



**BARSELE MINERALS CORP.**

**Annual Information Form**

**For the year ended December 31, 2019**

**October 28, 2020**

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## FORWARD LOOKING STATEMENTS

Certain statements in this annual information form ("**AIF**") constitute "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Barsele Minerals Corp. ("**Barsele**" or the "**Company**"), or its mineral project, or industry results, to be materially different from any future results, expectations, performance or achievements expressed or implied by such forward-looking statements or forward-looking information. Such statements can be identified by the use of words such as "may", "would", "could", "will", "intend", "expect", "believe", "plan", "anticipate", "estimate", "scheduled", "forecast", "predict" and other similar terminology, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. These statements reflect the Company's current expectations regarding future events, performance and results and speak only as of the date of this AIF.

Specific statements in this AIF that constitute forward-looking statements or forward-looking information include, but are not limited to: (i) the planned amount and timing, as well as the degree of success of, any future exploration program (including drilling programs), including the potential addition of Mineral Resources and the potential to upgrade exploration targets to Mineral Resources as a result of such exploration and drilling programs; (ii) the prospective receipt of permits, licences or approvals, including the approval of the annual exploration campaign, at any mineral project, including those necessary to commence development or mining operations; (iii) the amount, completion and timing of a feasibility study, including a pre-feasibility study of the Barsele Project or other ongoing environmental, metallurgical, market and other studies; (iv) the amount and timing of capital expenditures; (v) the expected levels of operating costs, general administrative costs, costs of services and other costs and expenses and (vi) expected activities or results of exploration, development or mining operations at any mineral project.

With respect to forward-looking statements or forward-looking information contained in this AIF, in making such statements or providing such information, the Company has made assumptions regarding, among other things: (i) the accuracy of the estimation of Mineral Resources; (ii) that exploration activities and studies will provide results that support anticipated development and extraction activities; (iii) that the Company will be able to obtain additional financing on satisfactory terms, including financing necessary to advance the development of the Barsele Project; (iv) that infrastructure anticipated to be developed or operated by third parties will be developed and/or operated as currently anticipated; (v) that laws, rules and regulations are fairly and impartially observed and enforced; (vi) that the market prices for relevant commodities remain at levels that justify development and/or operation of the Barsele Project; (vii) that the Company will be able to obtain, maintain, renew or extend required permits; and (viii) that the Company will operate efficiently and maintain stable operating costs; and (ix) that foreign exchange rates affecting realized prices for the Company's products and affecting the input costs remain at levels that justify development and/or operation of the Barsele Project. All other assumptions used in this AIF constitute forward-looking information.

In making the forward-looking statements and forward-looking information, the Company has made such statements based on assumptions and analyses on certain factors which are inherently uncertain. Uncertainties include among others: (i) the adequacy of infrastructure and rehabilitation or upgrade of existing infrastructure; (ii) geological characteristics; (iii) metallurgical characteristics of the mineralization; (iv) the ability to develop adequate processing capacity; (v) the price of gold and other metals; (vi) the availability of equipment and facilities necessary to complete development, (vii) the cost of consumables and mining and processing equipment; (viii) unforeseen technological and engineering problems; (ix) accidents or acts of sabotage or terrorism; (x) currency fluctuations; (xi) changes in laws or regulations; (xii) the availability and productivity of skilled labour; (xiii) the regulation of the mining industry by various governmental agencies; (xiv) the effect of the COVID-19 pandemic; (xv) globally economic uncertainties, including interest rates, equity and debt capital market volatility affecting the availability of future funding, and (xvi) other liabilities inherent in the Company's operations.

This AIF also contains references to estimates of Mineral Resources. The estimation of Mineral Resources is inherently uncertain and involves subjective judgments about many relevant factors. Mineral Resources

that are not Mineral Reserves do not have demonstrated economic viability. Mineral Reserves that have demonstrated economic viability may cease to be economically viable as a result of many factors, including those set forth in the AIF. The accuracy of any such estimates of Mineral Resources is a function of the quantity and quality of available data, and of the assumptions made and judgments used in engineering and geological interpretation (including estimated future production from the Barsele Project, the anticipated tonnages and grades that will be mined and the estimated level of recovery that will be realized), which may prove to be unreliable and depend, to a certain extent, upon the analysis of drilling results and statistical inferences that may ultimately prove to be inaccurate. Mineral Resource estimates may have to be re-estimated based on, among other things: (i) fluctuations in gold or other mineral prices; (ii) results of drilling; (iii) results of metallurgical testing and other studies; (iv) proposed mining operations, including dilution; (v) the evaluation of mine plans subsequent to the date of any estimates; and (vi) the possible failure to receive required permits, approvals and licences. Mineral Reserves, if any, may have to be re-estimated based on, among other things: (i) fluctuations in manganese or other mineral prices; (ii) results of actual mining operations; (iii) changes to mine plans subsequent to the date of any estimates; or (iv) the possible failure to receive required permits, approvals and licences, or the failure to have such required permits, approvals, or licences honoured or extended.

Forward-looking statements involve significant risks and uncertainties, should not be read as guarantees of future performance or results, and will not necessarily be accurate indicators of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements, including, but not limited to, the factors discussed above and below and under "*Risk Factors*", as well as unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities, including potentially arbitrary action; the failure of parties to contracts with the Company to perform as agreed; failure of the Company to agree with Agnico Eagle, its joint venture partner with respect to the Barsele Project, as to the exploration and development of the Barsele Project; social or labour unrest; changes in commodity prices; effects of the COVID-19 pandemic; unexpected changes in the cost of mining consumables; and the failure of exploration programs or current or future economic studies to deliver anticipated results or results that would justify and support continued exploration, studies, development or operations.

Although the forward-looking statements contained in this AIF are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure readers that actual results will be consistent with these forward-looking statements. The Company's actual results could differ materially from those anticipated in these forward-looking statements, as a result of, amongst others, those factors noted above and those listed under the heading "*Risk Factors*". These forward-looking statements are made as of the date of this AIF and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company assumes no obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this AIF.

## DEFINITIONS AND OTHER INFORMATION

### Currency and Accounting Standards

All references to "\$" or "dollars" in this AIF mean Canadian dollars, unless otherwise indicated, and all financial information is prepared using International Financial Reporting Standards as issued by the International Accounting Standards Board.

### Definitions

Certain terms are limited to one section of the AIF and are defined directly in the body of the AIF. Other terms are used throughout, and are defined as follows:

"**AE Sweden**" means Agnico Eagle Sweden AB, an indirect, wholly-owned subsidiary of Agnico Eagle;

"**Agnico Eagle**" or "**AEM**" means Agnico Eagle Mines Limited;

"**Barsele**" or "**Company**" has the meaning ascribed thereto under the heading "*Forward Looking Statements*";

"**Barsele Project**" or "**Project**" means the Barsele Gold Project in Västerbottens Län, Sweden, a joint venture with Agnico Eagle, as further described in the Technical Report;

"**Board**" means the board of directors of Barsele, as may be constituted from time to time;

"**Gunnarn Mining**" means Gunnarn Mining AB, the joint venture company which holds the Barsele Project under the JVA with Agnico Eagle, in which Barsele currently holds a 45% interest;

"**InnovExplo**" means InnovExplo Inc., an independent mining and exploration consulting firm based in Quebec, which authored the Technical Report;

"**JVA**" means the joint venture agreement dated June 11, 2015 among Agnico Eagle, AE Sweden, Barsele and Gunnarn Mining, which agreement was assigned by Orex to Barsele and assumed by Barsele in September 2015;

"**NI 43-101**" means National Instrument 43-101 – *Standards of Disclosure for Mineral Projects*;

"**NI 51-102**" means National Instrument 52-102 – *Continuous Disclosure Obligations*;

"**NI 52-110**" means National Instrument 52-110 – *Audit Committees*;

"**Northland**" means Northland Resources S.A.;

"**Qualified Person**" means an individual who is a "Qualified Person" or "QP" within the meaning of NI 43-101;

"**SEDAR**" means the System for Electronic Document Analysis and Retrieval operated by the securities regulatory authorities in each of the provinces and territories of Canada;

"**Shares**" means the common shares in the capital of Barsele;

"**Technical Report**" has the meaning ascribed thereto under the heading "*Definitions and Other Information – Scientific and Technical Information*";

"**TSXV**" means the TSX Venture Exchange; and

"**U.S.**" or "**United States**" mean the United States of America, its territories or possessions, any state of the United States and the District of Columbia.

## Scientific and Technical Information

The scientific and technical information with respect to the Barsele Project contained in this AIF is derived from the technical report titled "*NI 43-101 Technical Report and Mineral Resource Estimate for the Barsele Project*" with an effective date of February 21, 2019 and a signature date of April 2, 2019 prepared by Carl Pelletier, P. Geo, Harold Brisson, P. Eng, Stéphane Faure, P. Geo and Vincent Nadeau-Benoit, P. Geo (the "**Technical Report**").

The technical information in this AIF has been updated with current information where applicable. The full text of the Technical Report has been filed with Canadian securities regulatory authorities pursuant to NI 43-101 and is available for review under the Company's SEDAR profile at [www.sedar.com](http://www.sedar.com). For definitions of certain technical terms used in this AIF, see Table 2.1 beginning on page 21 of the Technical Report.

Art Freeze, P. Geo. and a director of the Company, has reviewed and approved the scientific and technical information in respect of the Barsele Project contained in this AIF, and is considered, by virtue of his education, experience and professional association, to be a QP for the purposes of NI 43-101. Mr. Freeze is not independent of the Company within the meaning of NI 43-101.

## Mineral Resources and Mineral Reserves

The Mineral Resource estimates contained in this AIF were prepared in accordance with the requirements of NI 43-101. The terms "Mineral Reserve", "Proven Mineral Reserve", "Probable Mineral Reserve", "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource", and "Inferred Mineral Resource" are defined in accordance with the Canadian Institute of Mining & Metallurgy Definition Standards which were incorporated by reference in NI 43-101.

## Metric and Imperial Conversions

For ease of reference, the following factors for converting between metric and imperial measurements are provided:

From metric	To imperial	Multiply by	From imperial	To metric	Multiply by
Hectares	Acres	2.471	Acres	Hectares	0.405
Metres	Feet	3.281	Feet	Metres	0.305
Kilometres	Miles	0.621	Miles	Kilometres	1.609
Tones	Tons (2,000 lbs)	1.102	Tons (2,000 lbs)	Tones	0.907

## CORPORATE STRUCTURE OF THE COMPANY

### Name, Address and Incorporation

Barsele Minerals Corp. was incorporated under the *Business Corporations Act* (British Columbia) on February 20, 2013. The Company's head office is located at 1130 - 1055 West Hastings Street, Vancouver, BC, V6E 2E9 and its registered records office is located at Suite 1700, Park Place, 666 Burrard Street, Vancouver, BC, V6C 2X8.

### Intercorporate Relationships

References in this AIF to the business of the Company includes, as the context requires, the business conducted by Gunnarn Mining, the joint venture company which holds the Barsele Project pursuant to the JVA with Agnico Eagle. As of the date of this AIF, the Company has no subsidiaries.

#### *Barsele Project Joint Venture*

The Company currently owns a 45% interest in the Barsele Project through its ownership of Gunnarn Mining, the joint venture company held pursuant to the JVA with Agnico Eagle, with Agnico Eagle current holding the remaining 55% interest through its subsidiary AE Sweden. Agnico Eagle has a right to earn an additional 15% equity interest in Gunnarn Mining, with the Company relinquishing such equity, if Agnico Eagle or AE Sweden completes a pre-feasibility study on the Barsele Project and contributes such study to Gunnarn Mining. Until such time as a pre-feasibility study is contributed to Gunnarn Mining by Agnico Eagle, all costs and expenses of Gunnarn Mining continue to be for the account of Agnico Eagle. Following completion and contribution of a pre-feasibility study to Gunnarn Mining, all costs and expenses of Gunnarn Mining will be shared by Agnico Eagle and Barsele in accordance with their proportionate interest in Gunnarn Mining. In accordance with the JVA, AE Sweden, Agnico Eagle's wholly-owned subsidiary, is currently the operator of the Barsele Project, receives customary compensation for such role and has a majority of the seats on Gunnarn Mining's board of directors. A copy of the JVA has been filed on Barsele's SEDAR profile at [www.sedar.com](http://www.sedar.com).

## GENERAL DEVELOPMENT OF THE BUSINESS

### Overview

The Company is engaged primarily in the acquisition, exploration and evaluation of mineral properties and currently has one material property, being the Barsele Project, in which it owns a 45% interest, and which project is subject to the JVA with Agnico Eagle. The Company is a Canadian public company whose Shares are listed on the TSXV under the symbol "BME".

The Barsele Project is located 40 km southeast of the town of Storuman in Västerbottens Län, a regional district of northern Sweden approximately 600 km due north of Stockholm. Exploration in the project area has been ongoing for more than 30 years. From 1985 to 2010, a total of 398 diamond drill holes (43,609 metres) have been drilled by Northland, the former owner of the Barsele Project. On October 27, 2010, the Company's former parent company, Orex Minerals Inc. ("**Orex**"), announced the acquisition of the Barsele Project from Northland. On September 25, 2015, by way of a spin-out pursuant to a statutory plan of arrangement, Barsele acquired Orex's 45% interest in the Barsele Project and assumed all of Orex' rights and obligations under the JVA with Agnico Eagle and certain of its affiliates.

## Three Year History

### *Exploration*

#### 2017

On January 17, 2017, the Company announced the result that conversion hole SKI16010 added continuity to the Skiråsen Zone with 6.0 metres grading 33.46 g/t gold, plus 178.0 metres grading 1.68 g/t gold, plus expansion hole CNT16017 yielding 31.0 metres grading 2.65 g/t gold.

On February 21, 2017, the Company announced that Agnico Eagle had prepared an updated mineral resource estimate for the Barsele Project.

On February 27, 2017, the Company announced that they had retained AMEC Foster Wheeler to perform a resource review.

On March 6, 2017, the Company announced the result that validation hole AVA16024 extended Avan mineralization 375 metres NW of the known Avan Zone, plus conversion hole SKI16015 yielded 31.0 metres grading 2.29 g/t gold and conversion hole CNT 16032 yielded 92.0 metres grading 1.63 g/t gold.

On April 4, 2017, the Company announced that the infill hole SKI17003 yielded 8 gold intercepts, including 4.0 metres grading 60.18 g/t gold and extending Skiråsen mineralization to 595 metres' depth.

On May 9, 2017, the Company announced that expansion hole SKI16002 yielded 13.0 metres grading 2.15 g/t gold and extended Skiråsen mineralization an added 100 metres to 695 metres' depth, with the gold mineralized system remaining open down plunge to the southeast.

On June 21, 2017, the Company released results of expansion hole CNT17006 that yielded 25.0 metres grading 5.34 g/t gold outlining 100 metres of potential extension to a high-grade intersection first encountered in hole CNT16011.

On September 19, 2017, the Company announced infill hole CNT17012 yielded 19.75 metres grading 5.07 g/t gold, indicating continuity along the 100-metre gap between the Central and Skiråsen zones.

On the October 19, 2017, the Company announced the result of metallurgical testing that yielded approximately 92 percent gold recovery, plus drilling at Risberget, 3.7 kilometres to the east-southeast of Skiråsen, that yielded four significant gold hits, with a best result of 15.3 metres grading 1.87 g/t gold.

On the November 21, 2017, the Company announced positive results from both gold and massive sulphide targets with expansion of hole CNT17020 yielding 21.0 metres grading 2.96 g/t gold. A regional surface till sampling program was carried out during the summer months. This work resulted in a broad area with anomalous precious and base metal responses in the northern third of the Barsele Project, several kilometres to the north of existing drilling. As the Barsele Project was originally discovered using till sampling, these results were considered significant.

For the year ended December 31, 2017, meterage drilled at the Barsele Project totalled 58,281 metres from 123 drill holes.

#### 2018

On March 27, 2018, the Company provided an operational update for December 2017 and January 2018 operations on the Barsele Project, including 23 holes of diamond drilling results, for a total of 1,555.9 metres drilled. At the Skiråsen Zone, highlight results included hole SKI17015 which cut seven mineralized zones with highlight hits of 11.0 metres core length (estimated 6.0 metres true thickness) grading 4.18 g/t gold at a midpoint depth of 520 metres below surface plus 22.0 metres core length (estimated 12.0 metres true

thickness) grading 1.88 g/t gold at a midpoint depth of 565 metres below surface and 4.0 metres core length (estimated 2.2 metres true thickness) grading 3.96 g/t gold at a midpoint depth of 615 metres below surface.

On April 12, 2018, the Company filed on SEDAR an updated mineral resource estimate report entitled "NI 43-101 Technical Report and Mineral Resource Estimate on the Barsele Project" with an effective date of February 15, 2018 for the Central, Avan and Skiråsen ("**CAS**") gold zones at Barsele, with 15,279,000 tonnes at 2.91 g/t gold, containing 1,427,000 Inferred ounces and 2,399,000 tonnes at 2.50 g/t gold containing 193,000 Indicated ounces (all at a 1.75 g/t gold cut-off grade). Carl Pelletier, P. Geo., B.Sc., of InnovExplo, took responsibility as a Qualified Person for this mineral resource estimate.

On April 16, 2018 the Company announced drill results for the month of February, that included two diamond drilling machines operating on the Barsele Project for a total of 2,598.9 metres drilled. At the Skiråsen Zone, highlight results included hole SKI17016 which intersected gold mineralization that averaged 2.43 g/t gold uncut (1.86 g/t gold cut) along a core length of 176.0 metres (333.00 metres to 509.00 metres downhole). As project operator of the Barsele Project, Agnico Eagle developed a community relations program to engage the various stakeholders in the Barsele Project area. Basic environmental assessment and surface water characterization, species studies and hydrogeology studies were ongoing.

On July 5, 2018, the Company provided an operational update for March through May 2018. Four drills became operational on April 10, 2018. Highlights included Avan drill hole AVA18003, that intersected 9.0 metres core length grading 35.72 g/t gold uncut (5.58 g/t gold cut) at a midpoint depth of 200 metres below surface. AVA18001 cut four gold zones with a best hit of 17.4 metres core length grading 2.54 g/t gold and NOR18007 along the Stentjärnen trend, parallel to CAS zones, cut 3.2 metres grading 2.97 g/t gold.

On August 13, 2018, the Company announced drill results for the month of June that included drill hole SKI18003B from the Skiråsen Zone that yielded an intercept of 27.0 metres grading 4.12 g/t gold, while SKI18002 cut six gold zones with a best hit of 9.0 metres grading 3.76 g/t gold and SKI18003 cut 2.0 metres grading 29.17 g/t gold. At the Avan Zone, hole AVA18006 cut 24 metres grading 3.76 g/t gold. At the Central Zone, hole CNT18006 cut 3.0 metres grading 11.12 g/t gold.

