material as mostly oxide. The past mining of the oxide material located immediately above this intercept had reported 75-per-cent recoveries on a conventional heap leach with a crush size of four inches.

Additionally, other significant holes have been drilled at the Corral zone and Cristina zone, with highlights that include 17 metres of 3.58 grams per tonne gold at Corral and 31.4 metres of 1.18 grams per tonne gold at Cristina. These three targets have been identified as the initial pits the former property owner could restart mining, and should represent the first four years of feed. Construction is expected to commence immediately following the completion of final engineering of the heap leach pad and the processing plant design.

The diamond drilling programs at Dora, Corral and Cristina deposits were designed to confirm the resource and reserve models, obtain fresh material for metallurgical testwork, and obtain geotechnical information for pit slope design and crushing index testwork. Sixty-six diamond drill holes totaling 6,748.3 metres of HQ size core were completed in the phase I program. Four geotechnical diamond drill holes totaling 505 metres of HQ3 triple-tube core with a core-orienting system to collect structural data have also been completed to date under the supervision of Golder Associates.

On September 28, 2015, the former property owner announced additional high grade gold intercepts in the proposed open pit zones at the Santa Gertrudis Project (see GoGold's press release dated September 28, 2015). Holes reported below on the Viviana Fault structure have not been included in the Santa Gertrudis PEA. The highlight of the new holes drilled include GGDOR-016 which intersected 17 metres of 5.35 g/t gold in the Dora Pit; GGGR-005 drilled at the Greta Ontario zone starting at surface of 8 meters of 18.71 g/t gold including 5 metres of 29 g/t gold; and GGCNW-004 in the Corral pit of 13.7 Metres of 3.22 g/t gold. The drilling was designed to confirm historic mineralization and tested targets in the immediate vicinity of the open pit resource in the PEA.

July to September 2015 Activity

The former property owner field teams were mobilized to map and sample the Viviana gold deposit located on the Santa Gertrudis Project. The Viviana deposit outcrops and was evaluated by trenching along with 50 RC holes drilled in 1995/96 by Roca Roja. High-grade oxidized gold intercepts occur in calcareous siltstones associated with the 3.8 km long, east west trending Viviana fault zone. Roca Roja mined several thousand tonnes from the deposit before selling the property to Campbell Resources in 1999.

In 2000, Campbell drilled 20 holes on the Viviana Norte prospect located 200m northwest of the Viviana deposit. These Roca Roja and Campbell drill holes were not included in the Santa Gertrudis PEA. Approximately mid mine life, these holes were some of the last holes released prior to Campbell ceasing operations. These drill hole records, some of which were released in a May 2000 by Campbell, contain numerous high grade oxide gold intercepts which indicates the presence of long mineralized zones near surface along the 3.8 kilometer long east-west trending Viviana fault.

The former property owner expected the current resource to increase as the geological team continues to identify other highly prospective areas within claim boundaries.

October 2015 to September 2016 Activity

In September 2016, the former property owner announced the planned construction of a vat leach plant, which is designed to treat ore at a rate of approximately 2,000 tonnes per day. This will allow field evaluation of the many ore types and deposits on the property which will aide in perfecting the operating process. The results of these large-scale tests will in turn provide input to an updated feasibility study of the property. The former property owner believed the scale of the proposed initial plant would allow sufficient cash flow to cover the full cost of the plant and the feasibility study program. Following expected successful evaluation, the project can then be scaled up by adding additional vats to achieve the expected full commercial operation. The construction of the vat leach plant is expected to be completed by the end of March 2017.

The former property owner's PEA on the Santa Gertrudis property that was released in September 2014 was based on heap leaching technology. The former property owner has since performed further preliminary metallurgical testing which indicated that cyanide vat leaching could be a viable alternative to conventional heap leaching; with achieved vat gold recoveries in the low 80% range.

While the leaching mechanism is similar, the primary difference between heap and vat leaching is that heap leaching occurs on large pads which are exposed to the weather elements whereas vat leaching occurs in smaller, more controlled batches in concrete vats. Additional advantages to the method include lower investment risk, faster project development, more flexible processing, quicker revenue generation, increased gold recoveries, and lower environmental footprint. As a result, management has opted to proceed with construction of a vat leach test facility as part of an updated feasibility study of the property.

The former property owner began toll-milling high grade surface material at Santa Gertrudis in September 2016, the former property owner planned to continue processing the high grade material, generating significant cash flow for the duration of the vat construction.

Highlights from the former property owner's Trenching Program were released October 19, 2016, and the program included some significant results including 18 metres of 32.77 grams per tonne of gold along the surface of the zone. The high-grade mineralization outcrops at surface towards the north, where it had been previously drilled by Phelps Dodge with reverse circulation and diamond drill holes.

Mineralization

Field mapping and rock-chip geochemical sampling by Animas personnel within the Santa Teresa mining district confirms the presence of gold mineralization along north east striking (~045°), steeply west-dipping, normal and oblique slip faults. Gold mineralization appears to occur primarily within the hanging wall portions of the fault zones and these faults are believed to be the primary "feeder" structures for the known gold mineralization. Where the northeast-trending faults intersect northwest-trending, reactivated, bedding parallel thrust faults (~345°) and deformation zones, gold mineralization tends to bleed out along these more permeable zones. Tensional, conjugate sets of north-south and east-west trending faults also control the localization of gold mineralization, but these zones generally are less well mineralized than the northeast- and northwest-trending set of faults.

Mineralization appears to occur preferentially in rocks that were both structurally prepared and had chemical properties that allowed for gold deposition. Calcareous siltstone and limestone in La Gloria, Greta, and Santiago show strong local dissolution and jasperoid replacement is present throughout the district on a small and large scale. This pattern of intersection of faults in preferred host rocks is repeated throughout the district and has been the model used to explore the district since the early Phelps Dodge days. Based on this apparent fact, any larger deposits to be found at depth or under alluvial cover probably will likewise be associated with favourable structural intersections and chemically reactive calcareous host rocks.

Gold mineralization within the Santa Teresa mining district is most common in areas of structural ground preparation and less so as replacement deposits in calcareous units. Favourable ground preparation produced by a combination of high-angle, bedding-plane, and near bedding-plane faults and fractures resulted in the formation of zones that can have considerable lateral and presumed down-dip extent. This type of mineralization is most characteristic at El Toro, El Corral, Mirador, Escondida, Becerros Norte, Manueles Sur, Maribel, and Camello. Mineralized zones are generally 10 to 30 metres thick, and locally extend outward to a limited extent as replacement of the calcareous units. The most favourable structural settings for gold mineralization clearly are where north-east and north-west-trending fault zones intersect.

Metallurgical Testing

The Santa Gertrudis Project is comprised of 38 discrete deposits; of which 13 have been subjected to some metallurgical testwork, and a few have been partially mined. Operating records for past operations are not available and recovery estimates are therefore based on the available lab data. The metallurgical testwork (bottle roll and column tests) yielded a wide range of gold extractions for oxide material overall, although insensitive to head grade. Gold extractions were typically between 75% and 90%.

Sampling and Analysis

There were three drilling campaigns completed by Animas at the Santa Gertrudis Project taking place in the years 2008, 2009, and 2010. The sampling procedures were slightly different in 2008 than they

were in 2009 and 2010. In 2014, the former property owner completed a drilling campaign at the Santa Gertrudis Project.

In the latter part of 2009 and all of 2010, all samples were sent to ALS Minerals Lab ("**ALS**"), in Hermosillo, México for preparation and analysis. ALS labs maintain International Organization for Standardization ("**ISO**") registrations and accreditations, providing independent verification that a quality management system is in operation at the location in question. Most ALS laboratories are registered or are pending registration to ISO 9001:2008, and a number of analytical facilities have received ISO 17025 accreditations for specific laboratory procedures. Sample prep at ALS consisted of crushing the sample to 70% passing -10 mesh, reducing the sample through a Jones riffle splitter, and pulverizing to 85% passing -200 mesh. Gold was determined using fire assay on a 30 grams aliquot, with AAS finish. Samples exceeding an upper threshold of 10 g/t Au were reanalyzed using gravimetric determination.

Following the 2008 drill program, it was decided to make property standards from material at the Santa Gertrudis Project. Four property standards of varying grades were prepared by Shea Clark Smith (Minerals Exploration and Environmental Geochemistry, MEG), of Reno, Nevada. Five samples were sent to each of 10 different certified, commercial labs for a round robin characterization. Statistics were applied to the results, and a mean and between-lab standard deviation were calculated for each standard. Grades of the property standards were 0.16 g/t Au, 0.56 g/t Au, 1.24 g/t Au and 4.12 g/t Au. A total of 285 standard samples were submitted with the routine samples. The standards performed very well, with six failures below three standard deviations from the mean, and nine misallocations. All other values were within plus and minus two standard deviations from the mean. Unmineralized Cintura formation was chosen from the site, and a "blank" sample created. The "blank" sample, was assayed extensively and determined to contain less than 5 ppb Au. For all the 2009 and 2010 drilling, a standard was inserted every 15 samples and three blanks (broken, uncrushed rock) were inserted per drill hole.

The Santa Gertrudis Project was visited by Mr. Fred Brown, P. Geo., from December 9 to 13, 2013, and again from February 11 to 21, 2014, for the purposes of completing site visits and due diligence sampling. General data acquisition procedures, core logging procedures and quality assurance/quality control were discussed during the visit. Mr. Brown collected 12 samples from 10 diamond drill holes in December 2013, and six samples from six drill holes in February. Samples were collected by taking the half core remaining in the core box. Once the samples were collected, they were placed in a large bag and taken by Mr. Brown to ALS in Hermosillo, México for preparation and analysis. Samples at ALS were analyzed for gold by fire assay-AAS, and specific gravities were determined on 13 of the samples.

Security of Samples

With respect to the three drilling campaigns completed by Animas at the Santa Gertrudis Project in 2008, 2009, and 2010, the same general sample preparation procedures were followed. Core boxes were delivered to the logging facility where the geologists were responsible for estimating recovery and laying out sample intervals at 1.5 metre increments. If there were significant lithologic and/or alteration changes, shorter sample intervals were designated, however none was less than 0.5 metres. Sample intervals were marked on the sides of the core boxes as a permanent record. Drill core was moved to the sawing area by the cutting crew. The entire core was sawed in half with one half maintained in the core box for logging and future reference, and the second half bagged as an analytical sample. In areas of strongly broken rock, half of the fractured rock was subdivided without sawing using a metal sampling device. Each analytical sample was given a unique number from pre-numbered sample tag books. That number was marked on the outside of the plastic sample bag. The sample tag was composed of two identically numbered parts; one remained in the book for future reference and had the drill hole number and footage recorded. The second half with only the sample number was placed in the numbered plastic bag with the sample. Each bag was sealed by the sample handler and not opened again until it reached

the sample preparation facility. Groups of sample bags were placed in rice bags that were also sealed and labeled to identify the contained individual samples.

The rice bags were not opened until they reached the sample preparation facility. The former property owner completed a drilling campaign in 2014, which was comprised of 13 holes on the Escondida deposit, and five holes on the Ruben deposit. The former property owner employed the services of Activation Laboratories ("**Actlabs**") in Zacatecas, México, for all sample preparation and analysis. The Actlabs' quality system is accredited to international quality standards through the ISO/International Electrotechnical Commission ("**IEC**") 17025 (ISO/IEC 17025, which includes ISO 9001 and ISO 9002 specifications) with CAN-P-1758 (Forensics), CAN-P-1579 (Mineral Analysis) and CAN-P-1585 (Environmental) for specific registered tests by the Standards Council of Canada. The accreditation program includes ongoing audits, which verify the quality assurance system and all applicable registered test methods. All the samples were shipped in marked, sealed, tagged bags to Actlabs in Zacatecas, México. Both the sample prep and analyses were completed at this location. Gold was analyzed using fire assay-AAS up to a grade of 10,000 ppb Au, (10 g/t Au). Results exceeding 10,000 ppb Au were reanalyzed using fire assay with a gravimetric finish, and reported in g/t.

Mineral Resource Estimate

The mineral resource estimate for the Santa Gertrudis Project Project is summarized in the following table.

Total Mineral Resources(1-5)

		Indicated			Inferred		
Type	**Cut-off Au (g/t)**	**(Kt)**	**Au (g/t)**	**Au (Koz)**	**(Kt)**	**Au (g/t)**	**Au (Koz)**
Oxide	0.16	22,072.3	1.06	751.2	6,696.8	0.96	207.1
Mixed	0.25	815.8	1.47	38.5	851.5	1.44	39.4
Sulphide	0.60	174.2	1.90	10.6	4.2	2.32	0.3
Amelia Pads	0.20	244.3	1.19	9.4	192.5	1.25	7.7
Total:		**23,306.6**	**1.08**	**809.7**	**7,745.0**	**1.02**	**254.5**

(1) Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
(2) The quantity and grade of reported inferred resources in this estimation are conceptual in nature an there has been insufficient exploration to define these Inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an Indicated or measured mineral resource category
(3) The mineral resources in this estimate were calculated in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines as prepared by the CIM Standing Committee on Reserve Definitions, as well as the requirements on NI 43-101.
(4) All resources are reported within an optimized pit shell developed using the following economic parameters: Gold Price US$1,300 per ounce. G&A cost US$0.80 per tonne. Mining cost US$1.40 per tonne. Processing cost US$4.00 per tonne for oxides, carbonaceous oxides and mixed oxide/sulphide deposits, and US$22.00 per tonne for sulphides. Process recoveries used are 75% for oxides and leach pad material, and 50% for mixed oxide/sulphide deposits, and 90% for sulphides. Optimized pit slopes are 50 degrees.
(5) The mineral resource table incorporates 35 deposits and associated optimized pit shells as well as three leach pads.
(6) The effective date of the mineral resource estimate is August 22, 2014.

Mining Methods

The Santa Gertrudis Project property contains numerous gold deposits, some of which were partially mined in the past. The deposits are near surface and lend themselves to conventional open pit mining methods. The entire project area is about 10 kilometres long in both the north-south and east-west directions.

Pursuant to the Santa Gertrudis PEA production plan, 27 different open pits may be developed over the life of the project to support a heap leaching operation. Some heap leach feed material will also be mined from a historical heap leach pad that retains recoverable gold.

Based on preliminary pit optimizations, and the application of dilution and losses factors, potential mine production and heap leach feed tonnages were estimated for each deposit. The total quantity of material that would be sent to the leach pad is calculated to be 29.5 million tonnes containing 916 thousand ounces of gold. The overall waste to potential heap leach feed ratio is 5.5:1.

It is assumed that the Santa Gertrudis Project will be operated as a contracted conventional truck-and-shovel open pit mining operation. While owner-operated mining may be an option, this was not considered in the Santa Gertrudis PEA since many of the other mines in northern México rely on the use of mining contractors.

The various deposits will be mined sequentially and will deliver the heap leach feed to a single, centrally located heap leach facility for processing. The target heap leaching rate is approximately 2.7 Mt/a or approximately 7,500 t/d. The total daily mining rates of leach feed and waste combined, will range between 31,000 t/d to 55,000 t/d but average approximately 46,000 t/d.

Recovery Methods

The process design is based on the use of conventional heap leach technology with a process rate of 2.7 Mt/a or 7,500 t/d.

An area has been identified which can accommodate the entire potential life-of-mine production envisaged in the Santa Gertrudis PEA. Potential heap leach feed will be crushed in two stages and conveyed by a series of conveyors and a radial stacker capable of accessing the entire pad area. This material will be stacked in 6 metre or 8 metre high lifts and irrigated with dilute cyanide solution. Pregnant solution will discharge the heap under gravity via embedded drainage piping and the contained gold will be absorbed onto activated carbon in a five stage carbon-in-column circuit. Gold will be eluted from the carbon periodically in a conventional batch pressure elution process, then electrowon and smelted to produce doré on site. Pregnant and barren solution ponds will provide surge for the process solutions and an emergency pond capable of holding anticipated maximum storm event water plus drawdown from the heap in the unlikely event of a concurrent temporary loss of power.