On September 20, 2018, the Company announced drill results for the month of July that included expansion drill hole SKI18004 at the Skiråsen Zone that intersected nine mineralized intervals including 26.55 metres grading 2.43 g/t gold, plus 5.0 metres grading 4.0 g/t gold, plus 14.0 metres grading 4.97 g/t gold, while SKI18005 cut 5.0 metres grading 3.35 g/t gold. At the Central Zone, expansion hole CNT18005 cut 5.0 metres grading 4.71 g/t gold, while CNT18007B cut nine mineralized intervals, including 11.0 metres grading 2.30 g/t gold.

On November 14, 2018, the Company announced drill results for the month of August that included expansion drill hole SKI18007 at the Skiråsen Zone that intersected five mineralized intervals, including a best intercept of 15.0 metres grading 3.74 g/t gold. At the Central Zone, infill drill hole CNT18009, cut 57.0 metres grading 1.60 g/t gold and infill drill hole CNT18008 intersected 58.1 metres grading 1.37 g/t gold.

For the year ended December 31, 2018, meterage drilled at the Barsele Project totalled 34,999 metres from 91 drill holes.

## 2019

On January 31, 2019, the Company announced the remaining results from the drilling of the CAS zones, with expansion hole AVA18013 at the Avan Zone, intersecting 21.0 metres grading 3.68 g/t gold, while expansion hole AVA18012 cut 16.0 metres grading 2.76 g/t gold. At the Central Zone, expansion hole CNT18012 cut 25.0 metres grading 1.79 g/t gold. Additionally, at Risberget, regional hole RIS18002 cut 9.0 metres grading 1.98 g/t gold and regional hole SKI18009 cut 22.0 metres of semi-massive sulphides.

On February 21, 2019, the Company announced an updated mineral resource estimate on the Barsele Project with an effective date of February 14, 2019. The study concluded that diamond drilling to date along

the CAS gold zones at a 0.50 g/t gold cut-off for a pit constrained extraction mining method and a 1.50 g/t gold cut-off for a bulk underground extraction mining method and a 1.80 g/t gold cut-off for a selective underground extraction mining method, had in combination, outlined an Inferred Resource of 25,495,000 tonnes grading 2.54 g/t gold (2,086,000 ounces of contained gold) and an Indicated Resource of 5,578,000 tonnes grading 1.81 g/t gold (324,000 ounces of contained gold). Harold Brisson, P. Eng. and Carl Pelletier, P. Geo., B.Sc., both from InnovExplo, of Val d'Or, Quebec took responsibility as Qualified Persons for this mineral resource estimate.

On April 2, 2019, the Company announced the filing of the Technical Report on SEDAR. The report was prepared in accordance with NI 43-101 and a copy of the Technical Report is available under the Company's profile at [www.sedar.com](http://www.sedar.com). and on the Company's website at [www.barseleminerals.com](http://www.barseleminerals.com).

On August 6, 2019, the Company announced drill results for the months of January through June, that included "VMS" drill holes NOR19006 that cut 3.4 metres grading 9.96 g/t gold, 6.34% zinc, 1.72% copper, 94.61 g/t silver, plus NOR19007 that cut 5.0 metres grading 5.09 g/t gold, 41.85 g/t silver, plus NOR19008 that cut 12 metres grading 11.04 g/t gold, 1.44% zinc, 0.29% copper, 74.22 g/t silver, plus NOR19009 that cut 10.0 metres grading 8.86 g/t gold, 5.17% zinc, 1.51% copper, 78.63 g/t silver.

For the year ended December 31, 2019, meterage drilled at the Barsele Project totalled 12,310 metres in 56 completed core holes. Since assuming management of the Project in 2015, Agnico Eagle, Barsele's joint venture partner, has drilled a total of 147,452 metres of overburden penetration and core collection from a total of 367 core holes. Hole AVA19007 yielded 1.0-metre grading 6.57 g/t gold and extended the CAS gold zones, 600 metres to the northwest, for a known strike length approaching 3.6 kilometres. Regional VMS hole AVA19005 yielded 21.55 metres grading 0.18% zinc, 2.50 g/t silver and Expansion VMS hole NOR19022 yielded 0.80-metre grading 3.89 g/t gold, 0.12% zinc.

## 2020

Early in 2020, the proposed plans for the annual exploration campaign were successfully approved by the local Saami Village and sent to the County Administration Board, the Mining Inspectorate and affected landowners. Between January 1 and April 30, 2020, Agnico Eagle personnel and certain contractors have been carrying-out office related and field specific exploration activities at a number of exploration sites. Base of till sampling by a contractor has been ongoing. Ground gravity surveying by a contractor has been partially completed, with more work required later in the year. Ground magnetic surveying is being carried out by Agnico Eagle site personnel and is ongoing. Agnico Eagle also plans to undertake a large surface till sampling campaign, utilizing site personnel. In addition, base-metal/gold association studies are being carried out toward vectoring in on sectors of the CAS zones with superior gold grades, as well as studies of high-grade gold associated with certain alteration minerals and structures. Planned diamond drilling on gold and VMS targets was delayed for a few months because of restrictions in place due to COVID-19.

### ***Financing and Corporate Development***

Over the last three years, the Company has been self-sustaining and has not raised any funds through the issuance of its securities. Over the last three years, the Company has received approximately \$4.2 million in aggregate gross proceeds from the exercise of certain options and warrants. These funds have served to support the Company's operations and project management costs to date.

## **DESCRIPTION OF THE BUSINESS**

The Company is engaged primarily in the acquisition, exploration and evaluation of mineral properties and currently has one material property, being the Barsele Project. The Company is a Canadian public company whose Shares are listed on the TSXV under the symbol "BME". Its principal business is the evaluation and potential development of the Barsele Project in Sweden. The Company activities in Sweden are conducted through Gunnarn Mining, which is the joint venture Company with Agnico Eagle, in which the Company currently holds a 45% interest.

## **Principal Products**

The Company is in the mineral exploration business, does not have any marketable products at this time and is not distributing any products at this time. In addition, the Company does not know when or if its properties will reach the development stage and if so, what the estimated costs would be to reach commercial production.

## **Specialized Skill and Knowledge**

All aspects of the Company's business require specialized skills and knowledge. Such skills and knowledge include the areas of geology, drilling, logistical planning, geophysics, metallurgy and mineral processing, implementation of exploration programs and accounting. Management is composed of individuals who have extensive expertise in the mineral exploration industry and exploration finance and are complemented by the board of directors of the Company.

## **Competitive Conditions**

The mineral exploration business is a competitive business. The Company competes with numerous other companies and individuals who may have greater financial resources in the search for and the acquisition of personnel, contractors, funding and attractive mineral properties. As a result of this competition, the Company may be unable to obtain additional capital or other types of financing on acceptable terms or at all, acquire properties of interest or retain qualified personnel and/or contractors.

## **Business Cycles**

The mineral exploration and development business is subject to mineral price cycles. The marketability of minerals and mineral concentrates is also affected by worldwide economic cycles.

## **Employees and Contractors**

As of the date of this AIF, the Company has no employees. The operations of the Company are managed by its directors and officers. Pursuant to a shared services agreement between the Company and Belcarra Group Management Ltd. ("**Belcarra**"), Belcarra provides management, administrative, provision of personnel and other related services required by the Company from time to time, with costs allocated on a shared and proportional basis with certain other companies that have also engaged Belcarra to provide such services. The Company engages consultants from time to time in the areas of mineral exploration, geology and business negotiations as required to assist in evaluating its interests and recommending and conducting work programs.

## **Environmental Protection**

The Company's exploration activities are subject to various laws and regulations in the jurisdiction in which it operates relating to the protection of the environment. Due to the early stage of the Company's activities, environmental protection requirements have had a minimal impact on the Company's capital expenditures and competitive position. If needed, the Company will make and will continue to make expenditures to ensure compliance with applicable laws and regulations. New environmental laws and regulations, amendments to existing laws and regulations, or more stringent implementations of existing laws and regulations could have a material adverse effect on the Company by potentially increasing capital and/or operating costs.

## **Foreign Operations**

The Company exists under the laws of the Province of British Columbia and is a reporting issuer in each of the provinces of British Columbia, Alberta, Saskatchewan, Manitoba and Ontario. The Company's principal assets are located in Sweden and so its business is impacted by the laws of Sweden.

## THE BARSELE PROJECT

The Barsele Project is the Company's only material mineral property. The following summary does not purport to be a complete summary of the Barsele Project and is subject to all the assumptions, qualifications and procedures set out in the Technical Report and is qualified in its entirety with reference to the full text of the Technical Report. Readers should read this summary in conjunction with the Technical Report, a copy of which is available under the Company's profile on SEDAR. Capitalized terms used in this summary but otherwise not defined, shall have the meanings given to them in the Technical Report.

### Project Description and Location

The Barsele Project is situated in the town of Barsele in the county of Västerbotten in Northern Sweden. It is located approximately 20 km east-southeast from the town of Storuman. At the regional scale, Barsele lies 200 km northwest of Umeå (population of 120,000), the administrative headquarters of the county, and approximately 630 km north of Stockholm. The geographic coordinates of the Barsele Project centroid are latitude 65°03' north and longitude 17°34' east (UTM coordinates 621349E, 7217734N: SWEREF99 TM).

The Barsele Project currently consists of one block of 23 granted exploration permits and two (2) exploitation concessions issued by the Chief Mining Inspector, for an aggregate area of 43,481.96 ha (434.8196 km<sup>2</sup>). Fifteen (15) exploration permits are registered in the name of Gunnarn Mining and five (5) in the name of AE Sweden. Applications have been submitted for one (1) exploration permit for an area of 3,789.71 ha (37.90 km<sup>2</sup>), registered in the name of AE Sweden.

### Mineral Resources

The Barsele Deposit Mineral Resource Estimate (the "**2019 MRE**") was prepared by Harold Brisson, P.Eng., and Carl Pelletier, P.Geo., from Quebec-based InnovExplo, using all available information. The resource area measures 2,700 m along strike and up to 450 m wide. Although resources are defined down to 900 m, the bulk of the resource is located in the first 600 m from surface. The 2019 MRE was based on a compilation of historical and recent diamond drill holes ("**DDH**"). The wireframed mineralized zones were used as provided by Agnico Eagle, after being reviewed and approved by InnovExplo.

The mineral resources disclosed in this AIF are not mineral reserves as they do not have demonstrated economic viability. The result of the 2019 MRE is a single mineral resource estimate for three (3) mineralized zones (CAS). The 2019 MRE includes Indicated and Inferred resources and is based on the assumption that the deposit will be developed and mined using a combination of open pit and underground (bulk, selective) methods.

The close-out date of the database is November 12, 2018 and the effective date of the estimate is February 14, 2019.

InnovExplo is of the opinion that the current mineral resource estimate can be classified as Indicated and Inferred mineral resources based on data density, search ellipse criteria, drill hole spacing and interpolation parameters. InnovExplo considers the 2019 MRE to be reliable and based on quality data, reasonable hypotheses and parameters that follow CIM Definition Standards.

Table 1 below displays the results of the In Situ Barsele Deposit Mineral Resource Estimate for combined open pit, underground bulk and underground selective mining methods at cut-off grades of 0.50 g/t Au (in pit), 1.50 g/t Au (bulk underground) and 1.8 g/t Au (selective underground), respectively.

**Table 1 - Barsele Deposit Mineral Resource Estimate for combined Open Pit, Underground Bulk, Underground Selective Mining Methods at cut-off grades of 0.50 g/t Au, 1.50 g/t Au and 1.8 g/t Au, respectively**

Area (mining method)	Cut-off (g/t)	Indicated Resource			Inferred Resource		
		Tonnage (‘000)	Au (g/t)	Ounces	Tonnage (‘000)	Au (g/t)	Ounces
Open Pit	0.5	3,452	1.32	147,000	1,819	1.59	93,000
Underground Bulk	1.5	1,442	2.53	117,000	8,759	2.58	728,000
Underground Selective	1.8	684	2.75	60,000	14,917	2.64	1 265,000
<b>Total</b>		<b>5,578</b>	<b>1.81</b>	<b>324,000</b>	<b>25,495</b>	<b>2.54</b>	<b>2,086,000</b>

Mineral Resource Estimate Footnotes:

1. The Independent and Qualified Persons for the Mineral Resource Estimate, as defined by NI 43-101, are Carl Pelletier, P.Geo. and Harold Brisson, P.Eng., both from InnovExplo, and the effective date of the Mineral Resource Estimate is February 21, 2019.
2. These mineral resources are not mineral reserves as they do not have demonstrated economic viability.
3. The mineral resource estimate follows current CIM definitions and guidelines for mineral resources.
4. The results are presented undiluted and are considered to have reasonable prospects for eventual economic extraction.
5. The estimate encompasses 61 gold-bearing zones, each defined by individual wireframes with a minimum true thickness of 2.0 m using the grade of the material when assayed or a value of zero when not assayed. The resource was estimated using GEOVIA GEMS 6.8.
6. High-grade capping supported by statistical analysis was carried out on assay data and established on a per domain basis for gold (g/t Au): low-grade mineralized envelope = 5.0 g/t Au, high-grade gold-bearing zones: Skiråsen = 30.0 g/t Au, Central = 30.0 to 40.0 g/t Au, Avan = 20.0 g/t Au.
7. Grade interpolation was performed by ordinary kriging on 2.0-m composites from drill-hole intersections falling within the mineralized zones in a block model using a block size of 10 m by 3 m by 5 m.
8. Density values were applied based on lithology. All mineralized zones were assigned 2.73 g/cm<sup>3</sup>.
9. The Mineral Resource Estimate is classified as Indicated and Inferred. The Inferred category is defined with a minimum of two (2) drill holes within the areas where the drill spacing is less than 100 metres and shows reasonable geological and grade continuity. The Indicated mineral resource category is defined with a minimum of two (2) drill holes within the areas where the drill spacing is less than 25 m. Clipping boundaries were used for classification based on those criteria.
10. The cut-off grades were calculated using the following parameters: mining cost = USD 35.00 to USD 45.00; processing cost = USD 15.00; G&A = USD 5.00 to USD 8.00; refining and selling costs = USD 10.00; gold price = USD 1,300.00; and metallurgical recovery = 92.6%. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rates, mining costs etc.).
11. The number of metric tons were rounded to the nearest thousand, following the recommendations in NI 43-101 and any discrepancies in the totals are due to rounding effects. The metal contents are presented in troy ounces (tonnes x grade / 31.10348).
12. InnovExplo is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, or marketing issues, or any other relevant issue not reported in the Technical Report, that could materially affect the Mineral Resource Estimate.

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

### Accessibility

Access from the town of Storuman (population 2,200) to the village of Barsele is via Highway E-12 (20 km east-southeast), where a secondary road to the east leads to the project area (2 km). Highway E-12 is a principal transnational corridor linking Mo i Rana on the west coast of Norway to Umeå in Sweden on the Gulf of Bothnia where there is a ferry service to Vaasa in Finland. The Barsele Project area is crossed by several forestry and drill access roads.

There are regularly scheduled flights from Stockholm's Arlanda International Airport to the nearby cities of Lycksele (80 km to the southeast), Umeå (210 km to the southeast) and Luleå (315 km to the east). Although operational, there are no longer regularly scheduled flights to Storuman's Gunnarn Airport. This airport is 12 km southeast of the Barsele Project.

## ***Climate***

The region of Barsele, Sweden, experiences a continental subarctic climate according to the Köppen-Geiger climate classification. The climate is characterized by a long cold winter season with short clear days and little precipitation. Summers are short and cool to mild. Climate data from the nearest weather station in Forsvick (10 km west), indicate that daily average temperatures range from -13°C in January to 13°C in July (Weatherbase, 2018). The average amount of precipitation for the year in Forsvik is 486 millimetres. The month with the most precipitation on average is July with 76.0 millimetres. The month with the least precipitation on average is February with an average 21.0 millimetres. Despite the region's northern latitude, the climate is relatively mild compared to other places of similar latitude due to the warming effect of the Gulf Stream. Snow cover is from mid-November to early-May with highest average in February and March with 57 and 56 centimetres, respectively (SMHI, 2018).

Exploration work can be performed year-round except for spring thaw during late April. There is some limitation to field work in the winter when daylight hours are diminished (between 4 to 4.5 hours in December) but drilling can continue throughout the winter. There are a number of operating mines in the region that maintain full production throughout the year.

## ***Local Resources***

The towns of Storuman and Lycksele (a one-hour drive southeast, population 8,500) have sufficient services to accommodate mineral exploration and development programs. Storuman is at the crossroads of two major highways, E-12 and E-45, and both towns have regular scheduled freight, bus and rail service. The town of Storuman has hotels, restaurants and other support services and lies only 20 km away from the main working area. The SGU has a regional office in the town of Malå approximately 100 km drive east of the Project. Furthermore, ALS Minerals operates a commercial sample preparation laboratory in Malå and MS-Analytical operates one in Storuman. The region has a couple of active gold and base metal mines and therefore has a ready supply of experienced mine and mill workers.

## ***Infrastructure***

A major high-voltage electrical transmission line runs through the Avan and Norra project area. Hydroelectric power is generated locally in Storuman at the Grundfors hydroelectrical power plant, located 10 km southeast of the Project. Hydroelectric power in the region is considered relatively inexpensive for commercial use.

There is enough space on the Barsele Project for a future tailings management facility and ancillary infrastructure. There is ample water for processing.

## ***Physiography***

The Barsele Project has an extensive cover of Pleistocene glacial sediments ranging from 0 to 20 m thick, but mostly under 10 m. Outcrops are scarce (less than 10%) and are limited to ridges and deeply incised drainage channels (Giroux et al., 2015). Most of the area is covered by mixed forests of pine, spruce, alder and birch with sporadic clearings of low-growing shrubs and bushes. About 50% of the area has been logged and is actively managed for silviculture.

The overall trend of the low ridges in the area is NW-SE with maximum peak elevations of about 570 masl. The lake near the exploitation concession is at 290 masl. The elevation of major lakes on the Barsele Project varies between about 360 and 270 masl. Drainage is toward the southeast and part of the Umeälven drainage basin.

## History

All mineral exploration in Sweden was State-controlled prior to 1993. Systematic exploration started in 1920 in the valley of the Skellefteå River. The world-class Boliden polymetallic deposit was discovered shortly afterwards in 1924. The Boliden deposit produced some 4 Moz of gold from ore averaging 15 g/t Au. The gold at Boliden is combined with significant quantities of copper, zinc and silver (Sunblad, 2003).