A smaller “detox” pond will allow for possible treatment and discharge of water from the system. Normally the detox and emergency ponds will be empty.

Production Schedule

The mine production schedule consists of one year of pre-production pre-stripping and twelve years of mine production. The target heap leaching rate is approximately 2.7 Mt/a, or approximately 7,500 t/d. The total daily mining rates of leach feed and waste combined will range from 31,000 t/d to 55,000 t/d and average approximately 47,000 t/d.

Project Infrastructure

Access to the Santa Gertrudis Project is via a 39 kilometre gravel road, leading from the paved Magdalena-Cucurpe Highway. There is also a network of unpaved roads (ranch, exploration and ore-haulage roads) that provide excellent access throughout the property. The previous mining activities have left water-filled open pits, waste piles and a lined, zero-discharge historic leach pad at Santa Gertrudis and two lined pads near Amelia. Animas undertook repairs and maintenance to the various service and accommodation buildings located around the Santa Gertrudis Project. The buildings were weatherproofed and basic services and furnishings restored. The camp water tank was filled, drill sample handling facilities exploration camp, with residences, an office and a dining hall.

There is sufficient land to conduct a mining operation, including waste disposal, processing facilities and pads for heap leaching. Water can be obtained from the permitted water wells owned by First Silver Reserve, S.A. de C.V.

Environment

The Santa Gertrudis Project area has been affected by mining and logistical operations conducted by previous operators. Residual environmental and/or social liabilities caused by these previous operations, that are attributable to the Santa Gertrudis Project, would be the responsibility of Agnico.

With the exception of the Amelia Mine site, only minimal site environmental remediation is expected to be required. No issues related to acid rock drainage or heavy metal leaching are anticipated in waste rock or leached material because mainly oxide zones will be mined and processed.

No issues related to noise and dust are anticipated because the mining and leaching operations will be remote from villages and local haciendas. Shipment of materials in and out of the mine facilities will be minimal, which should limit concerns about local road traffic. Leaching solutions will be fully contained in lined containment areas.

The principal environmental impacts will be those related to land disturbance.

The permitting processes may take up to 1.5 to two years to complete, depending on official requirements for environmental baseline data, the perceived complexity of the operation and the environmental disturbance anticipated to be incurred during mine and heap leaching operations. At closure, actions will be required to address the environmental disturbance caused by the mining and processing operation. Closure activities would normally include the removal of all structures and equipment, neutralizing the leach pads, removal of solution containment ponds, stabilizing and re-planting the leach pad surfaces, stabilizing the pit benches and slopes and revegetating roads and other areas of disturbance.

The former property owner announced on March 2, 2015 that it had received the necessary environmental permits to proceed with construction of the Santa Gertrudis Project. The permits required the former property owner to take environmental precautions during construction and operation which will be built into the work plan and are included in the budget prepared in the Santa Gertrudis PEA. Bonding requirements will be determined early in calendar year 2016.

Capital and Operating Costs

The total estimated cost to design, procure, construct and start-up the facilities described in the Santa Gertrudis PEA is US$32.1 million. Most of this initial capital cost would be incurred over a two year construction period. In addition, life-of-mine sustaining capital is estimated to be in the order of

US$15.6 million. The operating costs of mining, processing, and support services over the life-of-mine are summarized below:

Operating Cost Summary

Description	Total (millions)	LOM Average Unit Cost (US$/t heap leach feed)	LOM Unit Cost (US$/t rock)
Total Mining Contractor	US$290	US$9.84	US$1.51
Mining Fixed Cost	US$6	US$0.20	US$0.03
Processing (Oxide Feed)	US$99	US$3.54	
Processing (Mixed Feed)	US$5	Same as Oxide	
General & Administrative Fixed Cost	US$21	US$0.71	
Total:	**US$422**	**US$14.29**	

An economic evaluation of the potential mining and processing operation at the Santa Gertrudis Project was performed using discounted cash flow methods. Heap leach recoveries of 75% and 50% were respectively used for respective potential oxide and mixed heap leach feed types.

The study indicates gold production will average 56,000 troy ounces per annum and total 671,000 troy ounces over the 12 year life of the mine.

The estimated annual production and life-of-mine cashflows for the Santa Gertrudis Project are summarized below:

Project Cash Flow Summary

Description	Units	Total LOM
	Revenue	
Gold Price	US$/oz	US$1,250
Total Revenue (Life-of-Mine)	(millions)	US$836
	Operating Cost	
Mining Cost	(millions)	US$296
Processing	(millions)	US$105
G&A	(millions)	US$21
Total Operating Cost	(millions)	US$422
Average Cash Cost	US$/t oz	US$628
	Capital Cost	
Initial Cost	(millions)	US$32
Total Sustaining Capital	(millions)	US$16

Description	Units	Total LOM
Total Capital	(millions)	US$48
	Cash Flows	
Revenue	(millions)	US$836
(-) Operating Cost	(millions)	US$417
(-) Additional Mining tax	(millions)	US$4
(-) Capital Spending	(millions)	US$48
(-) Reclamation	(millions)	US$4
Pre-Tax Cash Flow	(millions)	US$362
(-) Taxes	(millions)	US$131
After-tax Cash Flow	(millions)	US$232

Economic Analysis

A discounted cashflow model was prepared using the production schedule described above and an examination of various cost parameters, including but not limited to contractor mining costs, the former property owner's mining costs, process operating costs, process salaried employees, process labour, costs of reagents and consumables and general and administrative costs. The cashflow model from the Santa Gertrudis PEA was developed on a pre-tax and after-tax basis. The cash flow model is assumed to commence from the time a production decision is made. It does not cover time or costs for a pre-feasibility or feasibility study.

The Santa Gertrudis Project economic evaluation conclusions are summarized in the table below. In the base case, with a gold price of US$1,250 per ounce, the Santa Gertrudis Project has an estimated US$232 million after-tax net cash flow, a US$150 million after-tax net present value at a 5% discount rate, and an after-tax internal rate of return of 58%. The payback period is estimated to be 1.7 years.

Economic Evaluation Summary

	Pre-Tax (millions)	After Tax (millions)
NPV0%	US$362.4	US$231.7
NPV5%	US$239.8	US$150.4
NPV7%	US$205.1	US$127.5
IRR=	79.3%	57.8%
Payback Period		1.7 years

The Santa Gertrudis PEA also included a sensitivity analysis which indicated that at a gold price of US$1,000, the NPV at 5% was US$74.3 million with an IRR of 34% and a 2.6 year payback.

Santa Gertrudis Update at September 30, 2016

The former property owner continued to assess various processing methods at the Santa Gertrudis Project. Further preliminary metallurgical testing indicated that vat leaching would be a viable alternative to heap leaching and in September 2016, with the purpose of further assessing this option, the former property owner announced plans to begin an initial phase with 2,000 tonnes per day vat leaching operation. To generate cash flow during the construction of the first phase of the vat leach plant, the former property owner acquired a 150 tonnes per day mill to mill high grade surface material. By September 30, 2016, the former property owner had poured 383 ounces of gold.

As of the date of the GoGold AIF, construction on phase one of the Santa Gertrudis vat leach plant has begun. It is estimated to take 3-4 months to complete vat construction and a total of 6 months to complete plant construction. While the initial phase involves construction of one vat with 2,000 tonnes per day capacity, should the results be satisfactory, production can be ramped up by the construction of additional vats.

In the event that the former property owner proceeded with the heap leaching method, the various deposits would be mined sequentially and will deliver the heap leach feed to a single, centrally located heap leach facility for processing. The target heap leaching rate for phase one is approximately 2,000 t/d.