In 1980, two geologists, Christer Löfgren and Stephan Bååth founded Terra Mining ("**Terra**") and initiated a countywide, reconnaissance, geochemical till sampling program focused primarily on gold. In 1983, Terra's exploration culminated with the discovery of the Björkdal gold deposit. Terra required project financing to bring Björkdal into production, and in 1985 Norsk Hydro became a major shareholder together with Svetab, the latter evolved into Euroventures Nordica in 1986. Björkdal which is located 150 km east of Barsele, Sweden went into commercial production in 1988 and became Europe's largest gold mine during the 1990s.

### ***1981 Exploration Program – Swedish Geological Survey***

The earliest recorded exploration in the Barsele, Sweden area was in 1981, six holes for a total length of 695 m were drilled. The owner of the Barsele Project at that time is not known by InnovExplo (possibly Terra). In 1986, the SGU (Sweden's geological survey) completed two drill holes on the Tattartjärnleden prospect.

### ***1988-1998 – Terra Mining***

By 1988, Terra's regional till sampling program at the Barsele Project had identified anomalous gold concentrations both on surface and in basal till. In 1989, drilling of till anomalies identified bedrock gold mineralization in what later became known as the "Barsele Central Zone".

Terra completed increasingly more detailed till-geochemistry surveys culminating in the discovery of an additional six mineralized occurrences by 1995 established by follow-up drilling. Between 1989 and 1998, Terra collected a total of 10,533 soil samples on ground now covered by the Company's group of exploration concessions. In an area extensively mantled with glacial till, none of the new discoveries were exposed at the surface. Terra excavated trenches at the Norra, Avan and Central zones exposing the bedrock and providing valuable information on the style of mineralization and controlling structures.

Terra followed up these encouraging exploration results by drill-testing priority targets within geochemical anomalous zones. From 1989 to 1997, Terra contracted the drilling of 319 diamond and reverse circulation (RC) and percussion drill holes for a total of 28,876 metres, which led to the delineation of the Norra, Avan, Central, Skiråsen, Skirträskbacken and Risberget zones. During this time, Terra also completed preliminary metallurgical testing and resource estimations.

In 1995, Terra contracted Anamet Services to conduct mineralogical and preliminary metallurgical test work on a 1-tonne bulk sample of mineralized rock excavated from a trench in the northwestern part of the Central Zone (Reynolds, 1996).

In 1998, Terra calculated a resource estimation for the Central, Norra, Avan and Skiråsen zones based on 6,616 m of percussion drilling and 11,721 m of core drilling (Pearson, 1998). The estimated resource based on a cut-off grade of 0.75 g/t Au is shown in Table 2.

**Table 2– Terra Mining 1998 Resource Estimate (Barry et al., 2006)**

Category	Zones	Tonnes (millions)	Grade (g/t Au)	Contained (oz)
Indicated	Central, Norra and Avan	3.56	1.8	207,000
Inferred	Central and Skiråsen	5.92	1.8	342,000

These "resources" are historical in nature and should not be relied upon. They predated NI 43-101 and CIM Definition Standards, and more drilling and geological information have become available since the estimate. Additionally, assumptions used to determine cut-off grades have likely changed since that time. Consequently, these "resources" cannot be considered as current. They are included in this section for illustrative purposes only and should not be disclosed out of context.

In 1998, Terra ceased trading after their unfavourable assessment of the potential economic viability of mining low-grade gold resources during a sustained and significant period of lower gold prices. In that same year, a British resource company called William Resources Ltd, together with Dormant Properties AB and International Gold Exploration AB, acquired all of Terra's assets. Williams Resources did not carry out any further exploration work.

#### **2003-2004 – MinMet**

In 2003, MinMet acquired all of Terra's former assets, including the Björkdal gold mine and the Barsele Project. In 2003, MinMet drilled seven holes at the Project, four in the Central Zone and three in the Norra Zone, for a total of 1,045 metres. At the time, there had been no drilling at the Norra Zone since 1994. Boliden was contracted by MinMet to carry out a combined total field magnetic and electromagnetic survey (EM) over the Norra Zone. The magnetic survey covered an area of 2.5 square kilometres and was completed on 51.6 km of NE-SW grid lines spaced 50 m apart. The EM survey was conducted within the same grid area on 26.7 km of grid lines spaced 100 m apart. The surveys generated 1,362 EM survey points and 2,632 magnetic survey points.

#### **2004-2010 – Northland Resources Inc.**

On November 3, 2004, Northland entered into two option agreements to separately acquire 60 percent interests in the Barsele Project and contiguous Norra gold projects. At the annual general meeting of North American Gold held on July 12, 2005, the shareholders approved a change of the company's name to Northland Resources Inc. (for simplicity, this section uses the name "Northland" regardless of the date of the work). On May 10, 2006, Northland acquired a 100 percent equity control of the Barsele Project.

Working under a "Heads of Agreement", Northland drilled 30 diamond drill holes totalling 4,988 m on the Barsele and Norra projects during the 2004 field season. Of the 30 holes, 10 predominantly infill diamond-core holes were drilled in the Central Zone, 17 targeted the westward strike-extension of mineralization in the Norra Zone, and the final three tested the Skiråsen Zone. In 2004, a total 2,311 m of core were drilled in the Central and Skiråsen zones and 2,677 m were drilled in the Norra Zone.

In addition to drilling, Northland contracted Boliden to conduct a Mise-à-la-Masse (downhole conductivity/resistivity) survey on four Norra drill holes, a gravity survey north of the Norra deposit and an IP survey in the Risberget area. Geovista, a Swedish geophysical team, completed a comprehensive geophysical interpretation using regional, private and public geophysical information.

In 2005, Northland drilled 21 holes on the Barsele Project. Thirteen in-fill holes were drilled on the Central Zone for a total of 2,447 metres; six of these were reverse circulation and the other seven were 76-millimetre diameter core holes. Eight additional core holes totalling 862 m were drilled at Norra to test the westward extension of mineralization.

Two Northland resource estimates were prepared by Bart Stryhas in 2005 and 2006. Both were audited by CAM who reported that they were compliant with NI 43-101 and published them in two separate 43-101 reports dated April 15, 2005 and April 12, 2006 (Barry et al., 2006).

Table 3 and Table 4 provide a breakdown of the April 2006 resource estimate by category.

**Table 3 – Northland 2006 Indicated Resource Estimate for the Barsele-Norra Project at a cut-off of 0.8 g/t Au.**

<b>Barsele Project Indicated Resources</b>			
Zone	Indicated Resources		
	Tonnes	Grade Au g/t	Contained Ounces
Norra	193,038	2.90	17,987
Avan	1,306,125	1.49	62,701
Central	4,531,872	1.79	261,246
Skiråsen	534,147	1.50	25,815
Barsele/Norra	6,565,182	1.74	367,749

**Table 4 – Northland 2006 Inferred Resource Estimate for the Barsele-Norra Project at a cut-off of 0.8 g/t Au**

<b>Barsele Project Inferred Resources</b>			
Zone	Inferred Resources		
	Tonnes	Grade Au g/t	Contained Ounces
Norra	61,487	2.76	5,451
Avan	2,629,699	1.61	136,458
Central	3,549,812	1.76	200,411
Skiråsen	1,190,103	1.47	56,310
Barsele/Norra	7,431,101	1.67	398,630

On May 26, 2006, Northland acquired a 100 percent interest in the combined Barsele and Norra projects. Golder and Associates completed the Barsele environmental impact statement and submitted this and other documentation on December 27, 2006 to the Mining Inspectorate and County Administration Board as part of the application process to convert the CAS and Norra resource areas to exploitation concession status. The Barsele Knr1 and Knr2 concessions were subsequently awarded on June 21, 2007.

After the NI 43-101 resource estimate of April 2006, work performed by Northland included the drilling of 22 core holes in the Central Zone for a total length of 3,927 m and seven exploration drill holes totalling 1,403 metres. The exploration holes targeted coincident magnetic anomalies and EM conductors in an area between the Norra and Avan resource areas. In addition to drilling, Northland conducted the following: trenching and a geophysical downhole conductivity survey of a high-grade gold-polymetallic quartz-sulphide occurrence in the Central Zone; a bottom of till sampling program consisting of 942 samples on outside resource targets; and reconnaissance prospecting and mapping of approximately 70 square kilometres, including the collection of 638 rock chip and float samples.

**2010-2015 – Orex Minerals Inc.**

On October 27, 2010, Orex signed a binding Letter of Intent to acquire a 100 percent interest in the Barsele Project subject to certain conditions. On March 22, 2011, Orex signed an agreement with Northland to purchase all of the issued and outstanding shares of Gunnarn Mining. The primary asset of Gunnarn Mining was the Barsele Project. Both agreements were approved by the TSXV on April 29, 2011.

In 2011, a NI 43-101 mineral resource was calculated based on the historical data amassed before the 2011 drilling program. The resource estimate is shown in Table 5 and Table 6.

**Table 5 – 2011 43-101 Mineral Resource Estimate for the Avan, Central and Skiråsen zones (Giroux and Thornsberry, 2011)**

Au Cut-off (g/t)	Zone	Resource Category	Tonnes	Au Grade (g/t)	Contained Ounces Au
0.40	Central	Indicated	10,740,000	1.12	387,000
	Central- Skiråsen	Inferred	10,950,000	0.90	317,000
	Avan	Indicated	670,000	0.81	17,000
		Inferred	20,440,000	0.75	494,000
	TOTAL	Indicated	11,440,000	1.10	404,000
		Inferred	31,390,000	0.80	811,000
0.50	Central	Indicated	10,210,000	1.16	381,000
	Central- Skiråsen	Inferred	8,870,000	1.01	288,000
	Avan	Indicated	670,000	0.805	17,000
		Inferred	20,440,000	0.751	494,000
	TOTAL	Indicated	10,880,000	1.14	398,000
		Inferred	29,310,000	0.83	782,000
0.60	Central	Indicated	9,530,000	1.20	368,000
	Central- Skiråsen	Inferred	7,350,000	1.11	262,000
	Avan	Indicated	440,000	0.973	14,000
		Inferred	13,690,000	0.876	386,000
	TOTAL	Indicated	9,970,00	1.19	382,000
		Inferred	21,040,000	0.96	648,000

**Table 6 – 2011 43-101 Mineral Resource Estimate for the Norra Zone**

Au Cut-off (g/t)	Tonnes > Cut-off (Tonnes)	Grade > Cut-off							
		Au (g/t)	Ag (g/t)	Cu (%)	Zn (%)	Au Oz	Ag Oz	Cu lbs	Zn lbs
INDICATED									
0.40	140,000	2.46	27.26	0.45	0.66	11,000	123,000	1,389,000	2,037,000

Au Cut-off (g/t)	Tonnes > Cut-off (Tonnes)	Grade > Cut-off							
		Au (g/t)	Ag (g/t)	Cu (%)	Zn (%)	Au Oz	Ag Oz	Cu lbs	Zn lbs
0.50	120,000	2.76	28.38	0.48	0.68	11,000	109,000	1,270,000	1,799,000
0.60	110,000	3.13	30.27	0.53	0.72	11,000	107,000	1,286,000	1,746,000
INFERRED									
0.40	330,000	1.55	12.44	0.26	0.41	16,000	132,000	1,892,000	2,983,000
0.50	320,000	1.59	12.56	0.26	0.42	16,000	129,000	1,835,000	2,964,000
0.60	310,000	1.62	12.69	0.26	0.42	16,000	126,000	1,777,000	2,871,000

In May 2011, Orex completed an airborne survey covering the entirety of the Barsele Project consisting of 31,687 hectares. The 2,159 line-kilometre airborne survey was helicopter supported with a deep-penetrating TDEM system. A magnetic survey was completed at the same time. Line spacing ranged from 100 to 200 metres. The survey was completed by SkyTEM Surveys ApS of Denmark.

From mid-August to mid-November 2011, Orex contracted Finland-based Suomen Malmi Oy ("**SMOY**") and Canada-based LeBel Geophysics to perform follow-up ground surveys using the results of the airborne geophysical survey. SMOY carried out the IP surveying to detect the disseminated-style mineralization of the CAS zones at the Barsele Project, where gold mineralization is associated with non-magnetic intrusive rocks characterized by magnetic lows.

VMS targets have been surveyed by LeBel Geophysics using the VLF-EM method, which proved efficient and successful in characterizing the airborne TDEM-generated VMS target.

In November 2011, Protek Norr AB of Skellefteå Sweden was retained to carry out a diamond drill program at the Barsele Project. Orex drilled 16 diamond drill holes (NQ2-size) in 2011 and 2012. Twelve were drilled on the Central Zone (5,075 m) and four on the Avan Zone (1,136 m).

In 2012, Orex completed the following work: mapping of rock exposures using prospecting methods, locating or attempting to trace mineralized boulders, rock sampling, and relogging of drill core. The Tattartjärnliden, Näsvattnet and two other target areas generated by the airborne geophysical survey were the focus. A geologist and two summer students did the field work (Alain, et. al., 2012).

In November 2012, a new resource estimate (Table 7) was prepared based on the results of the 2011 drilling program (Giroux et al., 2012).

**Table 7 – Summary of the 2012 Mineral Resource Estimates for the Avan, Central and Skiråsen gold zones**

Au Cut-off (g/t)	Zone	Resource Category	Tonnes	Au Grade (g/t)	Contained Ounces Au
0.40	Central	Indicated	15,500,000	1.13	563,000
	Central- Skiråsen	Inferred	14,390,000	0.89	413,000

Au Cut-off (g/t)	Zone	Resource Category	Tonnes	Au Grade (g/t)	Contained Ounces Au
	Avan	Indicated	830,000	0.77	21,000
		Inferred	19,460,000	0.69	433,000
	TOTAL	Indicated	16,470,000	1.12	595,000
		Inferred	34,180,000	0.78	862,000
0.50	Central	Indicated	14,740,000	1.16	552,000
	Central- Skiråsen	Inferred	11,890,000	0.98	376,000
	Avan	Indicated	650,000	0.87	18,000
		Inferred	14,650,000	0.77	363,000
	TOTAL	Indicated	15,390,000	1.15	570,000
		Inferred	26,540,000	0.87	739,000
0.60	Central	Indicated	13,610,000	1.22	532,000
	Central- Skiråsen	Inferred	9,840,000	1.08	340,000
	Avan	Indicated	490,000	0.97	15,000
		Inferred	10,360,000	0.86	287,000
	TOTAL	Indicated	14,100,000	1.21	547,000
		Inferred	20,200,000	0.97	627,000

**2015-2018 – Agnico Eagle Mines-Barsele Minerals JVA (current)**

On June 11, 2015, Agnico Eagle, through AE Sweden, acquired a 55 percent interest in Gunnarn Mining. Pursuant to the JVA, if Agnico Eagle or AE Sweden prepares a pre-feasibility study on the Project and submits it to Gunnarn Mining, AE Sweden's interest in Gunnarn Mining will increase to 70 percent and Barsele's interest in Gunnarn Mining will be reduced to 30 percent. In September 2015, Orex and Barsele completed the spin out of Orex's interest in the Barsele Project and Orex transferred its 45% interest to the Company.

Between 2015 and 2017, Agnico Eagle, as the project operator, drilled a total of 90,526 m corresponding to 197 holes, with oriented measurements. Out of those, 82 were drilled on the Central Zone (40,645 m), 58 on the Avan Zone (23,023 m) and 29 on the Skiråsen Zone (18,191 m). The other holes (28) were drilled on the Norra Zone, Risberget Zone, and other regional prospects. In March 2017, AEM decided to reduce the coring diameter from WL-26 to NQ-2, as they concluded that both drilling methods yielded similar gold grade results.

Table 8 shows a summary of the historical diamond drilling done on the Project from 1981 through 2017.

**Table 8 – Summary of Historical Diamond Drilling on the Barsele Project**

Year	DDH count	Length (m)
1981	6	695
1989	70	5,621
1990	76	7,616
1991	42	2,370
1994	12	1,755

Year	DDH count	Length (m)
1995	68	3,900
1996	40	7,144
1997	2	310
2003	7	1,045
2004	30	4,986
2005	21	3,309
2006	29	5,330
2011	5	1,987
2012	11	4,224
2015	15	9,238
2016	81	33,601
2017	101	47,687
TOTAL	616	140,818

During the same period, Base of Till programs were completed; Agnico Eagle sampled a total of 415 sites. Rock chips taken from the bedrock were also collected and lithogeochemical classification of these rocks was completed. A comparison with the regional map of that time, mostly based on airborne geophysical data and some historical mapping, showed discrepancies with the results of these sampling campaigns. Agnico Eagle concluded that surface geology needed to be updated.

In 2015, a trench was dug on the Central Zone and channel samples were collected. GeoVista AB carried out structural mapping and structural analysis on this exposed trench. From these analyses and an interpretation of the local and regional geology, it was concluded that the Barsele Project mineralization was affected by polyphase deformation and remobilization events, including several phases of enrichment (Bauer, 2015).

In 2017, the trench was expanded to approximately 670 m<sup>2</sup>. Structural mapping of the trench was completed, and more channel samples collected and analyzed.

In 2015, spectral imaging was done on 1,382 m of core (the full length of holes 11CNT005, 12CNT008 and 12CNT012). Hyperspectral results indicated broad (>300 m) and intense alteration at the Central Zone.

From 2015 to February 2016, Agnico Eagle, contracted GeoVista AB to compile and evaluate historical geophysical work by previous operators at the Barsele Project, and then identify potential mineralized targets and target areas (Isaksson et al., 2016). Aside from general geophysical patterns, some major structures were also identified in gravity, magnetometry and topography.

In 2016, a Titan-24 geophysical survey (IP chargeability, DC resistivity, MT resistivity) was carried out over the Knr1 exploitation concession and adjacent exploration claims, over about 10km<sup>2</sup>. The survey was done on six parallel lines of 3,100 to 3,200 metres, oriented NNE-SSW (N32°). The MT model seemed to correlate well with surface geology.

Bauer and Imaña (2017) produced for Agnico Eagle, a local-scale structural framework for the gold mineralization on the Barsele Project in order to incorporate a kinematic temporal model related to quartz-vein emplacement. The study was based on the analysis of 3,101 structural measurements from 79 oriented drilled holes, geochemical dataset of 29,109 samples and 1,500 structural measurements from previous years field mapping campaigns. Ore grades and drill core assays were also used to correlate structures with alteration and mineralization. Geophysical data was used for the geometrical interpretation of

structures. The most prominent fractures, the fault zones and the major shear zones in the Barsele, Sweden area were also modelled.

In 2017, a preliminary petrographic study on gold and sulphides from the CAS deposits was conducted by Agnico Eagle's exploration geologists. The main purpose of the study was to investigate the mode of occurrence of free gold as well as sulphide petrography in samples with varying gold grades and sulphide associations. It provided the foundation for LA-ICP-MS and MLA work investigating both refractory and free gold deportment at Barsele.

In April 2018, a new resource estimate (Table 9) was prepared, for the Company, based on the results of the 2015 to 2017 drilling campaigns (Pelletier and Richard, 2018).

**Table 9 – Summary of the 2018 Mineral Resource Estimates for the Avan, Central and Skiråsen gold zones (Pelletier and Richard, 2018)**

Inferred Mineral Resource Estimate (Underground Resources)				Indicated Mineral Resource Estimate (Underground Resources)			
Gold Cut-off grade (g/t)	Tonnage (metric)	Gold Grade (g/t)	Contained Ounces	Gold Cut-off grade (g/t)	Tonnage (metric)	Gold Grade (g/t)	Contained Ounces
1.75	15,279,000	2.91	1,427,000	1.75	2,399,000	2.50	193,000

Since acquiring 55 percent interest in the Barsele Project, Agnico Eagle has completed their own mineral estimate, yearly, starting in 2016 (Agnico Eagle, 2017, 2018). Agnico Eagle mineral resource estimate combines an open pit and underground scenario (Table 10).

**Table 10 – Mineral Resource Estimates on the Barsele Project by Agnico Eagle**

Release Date	Cut-off grade (g/t)	Category	Tonnes	Grade Au (g/t)	Ounces (Au)
Feb 15, 2017	0.41 (open pit) 1.21 (underground)	Indicated			
		Inferred	21,717,000	1.72	1,202,000
Feb 10, 2018	0.40 (open pit) 1.66 (underground)	Indicated	6,282,000	1.25	252,000
		Inferred	18,620,000	2.31	1,384,000

### Geological Setting

The following description of regional and local geology is mostly from the reports by Bauer (2015) and Giroux et al. (2015). Other references are cited accordingly.

### Regional Geology

The Barsele Project is located within Paleoproterozoic supracrustal and associated intrusive rocks of the Fennoscandian Shield. Bedrock in the district consists of 1.96–1.86 Ga volcanic and sedimentary rocks associated to the Svecofennian domain and intrusive rocks that were deformed and metamorphosed simultaneously during the 1.96-1.86 Ga Svecokarelian orogeny (Lundström et al., 1997; Mellqvist et al., 1999; Kathol and Weihed, 2005). The Stensele District is located west of the Skellefte District. North of the district, Paleoproterozoic and reworked Archaean rocks form the Norrbotten craton. South and east of the study area, metasedimentary rocks of the Bothnian Basin occur, and the district represents a kind of transitional zone between those two major tectonic units. The Archaean Proterozoic boundary north of the Skellefte District has been defined by a shift in εNd -signature (Lundqvist et al., 1996; Wikström et al., 1996;

Mellqvist et al., 1999) which coincides with a south-dipping seismic reflector interpreted as a northeast-verging thrust surface (BABEL Working Group, 1990).

The lowest stratigraphic unit in the district consists of metasedimentary and intercalated volcanic rocks of the Bothnian Supergroup (Kathol and Weihed, 2005; Skyttä et al., 2012). A metadacite in the Barsele, Sweden area with an age of  $1959 \pm 14$  Ma (Eliasson et al., 2001) is regarded to form a part of this Supergroup. The Bothnian Supergroup forms the inferred basement to the 1.89-1.88 Ga, mainly felsic volcanic rocks of the Skellefte Group (Allen et al., 1996; Billström and Weihed, 1996; Montelius 2005; Skyttä et al., 2011). The stratigraphic thickness of the Skellefte Group volcanic rocks is approximately 3 kilometres in the northern part of the district (Allen et al., 1996). The Skellefte Group is overlain in the Skellefte District, east of the Stensele area by a 1.88- 1.87 Ga, dominantly sedimentary unit called the Vargfors Group (Allen et al., 1996). Exposure of contact relationships between both groups is generally poor but detailed studies in the Vargfors syncline suggest that varying contact relationships such as primary conformable, discordant and tectonic exist (Allen et al. 1996; Bauer et al. 2011, 2013). Metasedimentary rocks which occur immediately south of the central Skellefte District are regarded to belong to the Vargfors Group due to their similar lithologies. The transition from rocks of the Vargfors Group to metasedimentary rocks of the Bothnian Supergroup to the south of the district is somewhat arbitrarily (Kathol and Weihed, 2005).

The oldest intrusive rocks in the district are early orogenic, 1.89-1.88 Ga granitoids, diorites and gabbros, including the oldest phase (G1) of the so-called Jörn intrusive complex (Wilson et al., 1987; Gonzales Roldan, 2010; Bejgarn et al., 2012) and the Viterliden intrusion (Skyttä et al., 2011). A quartz-monzodiorite in Barsele, Sweden has been dated at  $1880 \pm 4$  Ma (Eliasson et al., 2001), hence fitting into this group. These early orogenic rocks are suggested to be co-magmatic with the volcanic rocks of the Skellefte Group. Younger phases of intrusives are assigned to the Perthite-Monzonite suite (Witschard, 1984), which formed between 1.88 and 1.86 Ga (Bejgarn et al., 2012) and post-date the deposition of the volcanic rocks. In the south, west and in between Skellefte and Stensele districts, the Skellefte, Vargfors and Bothnian Groups are all truncated by large intrusions of 1.82-1.78 Ga, late- to post-Svecokarelian GSDG-type (also referred to as Revsund-type) intrusive rocks of the Transscandinavian Igneous Belt (Kathol and Weihed, 2005).

The metallogenic area of the Barsele Project is called the "Gold Line", which is the original name of a geochemical gold anomaly detected in a regional till survey in northern Västerbotten County in the late 1980s. Since then, several gold occurrences and large amounts of As-Au-mineralized boulders have been found in the area. Two mines have been in production: the Blaiken zinc-gold mine (closed in 2007) and the Svartliden gold mine, still in production and located 30 kilometres south-southeast. Most of the gold deposits in the Gold Line metallogenic area are considered orogenic gold deposits.

The geology of the Gold Line metallogenic area consists of metasedimentary rocks and metabasalts of the Bothnian Supergroup, which was intruded by several phases of granitoids (Kathol and Weihed 2005). The metabasalts were emplaced as sills or submarine lava flows. Pillow lavas, spilites and volcanoclastic breccias are common. Granodiorites intruded at an early stage of the orogeny and were deformed with the supracrustal rocks. Late- to post-orogenic granites (Revsund-type granites) occur as large massifs in the region.

In 2005, the Svartliden gold deposit was put into production. The deposit comprises epigenetic Au and Ag in hydrothermally altered, ductile shear zones that have been metamorphosed to mid-amphibolite facies. Minerals detected in the ore include native silver, native gold, electrum, actinolite, grunerite, diopside, amphibole, pyroxene, lollingite, arsenopyrite, native bismuth and pyrrhotite (Eklund, 2007).

### **Barsele Project Geology**

Most of the following information concerning the local geology was taken from Barry et al. (2006).

## ***Lithologies***

The Project area is extensively covered by glacial overburden; consequently, bedrock exposure is sporadic and limited. Geological interpretations rely heavily on drill-core data and trenches excavated in the Central, Avan and Norra zones. Outside these areas, geological interpretations are much less constrained and heavily reliant on inference from geophysical data. The area straddles the southeast-trending Umeå-River shear zone and parallels this dominant structural fabric, which controls drainage and glacial vectors.

The Project area covers a sequence of metasedimentary and volcanic rocks of the Proterozoic Svecofennian system. The volcanics are more specifically referred to as the Härnö Formation. The metasedimentary rocks consist of metamorphosed greywackes and pelites and sporadic conglomerates. The volcanic rocks of the Härnö Formation consist of felsic, intermediate and mafic volcanics, including pillow lavas and pyroclastics, probably deposited in a back-arc setting. Felsic volcanics probably represent a volcanic inlier within the Bothnian Basin, or alternatively, an outlier of the Skellefteå District.

According to Keyser (2004), there are three main phases of granitoid intrusions in the region which are referred to as early, middle and post with respect to the Svecofennian Orogeny. The early orogenic granitoids are the most important from a mineralization perspective and comprise a calc-alkaline suite of predominantly tonalites with lesser volumes of granodiorite, which were emplaced prior to the main phases of Svecofennian metamorphism and deformation. An early orogenic granodiorite is the host rock of the Central Zone mineralization at the Barsele Project. In detail, at least seven separate intrusive pulses have been identified at the Central and Avan zones including late and post-mineralization dykes.

Imaña (2016) conducted an immobile element lithogeochemistry and structural review to determine the magmatic affinity, fractionation and igneous protoliths. Work based on the analysis of 11,811 samples outlined the different protolith of the CAS region. The report concluded that the Barsele Project vein-hosted gold deposit is associated with several phases of a coarse- to fine-grained granodiorite intrusion. The bulk of the veins with economic interest are located within intrusive phase GD-II. A shear zone transects the GD-II granodiorite body and splits the deposit into two zones: the Central Zone to the north and the Skiråsen Zone to the south. These zones show distinct structural, geochemical and mineralogical patterns that point toward variable tectonic transposition and rotation of different parts of the system. For the Central Zone, it is conceivable that thrust faulted panels were tectonically uplifted along the hanging wall side of the shear under a hypothetical transpressional regime on a dextral strike-slip fault.

Early veining in the deposit contains tourmaline; although this phase is not a significant carrier of gold, it is believed to represent an essential event that contributed to form favourable structural tracts via rock hardening.

The gold-rich volcanic-hosted, semi-massive to massive sulphide style of mineralization at the Norra Zone is quite distinct from the mesothermal intrusive-hosted gold mineralization of the Central and Avan zones. The Norra Zone occurs within a lens of felsic metavolcanics and pelitic sediments of the Härnö Formation. In detail at the outcrop scale, based on trenching, the lithologies consist of a WNW-trending, steeply-dipping sequence of dacitic to rhyolitic flows, felsic volcanoclastics and fine-grained tuffs. The mineralized host-lithology appears to be a quartz-phyric volcanoclastic unit. Alteration is characterized by a network of veinlets and discontinuous patches of sulphides, chlorite and carbonate. The host rock is cut by felsic and mafic intrusions which are probably sills. It is likely that intrusions range in timing from pre- to syn to post sulphide mineralization (Keyser, 2004).

At Norra, there is clear evidence that gold concentration is independent of sulphide intensity within the mineralizing system. Local lenses of dark mudstones, slates and mafic hyaloclastites probably indicate a submarine depositional environment. Late stage faults and shear zones introduce further complexity to the deposit geology.

## **Structural Elements**

The latest structural geological mapping and interpretation was done by Bauer (2015). The study concluded that the Barsele Project mineralization was affected by poly-phase deformation and remobilization events including several phases of enrichment. An early D1 phase of crustal extension caused hydrothermal activity simultaneously with the emplacement of volcanic and related intrusive rocks. Two overprinting deformation events (D2 and D3) both re-mobilized and enriched the deposit along the D2 and D3 high-strain zones.

According to Bauer and Imaña (2017), compressional deformation has triggered the reactivation of an old shear zone (S2), with brittle interconnected flat and steep fractures (S3) developed in its proximity. Brittle structures (D3) formed as flat-lying panels with reverse, SE-side up kinematics as a response on SE-NW-directed crustal shortening. The angular relation between steep quartz veins and steep fractures or shears is favoring higher gold grades. Quartz veins that form at an angle to pre-existing structures open faster than structures re-using older ones. The steeply dipping (truly tensional) veins are richer in gold than flat veins (thrust induced) veins. Early steeply dipping tourmaline veins are devoid of gold enrichment. The angular relations of quartz veins in relation to the main shear and the fractures suggest that all quartz veins formed within the dextral Riedel-system whereas the quartz veins represent the tensile component (T). The crustal architecture of the Barsele, Sweden area is the result of one ductile deformation phase (D2) and an overprinting brittle (to semi-brittle) deformation phase (D3).

Agnico Eagle's interpretation is that the intrusion is either a primary shape or the result of crustal shortening during D2 deformation. In the former case, the shear zone at the Barsele Project has a syn-extensional D1 origin and the intrusion could have used the already existing structure for emplacement.

If the shear zone formed during D2 deformation, the shear zone could have exploited primary heterogeneities in the intrusion and the intrusion was flattened during compression. The lack of widespread penetrative deformation in the intrusion indicates that the stress was partitioned and preferentially into volcanic enclaves and Fe-Mg portions of the intrusion. The model indicates that the type of deposit for the CAS zones is an intrusion-hosted orogenic gold deposit.

## **Mineralization**

### **General Overview**

The metallogenic area of the Project is called the Gold Line (or Gold Trend), which is the original name of a geochemical gold anomaly detected in a regional till survey in the northern part of the county of Västerbotten in the late 1980s. Since then, several gold occurrences and large amounts of As-Au-mineralized boulders have been found in the area. Two mines have been in production: the Blaiken zinc-gold mine (closed in 2007) and the Svartliden gold mine, still in production and located 30 km south-southeast. Most of the gold deposits in the Gold Line metallogenic area are considered orogenic gold deposits.

Mineralization varies among the zones on the Barsele Project. Two distinct mineralized areas have been explored on the Barsele Project concessions: CAS zones and Norra. The current MRE concerns the CAS area. Gold mineralization in the CAS is predominantly within the granodiorite (GD-II). Mineralized zones have been interpreted as two types of lodes, D2 lodes along D2 shear zones structures (NW-SE trending, steeply dipping) and D3 lodes related to the lineation of intersection between D2 shear zones and D3 panels (N-S trending, average of 45° dipping east). Those intersections are considered to have been dilatation zones favourable for fluid circulation and gold remobilization. The panel like geometry of the vein clusters in the Central Zone is not as evident in the Skiråsen Zone (AEM, 2018).

The CAS zones have a combined strike length of 2.7 km. Central Zone consists of 24 lodes (14 D2 type and 10 D3 type) and Skiråsen Zone of 13 lodes (D2 type) with an average horizontal thickness of 5 m for D3 type and 10 m for D2 type. The lodes can be followed to a depth of 900 m. The Avan Zone consist of

22 lodes (D2 type) with an average horizontal thickness of 10 m. The lodes can be followed for 800 m along strike and 700 m at depth.

The Skiråsen Zone contains rock units (GD-SK, Dacite-II and basalt) that do not occur in the Central Zone. Gold mineralization is mainly hosted by QTZ-2 and QTZ-3 veins, whereas QTZ-1 and tourmaline veins are more abundant in the Central Zone. Traces of pyrite are also more commonly observed.

Type-1 quartz veins (Qtz-1) are associated to sulphidized altered zones (bleached zones). Type-2 quartz veins (Qtz-2) are quartz-calcite veins, variably sulphidized with chlorite halos. Type-3 quartz veins (Qtz-3) are visible gold-bearing quartz veins characterized by scarce sulphides and limited sulphidization and alteration of the host rock. They contain traces of pyrite and pyrrhotite, and fractures filled with late chlorite and calcite.

Gold occurs as native metal alloyed with silver and demonstrates a general association with arsenopyrite, also occurring with pyrrhotite, calcite, chlorite and biotite. Base metal content of the deposit is typically low, although gold is seen to occur with sphalerite, galena, chalcopyrite and scheelite. Sulphide, carbonate and quartz-tourmaline veinlets are locally mineralized. The host-granodiorite contains probably less than 2 percent disseminated fine-grained sulphides occurring as arsenopyrite, pyrrhotite and pyrite (Barry et al., 2006).

The following discussion is mainly from Imaña (2016) and Giroux et al. (2015) and retains the references therein. Mineralization varies among the zones on the Barsele Project. Two distinct mineralized areas have been explored on the Barsele concessions: CAS and Norra.

#### **CAS (Central, Avan and Skiråsen zones)**

Gold mineralization in the CAS is predominantly within the granodiorite (GD-II). Mineralized zones have been interpreted as two types of lodes, D2 type lodes along D2 shear zones structures (NW-SE trending), steeply dipping and D3 type lodes related to the lineation of intersection between D2 shear zones and D3 panels (N-S trending, average of 45° dipping toward East). Those intersections are considered to have been dilatation zones favorable for fluid circulation and gold remobilization. The panel like geometry of the vein clusters in the Central Zone is not as evident in the Skiråsen Zone (AEM, 2018).

The Central and Skiråsen zones have a combined strike length of 1.8 km. Central zone consists of 24 lodes (14 D2 type and 10 D3 type) and Skiråsen Zone of 13 lodes (D2 type) with an average horizontal thickness of 5 m for D3 type and 10 m for D2 type. The lodes can be followed to a depth of 900 m. The Avan zone consist of 22 lodes (D2 type) with an average horizontal thickness of 10 m. The lodes can be followed for 800 m along strike and 700 m at depth.

The Skiråsen Zone contains rock units (GD-SK, Dacite-II and basalt) that do not occur in the Central Zone. Gold mineralization is mainly hosted by QTZ-2 and QTZ-3 veins, whereas QTZ-1 and tourmaline veins are more abundant in the Central Zone. Traces of pyrite are also more commonly observed.

Type-1 quartz veins (Qtz-1) are associated to sulphidized altered zones (bleached zones). Type-2 quartz veins (Qtz-2) are quartz-calcite veins, variably sulphidized with chlorite halos. Type-3 quartz veins (Qtz-3) are visible gold-bearing quartz veins characterized by scarce sulphides and limited sulphidization and alteration of the host rock. They contain traces of pyrite and pyrrhotite, and fractures filled with late chlorite and calcite.

Gold occurs as native metal alloyed with silver and demonstrates a general association with arsenopyrite, also occurring with pyrrhotite, calcite, chlorite and biotite. Base metal content of the deposit is typically low, although gold is seen to occur with sphalerite, galena, chalcopyrite and scheelite. Sulphide, carbonate and quartz-tourmaline veinlets are locally mineralized. The host-granodiorite contains probably less than 2% disseminated fine-grained sulphides occurring as arsenopyrite, pyrrhotite and pyrite (Barry et al., 2006).

Imaña (2016) concluded that the Barsele Project vein-hosted gold deposit is associated with several phases of a coarse- to fine-grained granodiorite intrusion. The bulk of the veins with economic interest are located within intrusive phase GD-II.

Early veining in the deposit contains tourmaline. Although this phase is not a significant carrier of gold, it is believed to represent an essential event that contributed to form favourable structural tracts via rock hardening. Qtz-2 type veins are also a minor gold-bearing structure.