Developments Following Santa Gertrudis Report and GoGold AIF

In the third quarter of 2018, 13,120 metres were drilled in 89 holes mainly in the Becerros, Toro, Escondida, Viviana and Trinidad zones. The third quarter drilling almost completes 2018's program to validate and confirm the most recent historical mineral resource estimates. The 2018 exploration program at the project consists of 28,000 metres at a budget of USD$7.2 million. Drilling is now focused on mineral resource expansion and exploring new target areas.

Exploration drilling in the third quarter of 2018 has discovered the high-grade structurally controlled Centauro Zone, where hole SGE18-067 intersected 7.0 g/t gold over 4.0 metres at 43 metres depth. Centauro aligns well with, and may represent a projection of, the Camello area (part of Becerros Zone) 300 metres to the west. Centauro potentially also lies at the intersection of the Corral and Toro trends.

In the Becerros Zone, located approximately 1,000 metres southwest of the Centauro Zone, hole SGE18-068 intersected two intervals that are part of the same mineralized corridor: 1.8 g/t goldover 11.0 metres at 137 metres depth and 2.2 g/t gold over 3.0 metres at 151 metres depth. The main mineralized corridor that forms the Becerros deposit can now be traced over 1,500 metres strike length.

Four recent infill drill holes intersected the Toro Zone along a strike length of 1,660 metres, showing good correlation with historic drill results. The recent Toro intercepts include hole SGE18-072 that intersected 2.2 g/t gold over 18.0 metres at 134 metres depth. Sixteen hundred metres to the southwest, hole SGE18-076 had two intercepts in Toro: 1.1 g/t gold over 4.0 metres at 98 metres depth and 3.3 g/t gold over 11.8 metres at 145 metres depth. The Toro Zone is located 1,400 metres northwest of the Becerros Zone.

The Escondida Zone is in the northern portion of the project, 2,800 metres northeast of the Toro Zone. Recent drilling has confirmed the grades and widths of mineralization within the historic mineral resource area, such as hole SGE18-087 that twinned a historic hole, intersecting 1.8 g/t gold over 12.5 metres at 26 metres depth.

Seventeen hundred metres northwest of the Toro Zone is the Viviana Zone, where hole SGE18-098 intersected 4.8 g/t gold over 8.9 metres at 89 metres depth. Approximately 34 metres to its southeast, hole SGE18-102 intersected two mineralized intervals: 3.0 g/t gold over 3.0 metres at 51 metres depth and 0.7 g/t gold over 5.4 metres at 99 metres depth. Both exploration holes were drilled near the historic Viviana open pit.

At the Trinidad Zone, which is located 2,200 metres north-northeast of the Viviana Zone, recent drill results correlate well with historic drill holes in the area. Hole SGE18-089 intersected two mineralized intervals: 2.8 g/t gold over 7.0 metres at 30 metres depth (beneath a former open pitmine) and 10.5 g/t gold over 10.0 metres at 38 metres depth (including 19.5 g/t gold over 3.4metres). Additional follow-up drilling in this area in 2018 will aim to expand the historic mineral resources.

On January 25, 2019, Metalla reported that Agnico acquired its 100% interest in the Santa Gertrudis Property in November 2017. This 42,000-hectare property is located approximately 180 kilometers north of Hermosillo in Sonora, Mexico. The property was the site of historical heap leach operations that produced approximately 565,000 oz. of gold at 2.1 g/t gold between 1991 and 2000 and includes substantial surface infrastructure already in place, including pre-stripped pits, haul roads, water sources, and buildings.

Three favorable geological trends with a potential strike length of 18 kilometers have been identified on the property with limited drilling between deposits. In addition, the previous owner reported high-grade mineralization along northeast-trending structures. An additional 5,800 meters of drilling was planned for the remainder of 2018. Agnico expects to report its initial mineral resource estimate for the Santa Gertrudis Project in mid-February 2019.

On April 25, 2019, Agnico announced that Santa Gertrudis drilling discovered new high-grade structures at Trinidad and further extends known resource areas. Highlights include 14.7 g/t gold over 11.5 metres at 170 metres depth at Trinidad and 5.1 g/t gold over 4.5 metres at 33 metres depth at Greta. In the first quarter of 2019, 45 drill holes (10,521 metres) were completed, mainly in the Trinidad, Greta, Viviana, Toro, and Becerros zones, which form part of the initial full-year budget of 29,000 metres. This drilling focused on extending the mineral resources and exploring new targets. Recent assay results from the Trinidad Trend have discovered a down-plunge extension of the main Amelia deposit and also an interpreted parallel high-grade structure that increases the potential of the zone. The discovery of additional structures is a result of better understanding the controls of mineralization in the district. The results for the Greta, Viviana, Toro, and Becerros trends represent mainly deposit extensions. Recent work at Amelia shows the potential for several parallel structures at underground depths, with grades higher than the current mineral resources at the Santa Gertrudis Project. These structures are open along strike and at depth. Metalla is also evaluating different project development scenarios at Santa Gertrudis. The project contains both low-grade oxide and high-grade sulfide types of mineralization that have been recognized from the surface down to 410 metres depth locally.

Further, on February 14, 2019, Agnico reported that that drilling in 2018 outlined an initial inferred mineral resource of 962,000 oz. of Au grading 1.09 g/t at the Santa Gertrudis Project in Sonora, Mexico. The 31,127-metre program confirmed the historical drilling and discovered several high-grade feeder zones on the project highlighted by 12.1g/t gold over 5.1 metres at 99 metres depth and 9.7g/t gold over 15.0 metres at 33 metres depth. The initial exploration budget for 2019 was US$8.2M, which includes 29,000 metres of drilling focused on expanding the mineral resource, testing the extensions of high-grade structures, and exploring new targets to be outlined by a target-generation initiative. However, given the favourable drill results, a supplementary exploration budget of US$2M has been approved to conduct an additional 11,500-metre drill program solely focused at Amelia to investigate further “this promising deposit.” This is the second time in 2019 that Agnico has increased its exploration budget on the 44,145 hectare property. Agnico is currently evaluating a potential production scenario

that utilizes a heap leach for lower grade mineralization and a small mill facility to process higher-grade mineralization. Agnico has stated that the Santa Gertrudis Project has the potential to be a similar size operation to La India, which produced over 100,000 oz. of gold annually over the previous two years.

On July 24, 2019, Agnico reported that they continue to expand mineralization at the Santa Gertrudis Project in Mexico. The Trinidad Zone has been extended by 800 meters to more than 3 kilometers strike length. Drilling extended the newly discovered Amelia deposit to a 700-meter strike length and a total depth of 450 meters. Notable intercepts by Agnico include 8.2g/t gold over 7.3m and 8.8g/t gold over 6m. Moreover, drilling at the Becarros Zone has discovered new mineralization known as the Bertha target, located 250m northwest of the Becerros Norte deposit; highlighted by 2.1g/t gold over 9.5m;150m to the south west and 3g/t over 8m. Half of the 2019 supplementary 11,500m drill program continues at Santa Gertrudis intending to explore new targets and expand the mineral resources. Agnico has stated they continue to believe that the Santa Gertrudis Project has the potential to eventually be a similar size operation to the La India Mine.

DIVIDENDS

On December 12, 2017, Metalla's board of directors declared its first cash dividend, and has paid a monthly dividend since that time. Over the past three years, Metalla has declared the following dividends:

Year	Payment Date	Amount per Common Share (CAD$)
2018	• January 15, 2018 • February 15, 2018 • March 15, 2018 • April 16, 2018 • May 15, 2018 • June 15, 2018 • July 16, 2018 • August 15, 2018 • September 17, 2018 • October 15, 2018 • November 15, 2018 • December 17, 2018	• $0.001 • $0.001 • $0.001 • $0.001 • $0.001 • $0.0015 • $0.0015 • $0.0015 • $0.0015 • $0.0015 • $0.0015 • $0.0015
2019	• January 15, 2019 • February 15, 2019 • March 15, 2019 • April 15, 2019 • May 15, 2019 • June 17, 2019 • July 15, 2019	• $0.0015 • $0.0015 • $0.0015 • $0.0015 • $0.0015 • $0.001 • $0.001

Year	Payment Date	Amount per Common Share (CAD$)
	• August 15, 2019 • September 16, 2019	• $0.001 • $0.001

Any determination to pay any future dividends will remain at the discretion of the Company's board of directors and will be made taking into account its financial condition and other factors deemed relevant by the board. In the first half of the calendar year 2020, and assuming compliance with all applicable securities laws, the Company may offer a dividend reinvestment plan ("**DRIP**") once it reaches certain requirements to efficiently provide the DRIP to all of its shareholders globally.