The main gold-bearing structures are Qtz-1, Qtz-3 and Qtz-4 type veins. Enrichment of gold is at times associated with W enrichment. A moderate to strong correlation with S, Ag and As is also observed and is linked to specific vein parageneses.

The shear zone that divides the two domains (the Central and Skiråsen zones) is Au- and W-poor, but Zn- and Mn-enriched. Within the shear region, there is a superposition of relatively high grades of Sn and Bi. Thus, the shear is interpreted as having been subjected to several hydrothermal phases at different temperatures. This is most likely to have occurred as the systems cooled down after gold deposition, with telescoping events occurring along fault-shear reactivations during progressive exhumation of the region. These two zones show distinct structural, geochemical and mineralogical patterns that point toward variable tectonic transposition and rotation of different parts of the system. At the Central Zone, it is conceivable that thrust faulted panels were tectonically uplifted along the hanging wall side of the shear under a hypothetical transpressional regime on a dextral strike-slip fault.

The mineralogy, vein patterns and geochemistry at the Barsele Project suggest that ore fluids (veins) and host rocks intrusions could be cogenetic; the lack of accessory magnetite in unaltered granodiorite and the reduced and sulphur deficient sulphide mineralogy in Au-W veins indicates a similar magmatic geochemical affinity. Furthermore, vein formation is principally hosted in GD-II and GD-I.

### **Norra Zone**

According to Giroux et al. (2015), massive sulphide mineralization is exposed in two open trenches (14 m x 6 m) in the centre of the drilled zone. The footprint of the main mineralized body at Norra, based on drilling, is some 300 m in strike-length varying from 5 to 50 m in width.

The Norra prospect has a complex stratigraphy comprising a variety of volcanic units intercalated within a succession of grey-black mudstone and thin sandstone beds (greywacke). The mudstone-sandstone succession between the volcanic units is interpreted to be marine hemipelagic mudstone with abundant, generally thin, sandstone turbidite beds. These sedimentary rocks were most likely deposited in a deep-sea environment. At the Norra prospect, the mudstone-sandstone succession contains one or more 3- to 30-m-thick intervals with disseminated, semi-massive and locally massive pyrrhotite-sphalerite mineralization with less common chalcopyrite and galena mineralization. This mineralization is fine-grained, diffusely stratified and variably overprinted by coarser recrystallized pyrrhotite-sphalerite patches and vein like zones. The fine-grained, massive to diffusely stratified sulphide is interpreted to be stratiform mineralization originally deposited on or just below the sea floor in a deep-water volcanically active basin. The coarser sulphide patches and veins are interpreted to be younger generations of sulphide that were formed by recrystallization and remobilization of the earlier stratiform sulphides during metamorphism and deformation (Allen, 2007).

In addition to this pyrrhotite-sphalerite mineralization, the Norra prospect also contains relics of fine-grained massive arsenopyrite with disseminated to veinlet chalcopyrite. These arsenopyrite-rich patches correspond to some of the highest gold values encountered in the Norra prospect. Furthermore, they are virtually indistinguishable from similar fine-grained arsenopyrite patches and lenses that occur in several of the VMS deposits in the nearby Skellefteå mining district (for example the Boliden, Holmtjärn and Maurliden deposits). In both the Skellefteå district and at the Barsele Project, the patches of fine-grained arsenopyrite are overprinted by subsequent stages of mineralization and consequently appear to represent an early stage of syn-volcanic mineralization (Allen, 2007).

## **Deposit Types**

There are three styles of mineralization at the Barsele Project: 1) orogenic intrusive-hosted gold related to the Gold Line; 2) epithermal gold-rich volcanogenic massive sulphides; and 3) high-grade gold-silver-lead-zinc mineralization hosted by syn-tectonic quartz-sulphide veins.

The Project, with its VMS (Norra) and gold (CAS) deposits, is located at the intersection of the Skellefteå and Gold Line metallogenic trends. Norra would be more similar to the Skellefteå deposits, which are more commonly shallow syngenetic to epithermal gold rich base-metal deposits. The CAS intrusion-hosted gold deposits and associated high-grade veins would be more similar to the Gold Line deposits, which are dominantly deeper mesothermal, structurally-controlled gold mineralization (Giroux et al., 2015).

The shallow volcanic-related Skellefteå mineralization would appear to be unrelated to the intrusive-hosted orogenic-style gold mineralization which forms at considerably deeper levels in the Earth's crust. However, the spatial coincidence of the three styles of mineralization suggests that they may represent a vertical continuum related to a 1.8 Ga igneous intrusive event (Giroux et al., 2015).

### ***Orogenic Intrusive-Hosted Gold***

Metamorphic belts are complex regions where accretion or collision has added to, or thickened, continental crust. Gold-rich deposits can be formed at all stages of orogen evolution, so that evolving metamorphic belts contain diverse gold deposit types that may be juxtaposed or overprint each other (Groves et al. 2003).

The majority of gold deposits in metamorphic terranes are located adjacent to first-order, deep-crustal fault zones, which show complex structural histories and may extend along strike for hundreds of kilometres with widths of as much as a few thousand metres (Goldfarb et al., 2005). Fluid expulsion from crustal metamorphic dehydration along such zones was driven by episodes of major pressure fluctuations during seismic events. Ores formed as simple to complex networks of gold-bearing, laminated quartz-carbonate fault-fill veins of second- and third-order shears and faults, particularly at jogs or changes in strike along the major deformation zones. Mineralization styles vary from stockworks and breccias in shallow, brittle regimes, through laminated crack-seal veins and sigmoidal vein arrays in brittle-ductile crustal regions, to replacement- and disseminated-type orebodies in deeper, ductile environments (Groves et al., 2003). Most orogenic gold deposits occur in greenschist facies rocks, but significant orebodies can be present in lower and higher-grade rocks. The mineralization is syn- to late-deformation and typically post-peak metamorphism. They are typically associated with iron-carbonate alteration. Gold is largely confined to the quartz-carbonate vein network but may also be present in significant amounts within iron-rich sulphidized wall-rock selvages or within silicified and sulphide-rich replacement zones (Dubé and Gosselin, 2007). One of the key structural factors for gold mineralization emplacement is the late strike-slip movement event that reactivated earlier-formed structures within the orogeny (Goldfarb et al., 2001).

Generally, veins can be found in any of the rock types present in a given district. However, there are a number of lithological associations which are repeated at the scale of the deposits, and which are partly reflected in the geometric or hydrothermal characteristics of these. Those associations reflect variations in structural and chemical controls exerted by host lithologies on the formation of vein network (Robert, 1996).

Orogenic intrusion-hosted gold deposits that occur within the Skellefteå District along the Gold Line in Västerbotten include a series of gold deposits, mineralized occurrences and gold targets in different geological environments, loosely aligned along a regional tectonic zone that stretches from the Caledonian mountains in northwest Västerbotten through the towns of Sorsele, Storuman and Lycksele and onwards towards the Gulf of Bothnia in the southeast. This zone may potentially represent an older rift zone, the age of which could be about 2 Ga. The gold mineralization is primarily associated with arsenopyrite and pyrrhotite. The tonnage of some intrusion-hosted gold deposits can be economically significant in some deposits, such as Björkdal in the eastern part of the Skellefteå District (Barry et al., 2006).

The gold discoveries were made using classic boulder tracing, regional till sampling and then follow-up geophysical surveys and drilling. A number of gold occurrences and deposits in the Gold Line have been discovered by various companies during the past 15 years of active exploration, including: Svartliden (Dragon Mining ASX), Ersmarksberget and Svarttrask (Scan Mining AB), Knaften, Stortjärnhobben, Sandviksträsk and Fäboliden (Lappland Goldminers AB), and Barsele (Orex-Northland) (Giroux et al., 2015).

### ***Volcanogenic Massive Sulphides***

The Norra deposit is a Gold-Rich Volcanogenic Massive Sulphide (Au-VMS) deposit. The following section is slightly modified from Galley et al. (2007) and Franklin et al. (1998).

Volcanogenic massive sulphide deposits typically occur as lenses of polymetallic massive sulphide that form at or near the seafloor in submarine volcanic environments, and are classified according to base metal content, gold content, or host-rock lithology. These deposit types are discovered in submarine volcanic terranes that range in age from 3.4 Ga to actively forming deposits in modern seafloor environments. The most common feature among all types of VMS deposits is that they are formed in extensional tectonic settings, including both oceanic seafloor spreading and arc environments.

As a result of large-scale fluid flow, VMS mining districts are commonly characterized by extensive semi-conformable zones of hydrothermal alteration that intensifies into zones of discordant alteration in the immediate footwall and hanging wall of individual deposits. They form from metal-enriched fluids associated with seafloor hydrothermal convection. VMS deposits are major sources of Zn, Cu, Pb, Ag and Au.

Deposits of the copper-zinc group are within volcanic sequences that are dominated by mafic volcanic rocks, with locally volumetric felsic rocks. Felsic ash-flow tuff beds are usually prominent immediately below the deposits, and felsic domes may immediately underlie or enclose the ore.

Alteration occurs in two distinct zones. Alteration pipes occur immediately below the massive sulphide zones. The pipes are silicified and sericitized; chlorite is subordinate and is most abundant on the periphery of the pipes. Aluminosilicate minerals are prominent. Lower, semi-conformable alteration zones occur several hundreds of metres or more below the massive sulphide deposits. This zone contains epidote, actinolite, and quartz.

Pyrite typically constitutes 50-90 percent of the massive ore, with sphalerite, chalcopyrite, and galena forming about 10 percent. Deposits formed in deep water contain only sphalerite and chalcopyrite as their principal ore minerals. Those that formed in shallow water contain recoverable galena. Deposits of the copper-zinc group are concordant to semi-conformable massive iron sulphide bodies, commonly underlain by stringer ore.

It is probable that a host of different ore-forming systems were active in the Skellefteå District, including the dominant VMS, epithermal and mesothermal systems. The Skellefteå District contains some 80 distinct VMS deposits and lode gold deposits. The gold contents in the Skellefteå massive sulphide ores are unusually rich in gold, and it is still uncertain whether the gold is a result of simple volcanic hydrothermal processes or if some massive to semi-massive sulphide deposits were epigenetically enriched in gold (Barry et al., 2006).

### ***High-grade gold-silver-lead-zinc Mineralization Hosted by Syn-tectonic Quartz-sulphide Veins***

According to Giroux et al. (2015), the intersection of a base-metal-rich polymetallic vein associated with higher grades of gold in the western end of the Central Zone in 2006 may provide a clue as to how the VMS and orogenic styles of gold mineralization may be related.

Base metals and gold may have been remobilized during deformation after intrusion of the granodiorite. The granodiorite likely intruded into sulphide-rich shales or a massive sulphide horizon resulting from earlier

volcanism. Evidence for such an interpretation are sulphide-rich argillites and felsic volcanics oriented parallel to the core axis of drill hole CNDTH06-012 (Corkery, 2007).

Drill hole logging on the Central area suggests a corresponding geological break along the geophysical anomaly near CNTDH06-012, with lithologies toward the north dominated by andesite porphyry dikes and felsic volcanics, and the south dominated by granodiorite, quartz veins and sulphide bearing metasedimentary argillites. This interpreted structural break may have acted as the main conduit or one of several major feeders for hydrothermally remobilized gold which formed the enveloping lower grade disseminated gold resource.

## **Exploration**

AEM conducted relevant exploration work as project operator in 2018 (Pelletier and Richard, 2018). The work has included till sampling (surface and base), geophysical surveys and geological compilation and interpretation. Drilling is ongoing.

### **Base of Till Sampling and Surface Till Sampling**

Base of Till ("**BOT**") sampling resumed in 2018, with 93 holes drilled in January and February. The campaign was put on hold during the thaw period and restarted in June. A total of 434 BOT boreholes (RC drilling) were completed and 1,247 samples in the overburden and the bedrock were collected for assaying.

A total of 846 surface till samples out of the 901 initially planned sites were collected in the YM-1 to YM-8 areas during the summer field campaign of 2018. All surface till samples were prepared and sent for assaying. Due to unsuitable terrain conditions, 55 sites were skipped (not sampled).

Gold anomalies do not exhibit any significant clustering in areas sampled in 2018 with the exception of YM-7: this area's distribution correlates well with some samples classified as graphite-sulfide metasediments. The highest anomalies (28, 32 and 42 ppb Au), are in YM-7. Although, the correlation with N-S striking graphite-sulfide metasediments is obvious, the anomalies may also be associated with E-W striking structural trend (D2), hence D2/D3 intersections. These anomalies will be followed up in 2019 with additional work.

The elements Zn, Cu, As, and Sb show relatively good spatial correlation and form clusters clearly associated with presence of graphite-sulfide metasediments. Large, predominantly N-S anomalies are present in YM-7 and YM-1. On the other hand, YM-4, YM-5 and 6 anomalies are oriented ESE-WNW, corresponding to a structural trend observed in the AeroMAG interpreted data. Those areas have been recognized as highly prospective for VMS and follow-ups with BOT sampling is planned for 2019.

## **Geophysics**

### ***Ground Magnetic Survey***

In June 2018, GRM-Services Oy carried out a ground Mag survey covering approximately 3.7 km<sup>2</sup> over the Risberget area. The resulting geophysical (Mag) maps and the diamond drilling data from the area were used to reinterpret the geology of Risberget. Significant changes were made to geological units and their orientation. The Mag maps and drilling data indicate a NE-SW trend to the supracrustal sequence rather than previously interpreted NW-SE trend, as well as a steep dip to the NW. This orientation fits with the structural data, such as foliation, contacts and shear zones observed in oriented drill core. At the regional scale, the Risberget area is positioned within the high deformation corridor which is consistent with the interpreted first-order D3 structure (AEM, 2018).

### ***Gravity Survey***

A detailed gravity survey was carried by GRM-Services over the Barsele Project with 977 measurement sites with a 120 m spacing between each site. The survey started at the end of August and finished in October. Final maps resulting from collected data and a preliminary inversion model have been interpreted and delivered; 22 high-gravity anomaly targets were modelled, and their depth varies from near surface to 600 m. Drilling on some of these targets will be planned for 2019 following a multidisciplinary evaluation (geochemistry, geology, and geophysics) of each target.

### ***Borehole Electromagnetics (BHEM)***

A BHEM survey was carried out, by GRM services Oy, in hole SKL18001 (length of 1,331 m), located in the Skirliden area. The hole was primarily testing the strong-magnetic and geochemical anomalies at a shallow depth and the eastern extension of the mineralized granodiorite from the Skiråsen Zone at greater depth. The hole intersected 13 m of semi-massive and massive sulphide mineralization (pyrrhotite) at a vertical depth of 800 m (from 1247.0-1260.0 m). The strong magnetic anomalies were explained by presence of graphite-pyrrhotite bearing metasediments and few minor diabase dikes at the beginning of the drill hole.

Using two loops, BHEM demonstrated a strong continuous electromagnetic signal vertically upwards of the intersection resulting in a modelled conductor with a 175 m strike length and at least 500 m of vertical extent.

### ***Geological Compilation***

For a bachelor's degree thesis, AEM summer geologist, Joel Krispinsson, collaborated with AE Sweden to produce a GIS-based re-evaluation of the surface geology of the Barsele Project and its surrounding area. The most recent interpretation had been done in 2016.

New data used for the compilation and interpretation included infield outcrop observations, BOT drill data, geochemical assays, geophysical data and structural measurements. The new interpretation of the geology included additions and modifications to previous geological borders where possible.

Compared with the previous version, the resulting updated geological map shows that a significant amount of what was previously interpreted as metasedimentary rocks is now classified as mafic metavolcanic rocks instead. Felsic metavolcanics that are of interest are more frequent than previously thought. The new data also confirms the geological interpretations of the previous map in several areas, proving that the accuracy of the map in these areas is of good quality.

### ***Diamond Drilling***

This item pertains to the holes drilled between November 14, 2017, the close-out date of the database for the previous mineral resource estimate (Pelletier and Richard, 2018), and November 12, 2018, the close-out date of the database for the current 2019 MRE.

### ***Drilling Program***

Between November 14, 2017 and November 12, 2018, one hundred and twelve (112) holes were drilled for a total of 42,040 m (Table 11). The program tested a variety of targets—regional geophysical anomalies, BHEM modelled conductors, areas of anomalous gold in BOT samples—as well as defining and expanding the CAS zones. Infill drilling within these zones was also part of this campaign (AEM, 2018; Barsele, 2018).

Forty (40) holes were drilled in the CAS zones during this period (AVA, CNT and SKI prefixes) for a total of 19,545 m. The drilling results appear to confirm the continuity of these zones and, by November 12, 2018, they remained open in every direction (Barsele, 2018).

Holes SKI18009 and SKI18010, respectively 827.7 m and 749.4 m long, were drilled 600 m to the east of the Skiråsen Zone to test a regional VMS target and to follow up on previously intersected massive pyrrhotite/pyrite mineralization. Hole SKI18009 intersected 1.12 g/t Ag and 0.12% of Zn over 6 m (estimated true thickness) associated with semi-massive, banded to brecciated pyrrhotite mineralization from 770 m to 792 m downhole. Another anomalous base metal zone was encountered in black schist with late carbonate-sulphide veins at a downhole depth of 728.0 m, grading 7.13 g/t Ag, 0.04% Cu, 0.41% Pb and 0.61% Zn over 2.25 m (estimated true thickness). Hole SKI18010 did not return any significant gold or base metal grades (AEM, 2018).

Twenty-two (22) holes (8,138 m) were drilled in the Risberget Zone to expand known mineralization, mainly down dip. The zone remains open down dip, but holes RIS18001 and RIS18004 constrained the zones to the east and west, respectively, as no significant gold intervals were encountered at the depths where the lodes were expected.

At the Norra VMS Zone, the holes tested a down-hole BHEM-conductor, but did not yield any significant intercepts although occurrences of sphalerite (zinc) and chalcopyrite (copper) were noted in the drill logs (Barsele, 2018).

Along the Stentjärnen trend, which is characterized by a magnetic low zone running parallel to the CAS zones, hole NOR18007 cut a core length of 3.2 m (estimated 2.3 m true thickness) grading 2.97 g/t Au. Apart from three holes with minor zinc intercepts, and a fourth hole with a minor gold intercept, the majority of the holes did not encounter mineralization along the Stentjärnen trend (AEM, 2018; Barsele, 2018).

In the Skirliden Zone, approximately 800 m SE from the Skiråsen Zone, hole SKL18001 intersected 13 m of semi-massive and massive sulphide (pyrrhotite) mineralization from 1,247 m to 1,260 m down hole, at a vertical depth of 800 m. Assay results indicate only anomalous gold values with the best being 0.18 g/t Au over 1 m and 0.15% Zn over 4 m, but the host rock setting and the nature of the sulphides suggest a distal expression of a VMS system. The BHEM survey demonstrates a strong continuous EM signal vertically upwards (AEM, 2018). Holes SKL18002 to SKL18007 and SKL18009 tested shallower targets (conductors and magnetic anomalies) but did not return significant results. Hole SKL18008 tested a possible VMS target at a shallow level and the extension of the mineralized granodiorite in the Skiråsen Zone at greater depth. It intersected mineralized and altered zones at the following depths: 335 m to 424 m, 778 m to 833 m, 873 m to 889 m, 924.75 m to 953.5 m, and 1093 m to 1094 m. It returned only one narrow, gold-bearing zone of 1.7 g/t Au over 1.5 m hosted in a major shear structure of the Skiråsen Zone.

A regional program (holes NOR17010 to NOR17015, NOR18022 to NOR18026 and all holes with prefixes ASP, ESB and KOH) tested shallow regional VMS targets associated with processed SkyTEM airborne EM and Mag anomalies and till geochemical anomalies. None of these holes intersected significant gold or other metals associated with VMS deposits.

**Table 11 – Drilling summary: November 14, 2017 to November 12, 2018**

Hole ID	Northing	Easting	Elevation	Length	Year
ASP18001	7225375	616509	388	174	2018
ASP18002	7225816	616422	417	217	2018
ASP18003	7226309	616608	383	177	2018
ASP18004	7227230	614386	399	240	2018
ASP18005	7226605	614358	346	117	2018
ASP18006	7226755	613660	335	161	2018
ASP18007	7228290	612770	313	172	2018
AVA18001	7215478	617171	302	448	2017

Hole ID	Northing	Easting	Elevation	Length	Year
AVA18002	7215319	617320	303	444	2018
AVA18003	7215319	617321	303	309	2018
AVA18004	7215319	617320	303	371	2018
AVA18005	7215264	617478	305	428	2018
AVA18006	7215264	617478	305	411	2018
AVA18007	7215513	617031	303	461	2018
AVA18008	7215507	617026	302	144	2018
AVA18009	7215912	617451	362	491	2018
AVA18010	7215017	617790	320	414	2018
AVA18011	7215263	617478	305	464	2018
AVA18012	7215467	617576	313	450	2018
AVA18013	7215480	617748	323	434	2018
CNT18001	7215262	618311	319	499	2018
CNT18002	7214707	618412	331	770	2018
CNT18003	7215264	618311	318	779	2018
CNT18004	7214748	618285	330	914	2018
CNT18005	7215080	617910	341	480	2018
CNT18006	7215028	617992	347	308	2018
CNT18007	7215110	618664	300	51	2018
CNT18007B	7215111	618660	300	938	2018
CNT18008	7214963	618662	313	125	2018
CNT18009	7214943	618662	315	125	2018
CNT18010	7214983	618664	312	134	2018
CNT18011	7214323	618144	330	251	2018
CNT18012	7214664	618974	311	551	2018
ESB18001	7222690	616584	297	192	2018
KOH18001	7218934	612798	394	230	2018
NOR17010	7218031	617602	352	299	2017
NOR17011	7218156	618317	335	314	2017
NOR17012	7218046	617611	353	228	2017
NOR17013	7217868	617290	351	323	2017
NOR17014	7218543	618063	322	241	2017
NOR17015	7218101	617385	362	221	2017
NOR18001	7216914	617032	339	604	2018
NOR18002	7216671	616878	338	509	2018
NOR18003	7216869	616365	340	245	2018
NOR18004	7216778	616394	340	218	2018
NOR18005	7216779	616394	340	263	2018

Hole ID	Northing	Easting	Elevation	Length	Year
NOR18006	7216670	616878	338	851	2018
NOR18007	7216634	616663	342	365	2018
NOR18008	7216629	616660	342	286	2018
NOR18009	7216496	616786	337	227	2018
NOR18010	7216502	616789	338	332	2018
NOR18011	7216501	616789	338	326	2018
NOR18012	7216817	616518	341	326	2018
NOR18013	7216822	616521	341	232	2018
NOR18014	7217045	616404	342	374	2018
NOR18015	7216323	617199	340	167	2018
NOR18016	7216576	616951	338	308	2018
NOR18017	7216840	616867	334	254	2018
NOR18018	7216329	617202	340	125	2018
NOR18019	7216321	617198	341	101	2018
NOR18020	7216253	617389	326	143	2018
NOR18021	7216257	617391	325	229	2018
NOR18022	7218507	617061	360	268	2018
NOR18023	7218702	617519	349	212	2018
NOR18024	7219012	618949	300	222	2018
NOR18025	7217482	619954	282	158	2018
NOR18026	7217767	619426	299	243	2018
RIS17011	7213962	621882	281	406	2017
RIS17012	7213843	621769	281	175	2017
RIS17013	7213839	621770	281	344	2017
RIS17014	7213601	622999	303	348	2017
RIS17015	7213686	623072	295	356	2017
RIS17016	7213980	622866	276	384	2017
RIS17017	7213591	622330	304	412	2018
RIS17018	7213630	623213	297	458	2017
RIS17019	7213980	622866	276	420	2017
RIS17020	7214005	622961	276	311	2017
RIS17021	7213617	623314	308	312	2017
RIS17022	7213979	622866	276	284	2017
RIS17023	7214005	622961	276	396	2017
RIS17024	7213597	623420	308	284	2017
RIS18001	7214119	623076	270	362	2018
RIS18002	7213909	622794	278	447	2018
RIS18003	7213864	622684	276	513	2018

Hole ID	Northing	Easting	Elevation	Length	Year
RIS18004	7213686	622635	288	479	2018
RIS18005	7213643	622420	296	480	2018
RIS18006	7213865	622689	276	497	2018
RIS18007	7213897	622957	280	257	2018
RIS18008	7213901	622959	280	213	2018
SKI17014	7214625	619201	297	852	2017
SKI17014B	7214627	619199	297	56	2017
SKI17015	7214541	619034	315	896	2017
SKI17016	7214625	619201	297	816	2017
SKI18001	7214411	619351	301	610	2018
SKI18002	7214412	619351	301	701	2018
SKI18003	7214413	619350	301	53	2018
SKI18003B	7214414	619350	301	890	2018
SKI18004	7214522	619173	304	700	2018
SKI18005	7214625	619201	297	276	2018
SKI18006	7214202	619379	311	899	2018
SKI18007	7214625	619200	297	391	2018
SKI18008	7213684	618370	319	452	2018
SKI18009	7213665	619650	327	762	2018
SKL18001	7214672	620647	297	1331	2018
SKL18002	7214680	620652	296	71	2018
SKL18003	7214923	620876	309	173	2018
SKL18004	7214539	621074	296	185	2018
SKL18005	7214685	621236	292	128	2018
SKL18006	7215546	620690	319	77	2018
SKL18007	7215547	620690	319	189	2018
SKL18008	7215122	620098	294	1154	2018
SKL18009	7214603	621206	293	152	2018

### ***Drilling Methodology***

The list below outlines the procedure followed during the drilling programs covered by this item (slightly modified from the Company's website):

- AE Sweden geologists lay out drill-hole locations in the field. AE Sweden staff supervise pad construction (and later reclamation). Fore-sight/back-sight markers are set to align the direction of drilling;
- Drilling is conducted by ADC Drilling Company of Rovaniemi, Finland, and Kati Drilling of Rautio, Finland. The drills are track-mounted rigs, capable of drilling to 2,000 m. The diamond

drill core is NQ2 size, which provides a large sample, as recommended for the testing of precious metal deposits. Oriented core measurements are done every 3 m;

- Down-hole surveys are conducted at 3-m to 5-m intervals along the drill hole using a GyroSmart or Deviflex survey device, or similar unit, to measure the azimuth and dip of the hole;
- The driller is responsible for ensuring that the core is placed in boxes in the correct order, and for marking the length on tags after each rod-length of core. This step is supervised by the on-duty project geologist;
- After each drill shift, the drillers deliver the core to the AEM core logging facility in the nearby town of Storuman;
- Boxes are then laid out on logging tables and checked to make sure that the core is continuous and in the right order in each box;
- Oriented core is routinely done at the start of each rod run. If oriented marks are present on the core, it is aligned in a 4 m core tray holder so the oriented mark can be fully drawn with arrows indicating the downhole direction. It is always the down (lower) side of the core that is marked;
- The metres are marked by a technician or a geologist on the boxes with blue marker. If core loss occurred, it is systematically marked on the box;
- Measurements of core are taken to determine drill core recovery percentages;
- The boundaries of sections with significantly different rock quality are marked with a green marker on the core boxes. The proportions of core fragments shorter than 10 cm in length are determined for each section to obtain an RQD value. The total length of fragments shorter than 10 cm is recorded, the number of naturally occurring fractures in each section are counted, and if core loss occurs this is also entered in the RQD log that automatically calculates the RQD value for the section. Core recovery percentages are calculated over the same sections;
- All core boxes are then clearly labelled with "from" and "to" lengths in metres;
- Susceptibility measurements are taken at every metre mark along the hole;
- Geological logging is then performed, with the following features recorded in Fusion software:
  - Lithological boundaries
  - Grain size and texture
  - Rock color
  - Alteration type and strength
  - Sulphide type and amount
  - Structural features (e.g., foliation, shearing, brecciation, faulting) and strength
  - Vein type, width and density
  - Alpha and beta angles of features (if core is oriented)
- Sampling intervals are marked with a red marker. Sample boundaries respect lithological boundaries and/or major changes in alteration/mineralization. Sample numbers are written on the core boxes corresponding to the pre-printed sample tags placed in the box for each sample interval;
- A photographic record, both dry and wet, is made for every core box and stored on the computer and an external backup drive.

### **Sampling, Analysis and Data Verification**

This item pertains to AEM's sample preparation, analysis and security procedures for the diamond drill holes between November 14, 2017 and November 12, 2018; that is, the drill holes considered in the current resource estimate. The information was taken from the Barsele QA/QC protocol (Höglund, 2018a). InnovExplo reviewed the QA/QC procedures and results for the holes drilled during the time window mentioned above. The reader is referred to Pelletier and Richard (2018) for details on the 2015, 2016 and 2017 programs.

**Analytical Methods (ALS Minerals and MS Analytical)**

Table 12 lists the methods used for the Project at the primary laboratory, ALS Minerals.

On July 6, 2018, AE Sweden changed the fine crushing method from -70% <2mm (CRU-31) to -85% <2mm (CRU-36). The change was based on the outcome of a study on 60 samples reported to contain visible gold during core logging. The purpose of the study was to compare the assay results between the current preparation and assay method for gold (AU-AA24) with metallic screen (Au-SCR24) and cyanide leach (Au-AA15). Although results from all 3 methods were "more or less the same" (Höglund, 2018b), substantial gold was, sometimes, left in the metallic screen +fraction. It was concluded that one way to potentially upgrade the assay protocol and to lower the amount of +fraction material was to use the CRU-36 crushing method instead of CRU-31.

**Table 12 – ALS Analytical Methods**

<b>Preparation</b>	<b>Description</b>
WEI-21	Received Sample Weight
CRU-QC	Crushing QC test
PUL-QC	Pulverizing QC test
DRY-21	High temperature drying of wet samples in drying oven
LOG-22	Log sample in tracking system, barcode and weight
Log-24	Pulp login – Rcd w/o BarCode
GRU 36	Fine crushing -85%<2mm (changed on the 6 <sup>th</sup> of July 2018 from CRU-31 to CRU-36)
SPL-21	Split sample using riffle splitter
PUL-32b	Pulverizing 1kg sample >95% passing 75µm
<b>Assay Method</b>	<b>Description</b>
Au-AA24	Au Fire Assay – AA on 50g; above 3ppm Au Fire Assay – Gravimetric
Au-GRA22	Au by fire assay and gravimetric finish. 50g nominal sample weight
ME-MS61	48 element for acid ICP-MS (four acid digestion)
ME-O62	Default over limit methods for Ag-OG62, Cu-OG62, Pb-OG62, Zn-OG62
ME-ICP41	35 element Aqua Regia ICP-AES
ME-OG46	Default over limit methods for Ag-OG46, Cu-OG46, Pb-OG46, Zn-OG46

Assay Method	Description
OA-GRA08	Specific gravity of core sample

Two different multi-element options, ME-MS61 or ME-ICP41, can be used with their associated over-limit methods. ME-MS61 and ME-O62 are known as the SWED-Edh6 package, and ME-ICP41 and ME-OG46 are the SWED-Edh7 package.

Table 13 shows the methods used for the Barsele check-assay at the secondary laboratory, MS Analytical Services.

**Table 13 – MS-Analytical Services Analytical Methods**

Preparation	Description
PLG-100	Log sample received as pulp
Assay Method	Description
FAS-121	Au (0.005-10ppm) by fire assay (50g nominal sample weight), aqua regia digest and analysis by AAS
FAS-425	Over limit analysis – Au (0.5-1000ppm) by fire assay (50g nominal sample weight) and gravimetric finish. Used for Au over limits >3ppm from method FAS-121

The pulps are also homogenized at either the ALS preparation laboratory in Piteå, Sweden or the MS Analytical preparation laboratory in Storuman before sending a 150 g split of the pulp sample to MS Analytical for the check-assay.

#### **Laboratory Preparation and Assays**

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) form the specialized system for worldwide standardization. ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories sets out the criteria for laboratories wishing to demonstrate that they are technically competent, operating an effective quality system, and able to generate technically valid calibration and test results. The standard forms the basis for the accreditation of competence of laboratories by accreditation bodies. ISO 9001 applies to management support, procedures, internal audits and corrective actions. It provides a framework for existing quality functions and procedures.

For the drilling program, the ALS Minerals sample preparation facilities (Roşia Montană in Romania and Loughrea in Ireland) were used. Both facilities received ISO/IEC 17025:2017 accreditation. Both laboratories are commercial laboratories independent of the Company and neither has an interest in the Project.

#### **Quality Control and Quality Assurance (QA/QC)**

The drill core quality control program established by AEM includes the insertion of blanks, standards (certified reference material) and duplicates in the flow stream of core samples. QA/QC sample locations are predetermined.

QA/QC reference samples are numbered with same core sample ID series (e.g., for Barsele SEEXD). Standards have been used since AEM has been the project operator. One of three different gold standards: low-, moderate- and high grade or one blank sample has been inserted in the sample sequence. Since mid-December 2015 (since batch E15535), a coarse reject duplicate (previous sample in the sequence is the mother sample) is also inserted into the sample sequence. Since September 13, 2016 (batch E16583) a field duplicate is also part of the QA/QC protocol. This field duplicate sample gets its own sample number and is the ¼ core sample of the previous sample, leaving a ¼ core as a reference sample in the core box instead of ½ core. Only gold is assayed on field duplicates, no multi-element suites.

Every 30th sample is a field duplicate and each 10th sample in between is either one of three standards a blank sample or a coarse reject duplicate.

ALS puts in two standards and three duplicates for every 35 sample runs. Check assay samples are done if any of these in-house standards fails or if some other deviations are observed, such as individual high-grade sample occurs or if contamination is suspected.

The tolerance levels used by ALS are:

- Au-AA24: 10% and 6% for the CRM (certified reference material);
- ME-MS61: 10% for each element except for Ba (15%), Cu (7%), Sb (15%), Tl (15%), W (15%) and the same tolerance levels for the CRMs.

**Certified Reference Materials (Standards)**

For gold mineralization, three different CRMs are used (low, moderate, high-grade) and for VMS-type mineralization, three other CRMs are used (low, moderate, high-grade). The CRM used for VMS-type mineralization is certified for five elements: Au, Ag, Cu, Pb and Zn.

InnovExplo has validated the results of the CRMs used by AEM for the drilling program of November 2017 to November 2018 on the Project. Of the 1,342 CRM inserted, 15 failed, resulting in 98.9% passing the quality control (Table 14).

InnovExplo is of the opinion that AEM's QC procedure of using blanks to monitor contamination in drilling programs is valid and the data reliable.

**Table 14 – Gold Results for Standards used by AEM between November 14, 2017 and November 12, 2018.**

CRM Type	Laboratory	Quantity Inserted	Accuracy %	Precision %	Outliers	Gross Outliers	% passing QC
Au-LG	ALS	340	1.3	3.8	5	0	98.5
Au-MG	ALS	430	1.6	3.6	0	0	100.0
Au-HG	ALS	377	0.1	2.5	0	0	100.0
Au-LG(2)	ALS	86	0.5	3.1	9	0	89.5
VMS-LG	ALS	46	-0.2	3.0	1	0	97.8
VMS(MG)	ALS	32	-1.2	1.0	0	0	100.0
VMS-MG(2)	ALS	2	-1.4	3.8	0	0	100.0
VMS-HG	ALS	29	-0.3	2.4	0	0	100.0

(LG=Low grade; MG=Moderate grade; HG=High grade. Au-LG2 replaced Au-LG when the CRM became unavailable. VMS-MG(2) replaced VMS-MG when the CRM became unavailable).

### **Blank Samples**

The blank rock material originates from an olivine diabase quarry in Finland. The composition has been studied by the Geological Survey of Finland (2012) and 10 new samples were sent to Actlabs in Finland for assaying in September 2015. All samples returned gold grades below detection limit <5 ppb Au (Höglund, 2018). The fist-sized rocks from the quarry are packed in a numbered sample bag together with an AE Sweden barcoded sample tag. Contamination is monitored by the routine insertion of a barren sample (blank) which goes through the same sample preparation and analytical procedures as the core samples. The blanks are submitted with samples for crushing and pulverizing to determine if there has been contamination or sample cross-contamination in preparation. Elevated values for blanks may also indicate sources of contamination in the fire assay procedure (contaminated reagents or crucibles) or sample solution carry-over during instrumental finish. Of the 490 analyzed blank samples, one (1) returned a grade above the maximum accepted value of three times the detection limit (0.015 ppm).

### **Duplicates**

#### Coarse Reject Duplicates

Coarse-reject duplicate samples are prepared from original samples by splitting the crushed sample into two equal samples, which are then pulverized and analysed separately. Duplicate samples were introduced on February 15, 2016 to the QA/QC protocol. For the current period a total of 432 coarse-reject samples have been assayed. Repeatability has been good with R2 = 0.939 on holes drilled between November 14, 2017 and November 12, 2018.