DESCRIPTION OF CAPITAL STRUCTURE

Common Shares

The authorized share capital of the Company consists of an unlimited number of Common Shares without par value. As of May 31, 2019, there were 132,552,877 Common Shares issued and outstanding.

Holders of Common Shares are entitled to receive notice of any meetings of shareholders of the Company, to attend and to cast one vote per Common Share at all such meetings. Holders of Common Shares do not have cumulative voting rights with respect to the election of directors and, accordingly, holders of a majority of the Common Shares entitled to vote in any election of directors may elect all directors standing for election. Holders of Common Shares are entitled to receive on a pro rata basis such dividends, if any, as and when declared by the Company's board of directors at its discretion from funds legally available therefor and upon the liquidation, dissolution or winding up of the Company are entitled to receive on a pro rata basis the net assets of the Company after payment of debts and other liabilities. The Common Shares do not carry any pre-emptive, subscription, redemption or conversion rights, nor do they contain any sinking or purchase fund provisions.

Warrants

The following table summarizes warrants granted by the Company as at the date of this AIF.

Date	Price per Share/Exercise Price per Security	Number and Type of Securities	Reason for Issuance
January 4, 2019	$0.78	119,974 common shares	Broker Warrants
January 4, 2019	$1.17	2,102,202 common shares	Private Placement Warrants
December 21, 2018	$0.78	80,720 common shares	Broker Warrants
December 21, 2018	$1.17	2,265,800 common shares	Private Placement Warrants
December 5, 2018	$0.85	75,000 common shares	Loan Bonus Warrants
November 8, 2018	$0.85	300,000 common shares	Loan Bonus Warrants
November 8, 2018	$0.85	75,000 common shares	Loan Bonus Warrants

November 8, 2018	$0.85	150,000 common shares	Loan Bonus Warrants
October 6, 2017	$0.59988	507,551 common shares	Private Placement Warrants
August 30, 2016	$0.45	83,333 common shares	Loan Bonus Warrants
August 11, 2016	$0.45	383,333 common shares	Loan Bonus Warrants

Share Compensation Plan

The Company replaced its option plan with a share compensation plan in 2017 (the "**2017 Share Compensation Plan**"). On September 24, 2019, the Board approved replacing the 2017 Share Compensation Plan with a new share compensation plan (the "**Share Compensation Plan**"). The new Share Compensation Plan, like the prior 2017 Share Compensation Plan, provides for the granting of restricted share units (the "**RSUs**") and options to purchase Common Shares (the "**Options**"), and reflects our commitment to a long term incentive compensation structure that aligns the interests of our employees with the interests of its shareholders. RSUs may be granted by our Compensation Committee, which has been authorized to administer the Share Compensation Plan, to any director, officer or employee of the Company or any officer or employee of any subsidiary of the Company and, solely for purposes of the grant of Options, any director of the Company or any director of any subsidiary of the Company, and any Consultant (the "**Designated Participants**"). The Compensation Committee is entitled to exercise its discretion to restrict participation under the Share Compensation Plan. The Share Compensation Plan is a 10% "rolling" plan pursuant to which the number of Common Shares which may be issued pursuant to RSUs and Options granted under the Share Compensation Plan, and options and RSUs previously granted under the Option Plan and the 2017 Share Compensation Plan, is a maximum of 10% of the issued and outstanding Common Shares at the time of the grant; provided, however, that the total number of RSUs that may be issued under the Share Compensation Plan has been fixed at 1,770,806 RSUs.

MARKET FOR SECURITIES

Trading Price and Volume

The Common Shares are listed and posted for trading on the TSX-V under the symbol "MTA", on the Frankfurt Exchange under the Symbol "X9CP", and on the OTCQB market under the symbol "MTAFF". The following table sets forth information relating to the trading of the Common Shares on the TSX-V for the months indicated.

Month	High (C$)	Low (C$)	Volume
June, 2019	1.170	0.980	5,264,925
May, 2019	1.230	0.920	2,814,049
April, 2019	1.340	0.990	4,107,398
March, 2019	1.430	1.030	4,573,611
February, 2019	1.190	0.960	5,610,694
January, 2019	1.050	0.750	5,310,466
December, 2018	0.850	0.760	2,378,102
November, 2018	0.820	0.690	1,770,341
October, 2018	0.790	0.700	1,784,771
September, 2018	0.770	0.690	1,550,100
August, 2018	0.800	0.630	2,173,828

July, 2018	0.800	0.720	1,094,763
June, 2018	0.820	0.760	1,218,212

The price of the Common Shares as quoted by the TSX-V at the close of business on May 31, 2019 was C$1.070 and on the close of business on September 25, 2019 was C$1.42.

Options Issued

The following table summarizes stock options granted by the Company as at the date of this AIF.

Date	Price per Share/Exercise Price per Security	Number and Type of Securities	Reason for Issuance
January 4, 2019	$0.81	1,500,000 common share	Option Grant
September 17, 2018	$0.73	1,550,000 common shares	Option Grant
March 1, 2018	$0.64	1,500,000 common shares	Option Grant
July 31, 2017	$0.54	1,795,000 common shares	Option Grant
March 6, 2017	$0.58	412,500 common shares	Option Grant
November 15, 2016	$0.30	100,000 common shares	Option Grant
July 15, 2016	$0.21	166,667 common shares	Option Grant
November 30, 2017	$0.33	466,667 common shares	Option Grant

RSUs Issued

Date	Price per Share/Exercise Price per Security	Number and Type of Securities	Reason for Issuance
July 5, 2019	$1.00	600,000 common shares	RSU Grant

DIRECTORS AND OFFICERS

The following table sets forth the name, province/state and country of residence, position held with Metalla and principal occupation of each person who is a director and/or an officer of Metalla. Directors are elected at each annual meeting of Metalla's shareholders and serve as such until the next annual meeting of shareholders or until their successors are elected or appointed.

Name, Province/State and Country of Residence	Position(s) with the Company	Principal Occupation During Preceding Five Years	Number and Percentage of Common Shares Owned directly or beneficially as at May 31, 2019
Brett Heath *California, United States*	President and director since September 1, 2016 and Chief Executive Officer since June 16, 2017	Chief Executive Officer of the Company since June 2017; President of the Company since Sept 2016. Formerly Chairman and CEO of High Stream Corp. from 2015-2016.	4,140,467 (3.12%)

Name, Province/State and Country of Residence	**Position(s) with the Company**	**Principal Occupation During Preceding Five Years**	**Number and Percentage of Common Shares Owned directly or beneficially as at May 31, 2019**
		President of a private streaming corporation from 2013-2015. Founding principal of KSIR Capital Management, a private asset management firm focused on precious metals from 2009-2013.	
Lawrence Roulston *Vancouver, British Columbia, Canada*	Director since March 1, 2017	Founder of WestBay Capital Advisors, a private corporation providing advisory and capital market expertise to the mining industry. President of Quintana Resources Capital, a private Corporation providing advisory services for US private investors. Mining analyst and consultant as well as the editor of Resource Opportunities, an independent publication focused on the mining industry.	82,166 (0.062%)
Kim C. Casswell *Vancouver, British Columbia, Canada*	Corporate Secretary since May 26, 2017	Corporate Secretary of Seabord Services Corp., a private company that provides office, reception, secretarial, accounting and corporate records services to public and private companies; 2009 – present. Ms Casswel has been and currently still is Corporate Secretary to a number of TSX Venture Exchange and Canadian Securities Exchange listed companies.	30,000 (0.023%)
William Tsang *Vancouver, British Columbia, Canada*	Chief Financial Officer since May 26, 2017	Currently Chief Financial Officer of Seabord Services Corp., a private company that provides office, reception, secretarial, accounting and corporate records services to public and private companies.; 2011 - present Mr. Tsang has been and currently still is Chief Financial Officer of several public companies listed on the TSX Venture Exchange. Mr.Tsang is a Chartered Professional Accountant with a Bachelor of Commerce from the University of British Columbia and more than 10 years of financial accounting and auditing experience in the mineral exploration and mining industry.	30,000 (0.023%)