#### Field Duplicates

Field duplicate samples are taken every 30th sample and sent for assaying. For the period, a total of 1,032 field duplicate samples have been assayed. Repeatability has been moderate, with R2 = 0.679. This field duplicate sample gets its own sample number and is ¼ core sample of the previous sample. That means ¼ core is left as a reference sample in the core box, instead of ½ core. According to AE Sweden the lower R2 value and the difference in basic statistics can be expected in field duplicates since the Barsele deposit contains free visible gold.

InnovExplo agrees with this statement. The moderate repeatability shows that gold distribution in the core is heterogenous.

### **Check Assays**

Check assays are part of AEM's QA/QC protocol. For the period, a total of 3,582 samples analysed by AA24 method (including standards, blanks and duplicates) were sent to the secondary laboratory (MS Analytical) for check assays. Repeatability has been good with R2 = 0.9517. A total of 94 samples from GRA22 method were sent to MS Analytical (n=94) on holes drilled between November 14, 2017 and November 12, 2018.

Repeatability has been good with R2 = 0.9998.

### **Agnico Eagle Sweden QA/QC Review**

Control charts are created in Fusion when the geologist is importing the assay results. If any of the standards or the blank results fail (= outside  $\pm 2SD$ ) these are logged into a table called "Failed-batches". The geologist reports this to the project manager Kåre Höglund who decides case by case if any action is to be taken; e.g., a) no action needed, b) part of batch re-assayed or c) re-assaying of entire batch is required. If two or more standards in a batch are clearly outside the  $\pm 2SD$  then selected parts of the batch or the entire batch are re-assayed if no other logical explanation is found for the outliers. No action has

been taken on batches that have had 1-2 failed standards returning grades just at the margin of the upper or lower  $\pm 2SD$  limits.

### ***InnovExplo Opinion***

InnovExplo is of the opinion that the sample preparation, analysis, QA/QC and security protocols used for the Project follow generally accepted industry standards (Rafini, 2013), and that the data is valid and of sufficient quality to be used for mineral resource estimation.

### ***Data Verification***

The co-author, Carl Pelletier, P.Geo., visited the Barsele Project from October 29 to October 31, 2018, accompanied by Art Freeze, P.Geo., for the Company. During the site visit, the co-author examined the logging facilities, reviewed the drill core and collar locations, and held many discussions with on-site geologists and technicians. Some of the data validation took place before and after the site visit.

The database provided by the Company (the "**Barsele database**") contains 779 DDH, all from surface. This total includes 89 new drill holes (the 2017-2018 drilling program) completed since the database close-out date for the 2018 MRE (Pelletier & Richard, 2018).

InnovExplo's data verification is a review of drill hole collar locations, selected core intervals, gold assays, the QA/QC program, downhole surveys and the descriptions of lithologies, alteration and structures.

InnovExplo is of the opinion that the data verification process demonstrates the validity of the data and protocols for the Project. InnovExplo considers the database to be valid and of sufficient quality to be used for the mineral resource estimate herein.

### ***Historical Work***

Historical work subject to verification consisted of the DDH included in the 2018 MRE (Richard et al., 2018). Basic cross-check routines were performed between the Barsele database and the previously validated database for the 2018 MRE (i.e., collar, down-hole surveys, assay field "Au"). Any discrepancies were corrected and incorporated into the current resource database.

### ***Barsele Database***

Every drill collar on the deposit was surveyed by an AEM technician using a Trimble Geo7x high precision GPS.

Drilling was underway when the author visited the site.

The author was able to confirm the location of many casings using a handheld GPS during the site visit. Good accuracy was obtained when the onsite readings were compared to the coordinates in the GEMS database. The database of collar locations is considered adequate and reliable.

Project coordinates are in SWEREF99.

Downhole surveys were conducted on the majority of the holes. Most recent drill holes (2015-2018) had DeviFlex and DeviShot multi-shots taken every 3, 4 or 5 m. For drilling programs before 2015, measurements were generally taken every 4 metres.

The survey information was verified for 5 percent of the 2017-2018 drilling program. Any discrepancies found were corrected and incorporated into the current resource database.

InnovExplo was granted access to the assay certificates for all requested drill holes. The reviewed holes represent 5 percent of the 2017-2018 drilling program. Very few errors were noted in the Barsele database, and these were considered minor and of the type normally encountered in a project database.

None of the observed errors would affect the integrity of the Barsele database and it is considered to be of very good overall quality. InnovExplo considers the Barsele database for the Project to be valid and reliable.

### ***Mined Out Voids***

No underground or open-pit historical depletions are present on the Project.

### ***Logging, Sampling and Assaying Procedures***

The author reviewed several mineralized core sections while visiting the core storage facility in the vicinity of the Barsele Project. All core boxes were labelled and properly stored. Sample tags were still present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in half-core reference samples from the mineralized zones. QA/QC samples were clearly identified.

The author reviewed the entire path taken by the drill core, from the drill rig to the logging and sampling facility, it was deemed adequate. Core sample lengths were also reviewed.

Overall, InnovExplo is of the opinion that the data verification process demonstrates the validity of the data and protocols for the Project. InnovExplo considers the database to be valid and of sufficient quality to be used for the mineral resource estimate herein.

### ***Security of Samples***

#### Core Handling, Sampling and Security

At the core logging facility, core boxes are delivered after each shift at AE Sweden logging facility. Drill core is logged and sampled by experienced geologists or by a geologist-in-training under the supervision of a qualified geologist. Samples usually range from 0.5 m to 1.5 m in length (mainly 1.0 m long) and sample contacts respect lithological contacts as well as changes in the appearance of mineralization or alteration (type and/or strength). Sample numbers are written on the sampled core intervals corresponding to pre-printed sample tags for each interval.

#### Sample Preparation

- An AEM geologist or technician emails the sawing list in "xlsx" and "pdf" format and prints out shipping/batch numbers on paper to be included with the pallet shipped to the MS Analytical facilities of A2 Global ("MS Analytical") as they are responsible for core cutting;
- The core boxes are then moved from the logging facility to the MS Analytical core sample preparation area in Storuman;
- MS Analytical pre-labels sample bags with bar coded tags containing information about; client, sample type, sample number, position in the sampling sequence and batch number;
- Sawing is done with an automated NTT Core saw; one box row is sawed at a time and half the core is placed in its respective sample bag along with an AEM sample tag. If oriented core is sawed, the part with the orientation line remains in the box and the other half is sent to the laboratory;
- SG measurements are done after sawing;
- Commercial geostandard samples, blank sample of barren rock or duplicate sample, are inserted every 10<sup>th</sup> sample as an analytical check for laboratory batches. These geostandards represent a range of values for gold;

- Sample bags are then closed and packed in large wooden shipping crates. These crates are labelled with the batch number and the company name. The laboratory instruction sheet is placed in crate #1 of each sampling batch;
- The remaining half of the drill core is transported to a secure core storage facility;
- AEM personnel move the crates with the half core samples from the MS Analytical core sample preparation area in Storuman. Thereafter an external transport company (Karlssons Åkeri AB) transports them to the ALS Laboratory ("ALS") in Malå, Sweden;
- From this point onward, ALS takes responsibility for the samples. This is where the samples are crushed and a sub-sample is pulverized. The pulverized pulp is placed in kraft sample bags and the un-pulverized portions are returned to the original sample bags;
- ALS ships the remainder of the crushed samples, referred to as sample rejects, back to Storuman for storage. The sample rejects are thus available for re-testing when required. The sample pulps are shipped to ALS in Romania for gold analysis, and to Ireland for multi-element ICP analysis;
- In Ireland, the sample pulps are analyzed by ICP-AES (ME-MS61) for 48 elements and gold is tested by fire assay with AAS or gravimetric finish depending on the grade (Au-AA24 and Au-GRA22). Each method has a lower and upper calibration range for which results are accurately determined;
- Samples returning grades above the method limit are assayed with the over-limit method ME-062 for Ag, Cu, Pb and Zn;
- ALS puts in 2 standards and 3 duplicates for every 35 sample runs. Check assay samples are done if any of these in-house standards fail, or if some other deviations are observed (e.g., an individual high-grade sample occurs or contamination is suspected).

Approximately 10% of assays are also sent to MS Analytical in Langley, British Columbia (Canada) for secondary laboratory check assays.

#### QA/QC and Database Compilation at Barsele Minerals in Sweden

- Results are tabulated on spreadsheets and emailed to AEM geologists. Originals of the assay certificates are sent as PDF files and the certificates are printed out and stored on location in Storuman;
- Upon receiving completed analytical results, geologists then extract the duplicate and standard samples to compare the expected values versus tested values;
- The spreadsheet information for drill hole samples is then matched with sampling intervals and geological observations for interpretation;
- Results of the merged data are then sent to AEM management, along with a statement of the QA/QC acceptability of the analytical batch, for inclusion into the project database.

Once verified by AEM, the Company's management periodically prepares news releases to publicly disclose NI 43-101 compliant drilling data. A QP signs off on news releases containing technical data.

#### **Mineral Processing and Metallurgical Testwork**

The information in this section was obtained from the June 2015 NI 43-101 report by Giroux et al. (2015). AEM has not conducted new mineral processing or metallurgical testing since the JV with the Company.

In 1992, Terra completed a number of copper and zinc flotation tests from a large bulk sample of Norra mineralization (sample size unknown) at the Boliden plant. The specific gravity used in the Norra model was derived from this bulk-test conducted by Boliden for Terra Mining in 1992. The conclusions derived from this test are from Noren and Bolin (1992) as presented in Giroux et al. (2015):

- A copper concentrate with a grade of 16.5% Cu and a copper recovery of 78% is possible to produce. The gold recovery to this concentrate is low (32%) and at the same time there is a

selectivity problem towards arsenopyrite. The selectivity copper-arsenopyrite is improved when dextrin is added in the flotation.

- A zinc concentrate with a grade of 50% Zn grade and a zinc recovery of 75% is possible. The low zinc grade is caused by co-floating arsenopyrite.
- The results for gold indicate that a high percentage of gold content is included in arsenopyrite and thereby difficult to recover with good economy.

As far as InnovExplo is aware, the only other mineralogical or metallurgical studies before 2004 are summarized in a report by Barry et al. (2006) and reproduced in Giroux et al. (2015).

In 1995, Anamet Services in Bristol, England carried out mineralogical and preliminary metallurgical test work on a 1,000-kilogram split of a 100-ton bulk sample of mineralized rock, collected by Terra personnel, excavated from a trench at the northwestern part of the Barsele Central Zone (Reynolds, 1996).

The gold mineralization predominantly consists of particles of electrum (natural alloy of gold and silver), ranging up to 160 microns but rarely exceeding 15 microns. Most of the electrum is present along grain boundaries within phyllosilicate-rich concentrations consisting of chlorite, biotite and sericite.

Refractory gold content was about 8 percent by weight, mostly consisting of tiny inclusions of electrum encapsulated in arsenopyrite. Knelson gravity concentrator tests were not successful in generating satisfactory recoveries to produce commercially viable gold-concentrates. Energy requirements for grinding the mineralized material are predicted to be high – the Bond work index (Wi) determination carried out on minus 3.35-millimetre (mm) material yielded a Wi value of 14.5 kilowatt-hour/tonne.

Direct cyanidation of samples wet ground to 80 percent passing 170 microns and 62 microns (after leaching for 24 hours) yielded gold dissolutions of 85.9 percent and 92.9 percent, respectively. Calculated cyanide consumptions were 0.84 kilograms/tonne (kg/t) and 1.41 kg/t, respectively.

Direct cyanidation of samples crushed to pass 5.56 mm, 3.35 mm and 2.00 mm yielded gold dissolutions of 52.9 percent, 66.1 percent and 72 percent after 72 hours; calculated cyanide consumptions were 0.55 kg/t, 0.69 kg/t and 1.42 kg/t.

The average head-grade of the sample was 5.1 g/t Au and 4.3 g/t Ag, and therefore significantly higher in grade and may not be representative of the Barsele Central Zone as a whole.

In 2004, as part of their QA/QC, Northland sent 21 drill core pulp samples from the Barsele Project, ranging in value from 1.12 g/t Au to 6.49 g/t Au, to ALS Chemex Vancouver for accelerated cyanide leach determination. The results indicated an average cyanide soluble recovery of 93.5%. An additional 11 pulp samples from the Barsele Project, ranging in value from 1.10 to 14.08 g/t Au, were analyzed by a similar method in 2005 by Omac Laboratories of Galway, Ireland. Results were similar, indicating 92% cyanide soluble recovery. Three bottle roll tests were conducted on prepared core by Kappes Cassidy in 2004 with an indicated average recovery of 87%. Seven specific gravity determinations were completed by Golder and Associates on whole core from the Barsele Project in 2004. The results ranged from 2.71 to 2.75 with an arithmetic average of 2.73.

It is believed that the 2004 Northland sampling for cyanide leach determination was representative of the Central Zone deposit. It is not known if the 1995 Terra 1-tonne bulk sample was representative.

The Norra V-HMS style of mineralization is not the primary focus of future exploration programs. Some work has been done in an attempt to expand the size of the known mineralized body. With success, this work will trigger new metallurgical studies.

## **Mining Operations**

This is an exploration site. There are no pending mining extraction activities at this point in time.

## **Processing and Recovery Operations**

This is an exploration site. There are no pending processing or recovery operations at this point in time.

## **Infrastructure, Permitting and Compliance Activities**

### ***Statements Regarding Swedish Mining Law***

Most of the following information of this chapter was taken from the Geological Survey of Sweden (SGU, 2006). Additional sources are cited accordingly. According to Giroux et al. (2015), the underlying title to mineral resources in Sweden is held by the Crown, administered by the Chief Mining Inspectorate. Sweden introduced a modern minerals policy in July 1992 (Minerals Act 1991:45, the "**Minerals Act**") allowing for and governing exploration and extraction of "concession minerals" (base and precious metals, industrial minerals and hydrocarbons). Before 1992, exploration and mining were controlled by the State. The Minerals Act applies to exploration and exploitation on land regardless of surface ownership (surface and minerals are severed). Exploration and mining can only be carried out by the holders of exploration permits and exploitation concessions, respectively, as described below (SGU, 2006). There is no distinction between Swedish residents and non-residents holding exploration permits and exploitation concessions, however work must be carried out through a registered Swedish branch office (Act 1992: 160 and Ordinance 1992:308). An exploration permit, or exploitation concession is transferrable with the consent of the Mining Inspectorate.

Swedish mineral policy and mineral titles are considered safe and secure by international standards. In addition, the Swedish government offers fiscal incentives to mining and exploration companies. The mining industry is an important job creator in northern Sweden and consequently the Swedish government makes significant contributions towards mine infrastructure and the salaries and wages of Swedish citizens hired by mining companies. The interest and importance of mining in Sweden has helped ensure that there are plenty of well-trained and experienced people in the mining industry.

### ***Exploration Permit***

An exploration permit is granted for a specific area where there is some likelihood of a successful discovery being made. It should be of suitable shape and size and no larger than may be assumed can be explored by the permit-holder in an appropriate manner. Within a distance of 1,000 m from an exploitation concession with a mine in operation an exploration permit must only be granted to the concession-holder.

If mining operations do not commence within three years from the granting of the concession, exploration permits can be issued until the mining activity begins. An exploration permit is valid for a period of three years from the date of issue. After that, on application, it may be extended by another period of up to a maximum of three years if suitable exploration has been carried out within the area. The same is valid if the permit-holder has plausible excuses for exploration not yet having been carried out but nonetheless shows it likely that the area will be explored during the period referred to in the application. In exceptional cases the period of validity of the permit may be further extended but for no more than a total of four years and in extreme cases, by a further maximum of five years. This means that the longest possible valid period for any one permit is 15 years.

When an exploration permit has expired, an application will not be considered for the same area or part of it during the first year after the permit was terminated. If special reasons apply, the Mining Inspector may allow an exception to be made from that provision.

Exploration and exploitation cannot be carried out in national parks. Such activities are also seldom permitted in other areas such as: closer than 30 m to a publicly owned transportation infrastructure, within 200 m of any inhabited building, in churchyard or other burial grounds, etc.

Before exploration work begins the permit-holder has to set up a working plan. The plan shall contain a description of the work planned, a timetable and an assessment of the impact on private rights and public interests. The plan shall be communicated to all landowners and other parties affected. A working plan will enter into force if there are no objections. It will also enter into force if the applicant and the objecting party can agree on the plan. If they cannot agree, the matter can be tried by the Mining Inspector, who in some cases can set up conditions for the exploration work. The explorer has to submit security for the compensation of damage and encroachment from exploration work. Before any work can start the sum of security has to be guaranteed.

Permits titled "Prohibited" reflect a level of exploration work below the obligation value under Swedish mineral title law. After a permit has been declared lapsed from insufficient exploration or development activity there is a period of one year where no one can apply for a permit in the lapsed permit areas and no work can be carried out on the prohibited permit areas by anyone. After the "prohibited year", the permits become available for relocation. Generally, permits located within a group of valid permits are offered to the surrounding permit holder first. This has been the case for the prohibited permits for "surrounded lapsed" areas on the Barsele Project.

### ***Exploitation Concession***

A concession is valid for a definite area, which is decided on the basis of the extent of the deposit, the purpose of the concession and other circumstances. A concession shall be granted if:

- A mineral deposit has been found which can probably be exploited economically;
- The location and nature of the deposit does not make it inappropriate that the applicant is granted the concession requested.

The Environmental Code (1998:808) shall be applicable in matters concerning the granting of a concession, which means, among other things, that an environmental impact statement shall be contained in an application for a concession.

An exploitation concession is granted for a period of 25 years. The concession period is extended by 10 years at a time without application if regular exploitation is in progress when the period of validity expires. A shorter period may be decided at the request of the concession-holder.

A legal proceeding for designation of land is held at the request and cost of the concession-holder (see Minerals Act, Chapter 9, Section 20.) This determines the land within the concession area that the concession-holder may use for exploitation of the mineral deposit. A decision is also taken regarding the land, within or outside the concession area, which the concession-holder may use for activities related to the exploitation. In this connection the nature of the activity shall be stated. When an exploitation concession is terminated, the concession-holder shall, at that date, forfeit the right to land assigned to him.

### ***Taxes and Other Fees***

The normal corporate income tax rate was reduced, as part of a government reform, from 22% to 21.4%, on December 31, 2018. It is supposed to be reduced again on December 31, 2020 to 20.6%. Apart from this tax, there are no additional special tax regulations which apply to mining. When mining is active, the holder of an exploration concession pays the landowners of the concession area an annual minerals fee of 0.15% of the value of the minerals mined and an additional 0.05% to the State (SGU, 2006).