Name, Province/State and Country of Residence	**Position(s) with the Company**	**Principal Occupation During Preceding Five Years**	**Number and Percentage of Common Shares Owned directly or beneficially as at May 31, 2019**
E B Tucker *Florida, United States*	Director since March 1, 2017	Writer for Strategic Investor, a monthly investment advisory letter. Analyst and lead analyst for Stansberry's Investment Advisory The Casey Report and The Bill Bonner Letter. Founding partner of KSIR Capital Management, a private asset management firm focused on precious metals.	1,005,000 (0.79%)
Alexander Molyneux *Taipei City, Taiwan*	Director since March 1, 2018	Mr.Molyneux currently serves as Chief Executive Officer of one of the world largest publicly listed uranium producers, Paladin Energy Ltd. (ASX:PDN) (2015 – present). Mr. Molyneux also currently serves as Non-Executive Chairman of Argosy Minerals Ltd. (ASX:AGY) (2016 – present) and Azarga Metals Corp. (TSXV:AZR) (2016 – present). Mr. Molyneux was previously a Non-Executive Director of Goldrock Mines Corp. (TSXV:GRM) (2012 – 2016) and was CEO and Director of SouthGobi Resources Ltd. (TSX: SGQ) (2009 – 2012), an Ivanhoe Mines Group company. Prior to these executive and director roles, Mr. Molyneux was Managing Director, Head of Metals and Mining Investment Banking, Asia Pacific for Citigroup in Hong Kong.	354,709 (0.27%)
James Beeby. *Vancouver, British Columbia, Canada*	Director since May 14, 2019	Partner, Bennett Jones LLP; June 2018 – present Partner, McCullough O'Connor Irwin LLP; January 2009 – June 2018	18,218 (0.014%)

As at May 31, 2019, the directors and executive officers of the Company, as a group, beneficially owned, directly and indirectly, or exercised control or direction over 5,660,560 Common Shares, representing approximately 4.27% of the total number Common Shares outstanding before giving effect to the exercise of options or warrants to purchase Common Shares held by such directors and executive officers.

Cease Trade Orders, Bankruptcies, Penalties or Sanctions

Except as disclosed below, no director or executive officer of the Company is, as at the date hereof, or was within ten (10) years before the date hereof, a director, chief executive officer or chief financial officer of any company (including the Company) that,

(i) was subject to a cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemption under securities legislation, that was in effect for a period of more than 30 consecutive days, and that was issued while the director or executive officer was acting in the capacity as director, chief executive officer or chief financial officer; or

(ii) was subject to a cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemption under securities legislation, that was in effect for a period of more than 30 consecutive days, that was issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer.

Except as disclosed below, no director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to materially affect control of the Company,

(i) is, or within ten years prior to the date hereof has been, a director or executive officer of any company (including the Company) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or 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; or

(ii) has, within ten years prior to the date hereof, 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 director, executive officer or shareholder.

Except as disclosed below, no director or executive officer of the Company, or a shareholder holding a sufficient number of securities of the Company to affect materially the control of the Company, has been subject to,

(i) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or

(ii) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

Mr. Roulston became a director of KBL Mining Ltd. ("**KBL**") in March 2015, a company listed on the Australian Stock Exchange at the time, as a result of being the director nominee of Quintana Resources Capital ULC (an investor in KBL by way of a streaming transaction which was secured by KBL's Mineral Hill mine). On September 7, 2016, Mr. Roulston resigned his position as director and on September 8, 2016, KBL was placed into voluntary administration and on September 19, 2016, receivers were

appointed. KBL is working on a recapitalization so that it is financially able to continue and re-list its common shares for trading.

Conflicts of Interest

To the best of the Company's knowledge, and other than as disclosed in this AIF, there are no known existing or potential material conflicts of interest between the Company and any director or officer of the Company, except that certain of the directors and officers serve as directors and officers of other public companies and therefore it is possible that a conflict may arise between their duties as a director or officer of the Company and their duties as a director or officer of such other companies.

Directors and officers of the Company also serve as directors and/or officers of other companies involved in natural resource exploration and development or investment in natural resource companies and consequently there exists the possibility for such directors and officers to be in a position of conflict. Any decision made by any of such directors and officers involving the Company will be made in accordance with their duties and obligations to deal fairly and in good faith with a view to the best interests of the Company and its shareholders. In addition, each of the directors is required to declare and refrain from voting on any matter in which such directors may have a conflict of interest in accordance with the procedures set forth in the BCBCA and other applicable laws.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

The Company is not party to any material legal proceedings or regulatory actions as of the date of this AIF. The Company is not aware of any material contemplated legal proceedings involving it or its operations.

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

No directors, executive officers or principal shareholders of the Company or any associate or affiliate of the foregoing have had any material interest, direct or indirect, in any transactions in which the Company has participated in its three most recently completed financial years, which has materially affected or is reasonably expected to materially affect the Company.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for the Common Shares is Computershare Investor Services Inc. at its principal office in Vancouver, British Columbia.

MATERIAL CONTRACTS

The Company entered into the following material contracts within the financial year ended May 31, 2019, or since such time or before such time that are still in effect, other than in the ordinary course of business:

- the Beedie Loan Facility – see section *General Development of the Business – Current Business of Metalla – Establishment of the CAD$12,000,000 Convertible Loan Facility* for further information; and

- the amended and restated asset purchase agreement dated June 20, 2019, for the acquisition of a portfolio of eighteen royalties between the Company and Alamos in exchange for 8,219,000 Common Shares issued on April 17, 2019 and 10,299 Common Shares issued on June 20, 2019.

INTERESTS OF EXPERTS

The scientific and technical information contained in this AIF was reviewed and approved by Charles Beaudry, M.Sc., P.Geo. and géo. and a "Qualified Person" as defined in NI 43-101.

To the knowledge of Metalla, Mr. Beaudry holds less than 1% of the outstanding Common Shares of Metalla or of any associate or affiliate of Metalla as of the date hereof. Mr. Beaudry has not and will not receive any direct or indirect interest in any securities of Metalla as a result of the review and approval of the scientific and technical disclosure included in this AIF.

KPMG LLP are the auditors of the Company and have confirmed with respect to the Company that they are independent within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations.

AUDIT COMMITTEE

The Company's audit committee ("**Audit Committee**") is responsible for monitoring the Company's systems and procedures for financial reporting and internal control, reviewing certain public disclosure documents and monitoring the performance and independence of the Company's external auditors. The Audit Committee is also responsible for reviewing the Company's annual audited financial statements, unaudited quarterly financial statements and management's discussion and analysis of financial results of operations for both annual and interim financial statements and review of related operations prior to their approval by the full board of directors of the Company.

The Audit Committee's charter sets out its responsibilities and duties, qualifications for membership, procedures for committee member removal and appointment and reporting to the Company's board of directors. A copy of the charter is attached hereto as Schedule "A".

The following are the current members of the Audit Committee

Lawrence Roulston(1)	Independent	Financially literate
E.B. Tucker	Independent	Financially literate
Alexander Molyneux	Independent	Financially literate

Notes:
(1) Chairman of the Audit Committee
(2) The terms "independent" and "financially literate" are defined by National Instrument 52-110 Audit Committees ("**NI 52-110**").

Relevant Education and Experience

As noted above, each member of the Audit Committee is financially literate. Collectively, the Audit Committee members have the education and experience to fulfill their responsibilities as outlined in the Audit Committee charter. Set out below is a description of the education and experience of each Audit Committee member that is relevant to the performance of his responsibilities as an Audit Committee member.

Name of Member	Education	Experience
Lawrence Roulston	Bachelor of Science – Geology University of British Columbia British Columbia	Mr. Roulston is a mining professional with over 35 years of diverse hands-on experience and currently provides business advisory and capital markets expertise to the junior and mid-tier sectors of the mining industry. From 2014 to 2016, he was President of Quintana Resources Capital, which provided resource advisory services for US private investors, focused primarily on streaming transactions. Prior to that, Mr. Roulston was a mining analyst and consultant, as well as the editor of "Resource Opportunities", an independent investment publication focused on the mining industry. Mr. Roulston was also an analyst or executive with various companies in the resources industry, both majors and juniors and he has graduate level training in business.
E.B. Tucker	Bachelor of Science – Business Administration with Area of Study – Finance College of Charleston, Charleston, South Carolina, USA	Mr. Tucker writes The Casey Report, a monthly investment advisory. Prior to that, Mr. Tucker served as analyst and lead analyst on Stansberry's Investment Advisory and The Bill Bonner Letter respectively. Mr. Tucker was also a founding partner of KSIR Capital Management, an asset management firm focused on precious metal equities and he also co-founded KSIR Capital, a corporate finance advisory firm focused on the precious metals industry. He holds a B.Sc. in Business Administration with a focus in finance.
Alexander Molyneux	Bachelor of Economics Monash University, Australia	Mr. Molyneux is an experienced metals and mining industry executive and financier and currently serves as an executive officer and/or director of a number of publicly listed companies. Prior to these executive and director roles, Mr. Molyneux was Managing Director, Head of Metals and Mining Investment Banking, Asia Pacific for Citigroup in Hong Kong. As a specialist resources investment banker, he spent approximately 10 years providing advice and investment banking services to natural resources corporations. Mr. Molyneux continues to be based in Asia where he has

Name of Member	Education	Experience
		an extensive network within the institutional investment community and local participants in the metals and mining industry.

The Company has determined that at least one member of the Audit Committee, Lawrence Roulston, is an "audit committee financial expert" within the meaning of applicable U.S. securities laws. The Company has also determined that Mr. Roulston is "independent", as that term is defined in the NYSE American listing standards**.**

Reliance on Certain Exemptions

At no time since the commencement of the Company's most recently completed financial year has the Company relied on the exemption in Section 2.4 (*De Minimis Non-audit Services*) of NI 52-110, or an exemption from NI 52-110, in whole or in part, granted under Part 8 of NI 52-110. Part 8 permits a company to apply to a securities regulatory authority for an exemption from the requirements of NI 52-110, in whole or in part.

Pre-Approval Policies and Procedures

The Audit Committee's charter sets out responsibilities regarding the provision of non-audit services by the Company's external auditors. This policy encourages consideration of whether the provision of services other than audit services is compatible with maintaining the auditor's independence and requires Audit Committee pre-approval of permitted audit and audit-related services.

External Auditor Service Fees

The aggregate fees billed by the Company's external auditors in each of the last two fiscal years for audit fees are as follows:

Financial Year Ending	Auditor	Audit Fees (1) (C$)	Audit Related Fees (2) (C$)	Tax Fees (3 (C$))	All Other Fees (4) (C$)
2019	KPMG	$70,305	$Nil	$60,000	$Nil
2018	KPMG	$68,570	$Nil	$Nil	$Nil

Notes:
(1) The aggregate audit fees billed.
(2) The aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the Company's financial statements and which are not included under the heading "*Audit Fees*".
(3) Fees billed for preparation of Company's corporate tax return.
(4) The aggregate fees billed for products and services other than as set out under the headings "*Audit Fees*", "*Audit Related Fees*" and "*Tax Fees*".

OTHER COMMITTEES

Compensation Committee: The compensation committee (the "**Compensation Committee**") will be responsible for the review of all compensation (including stock options) paid by the Company to the board of directors, executive officers and employees of the Company and any subsidiaries, to report to the board of directors on the results of those reviews and to make recommendations to the board of directors for adjustments to such compensation. The Compensation Committee consists of three directors, all of whom are independent (outside, non-management) directors (E.B. Tucker – (Committee

Chairman), Alexander Molyneux, and Lawrence Roulston). Each member of the Compensation Committee has direct experience relevant to their responsibilities on the Compensation Committee, including acting as officers and directors of other publicly traded companies so that they are familiar with remuneration in the Company's industry.

Corporate Governance and Nominating Committee: The corporate governance and nominating committee (the "**CG&N Committee**") will be responsible for advising the board of directors of the appropriate corporate governance procedures that should be followed by the Company and the board of directors and monitoring whether they comply with such procedures. The CG&N Committee consists of three directors, all of whom are independent (outside, non-management) directors (E.B. Tucker – (Committee Chairman), James Beeby, and Lawrence Roulston).

ADDITIONAL INFORMATION

Additional information relating to the Company can be found on SEDAR at www.sedar.com. Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under equity compensation plans is contained in the management information circular of the Company to be filed on SEDAR at www.sedar.com. Additional financial information is provided in the Company's audited financial statements and management's discussion and analysis for the financial year ended May 31, 2018.

SCHEDULE "A"

METALLA ROYALTY & STREAMING LTD.
AUDIT COMMITTEE CHARTER

CHARTER
FOR
THE AUDIT COMMITTEE
OF
THE BOARD OF DIRECTORS

I. MANDATE

The Audit Committee (the "**Committee**") of the Board of Directors (the "**Board**") of Metalla Royalty & Streaming Ltd. (the "**Company**") shall assist the Board in fulfilling its financial oversight responsibilities by overseeing the accounting and financial reporting processes of the Company and the audits of the financial statements of the Company. The Committee's primary duties and responsibilities under this mandate are to serve as an independent and objective party to monitor:

1. The quality and integrity of the Company's financial statements and other financial information;

2. The compliance of such statements and information with legal and regulatory requirements;

3. The qualifications and independence of the Company's independent external auditor (the "**Auditor**"); and

4. The performance of the Company's internal accounting procedures and Auditor.

II. STRUCTURE AND OPERATIONS

A. Composition

The Committee shall be comprised of at least three members, each of whom is a director of the Company who meets the independence, financial literacy and other requirements set out below.

B. Qualifications

Each member of the Committee must meet the independence requirements of all applicable Canadian and United States securities laws and stock exchange rules (collectively, the "**AC Rules**") unless an exemption is available.

No member of the Committee may, other than in his or her capacity as a member of the Committee, the Board, or any other committee of the Board, accept directly or indirectly any consulting, advisory, or other "compensatory fee" (as such term is defined under applicable AC Rules) from, or be an "affiliated person" (as such term is defined under applicable AC Rules) of, the Company or any subsidiary of the Company unless an exemption or exception under applicable AC Rules is available.

A member of the Committee must not have participated in the preparation of the financial statements of the Company or any current subsidiary of the Company at any time during the past three years unless an exemption or exception under applicable AC Rules is available.

Each member of the Committee must be able to read and understand fundamental financial statements, including the Company's balance sheet, income statement, and cash flow statement.

At least one member of the Committee must be “financially sophisticated”, as defined in the AC Rules, in that he or she has past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual’s financial sophistication, including but not limited to being or having been a chief executive officer, chief financial officer, other senior officer with financial oversight responsibilities. An “audit committee financial expert” (as such term is defined under Item 407(d)(5)(ii) and (ii) of Regulation S-K) is presumed to qualify as financially sophisticated.

C. Appointment and Removal

In accordance with the Company’s Articles, the members of the Committee shall be appointed by the Board and shall serve until such member’s successor is duly elected and qualified or until such member’s earlier resignation or removal. Any member of the Committee may be removed, with or without cause, by a majority vote of the Board.

D. Chair

Unless the Board shall appoint a Chair, the members of the Committee shall designate a Chair by the majority vote of all of the members of the Committee. The Chair shall call, set the agendas for, and chair all meetings of, the Committee.

E. Sub-Committees

The Committee may form and delegate authority to subcommittees consisting of one or more members when appropriate, including the authority to grant pre-approvals of audit and permitted non-audit services, provided that a decision of such subcommittee to grant a pre-approval shall be presented to the full Committee at its next scheduled meeting.

F. Meetings

The Committee shall meet as often as is necessary to fulfil its duties respecting the Company’s quarterly and annual financial statements but not less than on a quarterly basis as provided in this Charter. The Committee should meet with the Auditor and management annually to review the Company’s financial statements in a manner consistent with, and to discharge its duties under, Section III of this Charter.

The Auditor shall be given reasonable notice of, and be entitled to attend and speak at, each meeting of the Committee concerning the Company’s annual financial statements and, if the Committee feels it is necessary or appropriate, at every other meeting. On request by the Auditor, the Chair shall call a meeting of the Committee to consider any matter that the Auditor believes should be brought to the attention of the Committee, the Board or the shareholders of the Company.

At each meeting, a quorum shall consist of a majority of the members comprising the Committee.

As part of its goal to foster open communication, the Committee may periodically meet separately with each of management and the Auditor to discuss any matters that the Committee believes would be appropriate to discuss privately.

The Committee may invite to its meetings any director, any manager of the Company, and any other person whom it deems appropriate to consult in order to carry out its responsibilities. The Committee may also exclude from its meetings any person it deems appropriate to exclude in order to carry out its responsibilities.

III. DUTIES

A. Introduction

The following functions shall be the common recurring duties of the Committee in carrying out its purposes outlined in Section I of this Charter. These duties should serve as a guide with the understanding that 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 also carry out any other responsibilities and duties delegated to it by the Board from time to time related to the purposes of the Committee outlined in Section I of this Charter.

The Committee, in discharging its oversight role, is empowered to study or investigate any matter of interest or concern which the Committee in its sole discretion deems appropriate for study or investigation by the Committee.

The Committee shall be given full access to the Company's internal accounting staff, managers, other staff and Auditor as necessary to carry out these duties. While acting within the scope of its stated purpose, the Committee shall have all the authority of, but shall remain subject to, the Board. Notwithstanding the foregoing, the Committee is directly responsible for the appointment, compensation, retention and oversight of the work of the Auditor and any other registered public accounting firm engaged for the purpose of preparing or issuing an audit or performing other audit, review or attest services for the Company.

The Company must provide appropriate funding, as determined by the Committee, for payment of (i) compensation to any registered public accounting firm engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Company, (ii) compensation to any independent counsel or other advisors employed by the Committee, and (iii) ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out the Committee's duties.

B. Powers and Responsibilities

The Committee will have the following responsibilities and, in order to perform and discharge these responsibilities, will be vested with the powers and authorities set forth below, namely, the Committee shall:

Independence of Auditor

1). Actively engage in a dialogue with the Auditor with respect to any disclosed relationships or services that may impact the objectivity and independence of the Auditor and, obtain a formal written statement from the Auditor setting forth all relationships between the Auditor and the Company.

2). Take, or recommend that the Board take, appropriate action to oversee the independence of the Auditor.

3). Require the Auditor and any other registered public accounting firm engaged for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Company to report directly to the Committee.

4). Review and approve the Company's hiring policies regarding partners, employees and former partners and employees of the Auditor and former independent external auditor of the Company.

Performance & Completion by Auditor of its Work

5). Be directly responsible for the appointment, compensation, retention and oversight of the work of the Auditor and any other registered public accounting firm engaged (including resolution of disagreements between management and the Auditor or such public accounting firm regarding financial reporting) for the purpose of preparing or issuing an audit report or performing other audit, review or attest services for the Company.

6). Review annually the performance of the Auditor, and either appoint a new Auditor or recommend to shareholders that the existing Auditor be re-elected.

7). Pre-approve all auditing services and permitted non-audit services (including the fees and terms thereof) to be performed for the Company by the Auditor; provided, however, that pre-approval of services other than audit, review or attest services is not required if such services:

(a) constitute, in the aggregate, no more than 5% of the total amount of revenues paid by the Company to the Auditor during the fiscal year in which the services are provided;

(b) were not recognized by the Company at the time of the engagement to be non-audit services; and

(c) are promptly brought to the attention of the Committee and approved prior to the completion of the audit by the Committee or by one or more members of the Committee to whom authority to grant such approvals has been delegated by the Committee.

Preparation of Financial Statements

8). Discuss with management and the Auditor significant financial reporting issues and judgments made in connection with the preparation of the Company's financial statements, including any significant changes in the Company's selection or application of accounting principles, any major issues as to the adequacy of the Company's internal controls and any special steps adopted in light of material control deficiencies.

9). Discuss with management and the Auditor any correspondence with regulators or governmental agencies and any employee complaints or published reports which raise material issues regarding the Company's financial statements or accounting policies.

10). Discuss with management and the Auditor the effect of regulatory and accounting initiatives as well as off-balance sheet structures on the Company's financial statements.

11). Review management's report on, and assess the integrity of, the internal controls over the financial reporting of the Company and monitor the proper implementation of such controls.

12) Discuss with management the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures, including the Company's risk assessment and risk management policies.

13). Discuss with the Auditor the matters required to be discussed relating to the conduct of any audit, in particular:

a) The adoption of, or changes to, the Company's significant auditing and accounting principles and practices as suggested by the Auditor or management.

b) Any difficulties encountered in the course of the audit work, including any restrictions on the scope of activities or access to requested information, and any significant disagreements with management.

Public Disclosure by the Company

14). Review the Company's annual and quarterly financial statements, management discussion and analysis (MD&A) and press releases respecting earnings before the Board approves and the Company publicly discloses this information.

15). Review the Company's financial reporting procedures and internal controls to be satisfied that adequate procedures are in place for the review of the Company's public disclosure of financial information extracted or derived from its financial statements, other than disclosure described in the previous paragraph, and periodically assessing the adequacy of those procedures.

16). Review any disclosures made to the Committee by the Company's Chief Executive Officer and Chief Financial Officer during their certification process of the Company's financial statements and public disclosure about any significant deficiencies in the design or operation of internal controls or material weaknesses therein and any fraud involving management or other employees who have a significant role in the Company's internal controls.

Related Party Transactions

17). Review and approve related party transactions as required under applicable AC Rules.

Manner of Carrying Out its Mandate

18). Consult, to the extent it deems necessary or appropriate, with the Auditor but without the presence of management, about the quality of the Company's accounting principles, internal controls and the completeness and accuracy of the Company's financial statements.

19). Request any officer or employee of the Company or the Company's outside counsel or Auditor to attend a meeting of the Committee or to meet with any members of, or consultants to, the Committee.

20). Have the authority, if it deems it necessary or appropriate, to engage independent legal counsel, and accounting or other advisers to advise the Committee.

21). Meet separately, if it deems it necessary or appropriate, with management and the Auditor.

22). Make periodic reports to the Board as is necessary or required.

23). Review and reassess the adequacy of this Charter annually and recommend any proposed changes to the Board for approval.

24). Annually review the Committee's own performance.

25). Provide an open avenue of communication between the Auditor and the Board.

26). Not delegate these responsibilities other than to one or more independent members of the Committee the authority to pre-approve, which the Committee must ratify at its next meeting, audit and permitted non-audit services to be provided by the Auditor.

C. Whistle-Blower Policy

The Committee shall establish and annually review the procedures for (i) the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters, and (ii) the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.

D. Limitation of Audit Committee's Role

While the Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Committee to plan or conduct audits or to determine that the Company's financial statements and disclosures are complete and accurate and are in accordance with generally accepted accounting principles and applicable rules and regulations. These are the responsibilities of management and the Auditor.

This amended Charter was approved by the Board of Directors on September 24, 2019.