Current application and exploration fees are nominal. An application fee of SEK 500 (CAD 73) and the same amount for every additional two (2) km<sup>2</sup> is payable when applying for an exploration permit. An exploration fee of SEK 2,000 (CAD 293) per square kilometre is charged for the first three-year period, rising to SEK 2,100 (CAD 307) per square kilometre, per year, for a second three-year period, and SEK 5,000 (CAD 732) per square kilometre, per year, applying to further extensions. Exploration and application fees are paid in advance for the exploration period and extended periods to the Mining

Inspectorates Office. The application fee for an exploitation concession is SEK 80,000 (CAD 11,706) for each concession area regardless of the number of hectares (exchange rates as of early December 2018).

### **Exploration and Exploitation Title Status**

Title status in Sweden was supplied by the Geological Survey of Sweden ("**SGU**"), on February 9, 2019. They provided the status of all exploration permits and exploitation concessions under the form of shapefiles, a file format used to store the geometric location and attribute information of geographic features. Kåre Höglund, Project Manager for AE Sweden, confirmed on February 22, 2019 that the exploration and exploitation titles status comprised in the Barsele Project were identical to AEM records. Table 15 shows the titles status as of that date.

The Project currently consists of one block of 23 granted exploration permits and two exploitation concessions issued by the Chief Mining Inspector, for an aggregate area of 43,481.96 hectares (434.8196 km<sup>2</sup>). Fifteen (15) exploration permits are registered in the name of Gunnarn Mining and five (5) in the name of AE Sweden. Applications have been submitted for one (1) exploration permit for an area of 3,789.71 hectares (37.90 km<sup>2</sup>); registered in the name of AE Sweden. A detailed list of mining titles, ownership and expiration dates is provided in Table 15.

**Table 15 – Title Status of the Barsele Project as of February 22, 2020**

<b>Valid Permits</b>								
<b>STATUS</b>	<b>NAME</b>	<b>AREA</b>	<b>APPL_DATE</b>	<b>VALIDFROM</b>	<b>VALIDTO</b>	<b>COUNTY</b>	<b>MAP</b>	<b>OWNERS</b>
Granted	Gunnarn nr 28	707.40	2015-02-11	2015-04-21	2021-04-21	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 31	1916.17	2017-10-13	2018-02-28	2021-02-28	Västerbottens	23H	Agnico Eagle Sweden AB (100%)
Granted	Gunnarn nr 23	895.91	2014-10-21	2014-12-16	2020-12-16	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 27	1459.47	2015-02-11	2015-04-21	2021-04-21	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 26	118.05	2015-02-10	2015-04-21	2021-04-21	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 36	440.23	2018-01-24	2018-04-25	2021-04-25	Västerbottens	23H	Agnico Eagle Sweden AB (100%)
Granted	Gunnarn nr 25	323.46	2014-09-23	2014-11-26	2020-11-26	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 30	2750.02	2017-01-19	2017-05-11	2023-05-11	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 34	6730.13	2017-10-13	2018-02-28	2021-02-28	Västerbottens	23H, 23I	Agnico Eagle Sweden AB (100%)
Granted	Risberget nr 5	490.27	2014-10-08	2014-11-24	2020-11-24	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 24	680.07	2014-09-23	2014-11-17	2020-11-17	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 22	805.39	2009-07-03	2009-10-06	2023-10-06	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 32	176.39	2017-10-10	2017-12-12	2020-12-12	Västerbottens	23H	Agnico Eagle Sweden AB (100%)
Granted	Gunnarn nr 33	411.98	2017-10-10	2017-12-12	2020-12-12	Västerbottens	23H	Agnico Eagle Sweden AB (100%)
Granted	Gunnarn nr 29	61.19	2016-01-15	2016-03-10	2022-03-10	Västerbottens	23H	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 35	7005.42	2017-10-13	2018-02-28	2021-02-28	Västerbottens	23H, 23I	Agnico Eagle Sweden AB (100%)
Granted	Storuman nr 1	17383.67	2011-01-13	2011-09-19	2020-09-19	Västerbottens	23HNO, 23HNV, 23HSO, 23HSV	Gunnarn Mining AB (100.00%)
Granted	Gunnarn nr 37	3821.65	2019-02-05	2019-07-11	2022-07-11	Västerbottens	23H	Agnico Eagle Sweden AB (100%)
Granted	Gunnarn nr 38	214.07	2020-02-24	2020-07-20	2023-07-10	Västerbottens	23H	Agnico Eagle Sweden AB (100%)
<b>Applied Permits</b>								
<b>STATUS</b>	<b>NAME</b>	<b>AREA</b>	<b>APPL_DATE</b>	<b>VALIDFROM</b>	<b>VALIDTO</b>	<b>COUNTY</b>	<b>MAPPAGE</b>	<b>OWNERS</b>
Applied	Gunnarn nr 110	369.13	2010-12-08	2011-09-09	2020-09-09	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)
Applied	Gunnarn nr 116	119.50	2010-12-08	2011-09-05	2020-09-05	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)

Applied	Gunnarn nr 116 A	1259.71	2010-12-23	2011-09-07	2020-09-07	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)
Applied	Gunnarn nr 68	518.94	2010-12-08	2011-07-14	2020-07-14	Västerbottens	23HSO, 23HSV	Gunnarn Mining AB (100.00%)
Applied	Risberget nr 2	1066.45	2010-10-07	2011-06-27	2020-06-27	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)
Applied	Risberget nr 4	1178.00	2010-10-07	2011-06-27	2020-06-27	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)
<b>Concessions Permits</b>								
<b>STATUS</b>	<b>NAME</b>	<b>AREA</b>	<b>APPL_DATE</b>	<b>VALIDFROM</b>	<b>VALIDTO</b>	<b>COUNTY</b>	<b>MAPPAGE</b>	<b>OWNERS</b>
Granted	Barsele K nr 2	11.25	1999-02-02	2007-06-21	2032-06-21	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)
Granted	Barsele K nr 1	123.24	1999-01-25	2007-06-21	2032-06-21	Västerbottens	23HSO	Gunnarn Mining AB (100.00%)

### **Acquisition of the Barsele Project**

On September 25, 2015, Orex and the Company announced completion of the spin-out of Orex's interest in the Barsele Project to Barsele. The spin-out was effected by way of a plan of arrangement (the "**Arrangement**") pursuant to which all of the common shares of Barsele (the "**Barsele Shares**") were distributed (the "**Spinout**") to the shareholders of Orex (the "**Orex Shareholders**"). Immediately prior to the Spinout, Orex transferred its 45% interest in the Barsele Project, \$500,000 in cash and all of Orex's right, title and interest in and to, and all of its benefits and obligations under, the JVA. Orex retained all of the other assets held by Orex immediately prior to the Arrangement.

In connection with the assignment of the JVA to the Company under the spin-out, Orex was released from substantially all of its obligations under the JVA, other than liabilities arising in respect of conduct that occurred prior to the assignment and Orex's obligations to provide its proportionate share of funds to Gunnarn Mining, the corporate entity in Sweden that owns the Project, to satisfy environmental and other obligations of Gunnarn Mining that arose out of activities conducted prior to such assignment.

### **Previous Agreements and Encumbrances**

The final agreement to acquire the Barsele Project was signed between Orex and Northland on March 22, 2011, replacing the Letter of Intent previously announced October 27, 2010. Northland was to receive a total of US\$5 million in cash over two years from signing, and US\$3.5 million in Orex common shares to be issued over a period of four years from signing of the agreement. Orex also guaranteed a minimum US\$3 million to be spent on the Barsele Project in the first two years following the agreement.

At that time, there were no other known royalties, back-in rights, payments or other agreements and encumbrances to the Barsele Project.

On October 3, 2013, Northland and Orex agreed to amend their agreement as follows:

- The US\$2 million cash payment which was to be paid on April 29, 2013 would be satisfied by the payment of US\$250,000 and the issuance of 3.5 million common shares of Orex to Northland at a deemed price of US\$0.50 per common share (the "**Cash Payment Shares**");
- The remaining two share payments under the agreement would be accelerated and would be satisfied by the issuance of 4 million common shares of Orex to Northland at a deemed price of US\$0.50 per common share (the "**Share Payment Shares**");
- Orex would issue the Cash Payment Shares and the Share Payment Shares (totaling 7.5 million common shares of Orex) to Northland upon receipt of TSXV approval of these amendments.

Orex made these payments prior to October 21, 2013 and that as a result Orex obtained a 100 percent interest in the Project.

On June 11, 2015, Agnico Eagle, through its indirect wholly-owned subsidiary, AE Sweden, acquired a 55% interest in Gunnarn Mining in consideration of an initial payment to Orex of US\$6 million. An additional US\$2 million was payable by AE Sweden, or by AEM on AE Sweden's behalf, to Orex in cash or common shares of AEM at AE Sweden's election on each of the first and second anniversaries of the closing of the transaction.

As part of the transaction and in accordance with the terms of the JVA, AE Sweden committed to spend US\$7 million on Project expenditures over three years. Also, pursuant to the JVA, if AEM or AE Sweden prepares a pre-feasibility study on the Project and contributes it to Gunnarn Mining, AE Sweden's interest in Gunnarn Mining will increase to 70 percent and Barsele's interest in Gunnarn Mining will be reduced to

30 percent. Until such pre-feasibility study is contributed to Gunnarn Mining by AEM or AE Sweden, all costs and expenses of Gunnarn Mining will be for the account of AE Sweden and, following the completion of such pre-feasibility study, all costs and expenses of Gunnarn Mining will be shared by AE Sweden and Barsele in accordance with their proportionate interest in Gunnarn Mining.

Orex currently holds a 2% NSR on the Barsele Project which may be repurchased by Agnico Eagle at any time for US\$5 million.

## **Permits**

Before exploration work begins, the permit holder must set up a working plan (a "**Plan of Operations**"). The Plan of Operations shall contain a description of the work planned, a timetable, and an assessment of the impact on private rights and public interests. The Plan of Operations shall be communicated to the landowners, the holder of any special right who is affected, the municipality and the county administrative board. The Plan of Operations shall be concurrently submitted to the Mining Inspector. If the exploration work is to be performed in a reindeer herding district, the valid Plan of Operations must also be sent to Sametinget (the Sami Parliament).

A Plan of Operations will enter into force if there are no objections, or, if the applicant and objecting party can agree on a suitable resolution to such objections. Objections to the contents of the Plan of Operations shall be made in writing and shall reach the permit holder within three weeks of the Plan of Operations being served. If the applicant and objecting party cannot agree, the matter can be tried by the Mining Inspector, who can set up the conditions of the exploration work.

The time period for obtaining a Plan of Operations is normally less than six weeks. Airborne surveys and other non-surface disturbance activities do not require a formal Plan of Operations or individual landowner contact, but must be posted in a local newspaper or filed with the news service.

The explorer shall submit security for compensation of damage and encroachment from exploration work. Before any work can commence, the sum of security must be guaranteed. Such compensation is set by guidelines established by the Mining Inspectorates Office. In the case of the Barsele Project, compensation is generally awarded to the landowners for any timber or seedlings that are damaged or removed during drilling and trenching operations. The amount of compensation is considered nominal.

## **Environment**

To the extent known, the Barsele Project is compliant with the Swedish environmental regulations and standards and has no environmental liabilities. All Canadian based mining companies and exploration professionals are expected by the public and their professional associations to use best practices to ensure minimal damage to the environment. Regional water sampling, fauna and flora inventory and some hydrological investigations and studies are on-going.

Migratory trails and resting places for reindeers are present in the exploration permits and exploitation concession Knr2 and pass near exploitation concession Knr1. Reindeer herding is a traditional way of life for some of the Sami people.

AEM and the Ubmeje Tjåldie Saami village council hold meetings when necessary and have been working together in the best interest of both.

InnovExplo's opinion is that the relation between Sami citizens and AEM is good.

## **Capital and Operating Costs**

Mineral resources were compiled using a minimum cut-off grade for three potential extraction method scenarios: 0.5 g/t Au for open pit, 1.5 g/t Au for underground bulk and 1.8 g/t Au for underground selective.

Specific extraction methods are used only to establish reasonable cut-off grades for various portions of the deposit. No PEA, PFS or FS studies have been completed to support economic viability and technical feasibility of exploiting any portion of the mineral resource, by any particular mining method.

The cut-off grade must be re-evaluated in light of prevailing market conditions and other factors, such as gold price, exchange rate, mining method, related costs, etc.

Parameters used to determine such cut-off are presented below in Table 16.

**Table 16 - Input Parameters used for the Cut-off Grade Estimation**

Parameter	Value for open pits	Value for underground selective	Value for underground bulk	Unit
Gold price	1 300	1 300	1 300	USD/oz
Royalty	2.0%	2.0%	2.0%	%
Royalty	26.00	26.00	26.00	USD/oz
Refining cost	5.00	5.00	5.00	USD/oz
Selling cost	31.00	31.00	31.00	USD/oz
Processing cost	15.00	15.00	15.00	USD/t milled
Metallurgical recovery	92.6%	92.6%	92.6%	%
Mining dilution	0.0%	0.0%	0.0%	%
Mineralized material premium mining cost	-	45.00	35.00	USD/t milled
Rehandle Cost	-	-	-	USD/t milled
G&A	5.00	8.00	8.00	USD/t milled
Rehabilitation	-	-	-	USD/t milled
Stay-in-business Capital	-	-	-	USD/t milled
Total Mineralized material Based Cost	20.00	68.00	58.00	USD/t milled
Cut-Off Grade	0.5	1.8	1.5	g/t Au

Using the parameters shown in the table above, cut-off grades were calculated as follows:

$$CoG_{UG} = \frac{(Processing + G\&A + Rehandle + Mining + Stay\ in\ business\ capital + Rehab.)}{(Gold\ price - Sell\ cost) \times Metallurgical\ recovery}$$

### Exploration, Development and Production

Exploration is ongoing and the details of that work have been previously presented. There is no planned mine development or mine production at this time.

### OTHER PROJECTS

The Company has no exploration or potential mining related projects other than the Barsele Project.

## RISK FACTORS

An investment in the Shares should be considered highly speculative due to the nature of the Company's business and its earlier stage of development. Investments in mineral exploration and development issuers, such as the Company, involve a significant degree of risk. The exploration and development of the Barsele Project is highly speculative, characterized by significant inherent risk and may not be successful. Metal prices are also subject to significant volatility, which affects the economic viability of the Barsele Project. Anyone investing in the Company must rely on the ability, expertise, judgement, discretion, integrity and good faith of the management of the Company. There is no guarantee that Barsele will be able to secure financing to meet the future development needs of its mineral projects.

The risks and uncertainties described below are not the only risks and uncertainties that the Company faces. Additional risks and uncertainties of which the Company is not aware or that the Company currently believes to be immaterial may also adversely affect the Company's business, financial condition, results of operations or prospects. If any of the possible events described below occur, the Company's business, financial condition, results of operations or prospects could be materially and adversely affected.

This AIF also contains forward-looking statements that involve risks and uncertainties. The Company's actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including the risks described below and elsewhere in this AIF. See "*Forward Looking Statements*".

In addition to other information contained or incorporate by reference in this AIF, readers should carefully consider the following risk factors that are applicable to the Company, the Barsele Project and future projects that the Company may acquire:

### ***Resource exploration and development projects are inherently speculative in nature***

The exploration for and development of mineral deposits involves significant risks that even a combination of careful evaluation, experience and knowledge may not eliminate or adequately mitigate. While the discovery of a mineral deposit may result in substantial rewards, few projects that are explored are ultimately developed into producing mines. Major expenditures are required to locate and establish Mineral Reserves, to develop metallurgical processes and to construct mining and processing facilities at a particular site. Whether a mineral deposit will be commercially viable depends on a number of factors, some of which are: the particular attributes of the deposit, such as size, grade and proximity to infrastructure; metal prices (which are highly volatile and cyclical); and government regulations, including regulations relating to prices, taxes, royalties, land tenure, land use, allowable production, importing and exporting of minerals and environmental protection.

Assuming discovery of a mineral deposit that may be commercially viable and depending on the type of mining operation involved, many years can elapse from the initial phase of drilling until commercial operations are commenced. The exact effect of these factors cannot be accurately predicted, but the combination of these factors may result in the Company not receiving an adequate return on invested capital or in mineral projects failing to achieve expected project returns.

### ***The Coronavirus (COVID-19) pandemic could persist for a prolonged period***

The global COVID-19 pandemic could result in adverse exploration and development results due to workforce reductions, supply and/or demand interruptions, travel restrictions and downturn in new equity and debt financings for mining projects. The Company's management, contractors and suppliers could be affected by contagious diseases, including the coronavirus, that could result in a reduction in its workforce due to illness or quarantine, critical supply disruptions, transportation and travel restrictions, and other factors beyond its control. These and other factors could negatively affect its business in complex ways, which are difficult or impossible to predict.

***The Barsele Project is subject to financing risks***

The Company does not have a producing mineral project and no sources of operating revenue. The Company's ability to explore for and find potential economic projects, and then to bring them into production, is highly dependent upon its ability to raise equity and debt capital in the financial markets. There is no assurance that the Company will be able to raise the funds required to continue its exploration programs and finance the development of any potentially economic deposit, including the Barsele Project, that is identified on acceptable terms or at all. The failure to obtain the necessary financing would have a material adverse effect on the Company's growth strategy, results of operations, financial condition and prospects.

Development of the Barsele Project is dependent on the Company securing the required project financing in order to maintain its ownership interest in the Barsele Project and meet its capital commitments with respect to the joint venture with Agnico Eagle. No assurance can be given that the Company will be successful in achieving this.

Global financial markets have been negatively impacted by the novel Coronavirus or COVID-19, which was declared a pandemic by the World Health Organization on March 11, 2020. This has resulted in significant global economic uncertainty and consequently, it is difficult to reliably measure the potential impact of this uncertainty on the Company's future financial results.

Any such potential financing has been delayed by the temporary business travel restrictions that potential financiers are implementing in response to the COVID-19 virus. Furthermore, the financial capacity of potential lenders to extend new loans due to liquidity or other challenges may be reduced or cancelled should the COVID-19 virus continue for a prolonged period of time. These and other factors with respect to the coronavirus could negatively affect its business in complex ways, which are difficult or impossible to predict.

***Barsele has a history of losses and expects to incur losses until such time as the Barsele Project achieves commercial production***

The Company has incurred losses since its inception. The Company incurred the following net losses for the past three fiscal years as follows:

- \$2,128,944 million for the year ended December 31, 2019.
- \$2,884,689 million for the year ended December 31, 2018.
- \$2,770,731 million for the year ended December 31, 2017.

The Company expects to continue to incur losses unless and until such time as the Barsele Project generates sufficient revenues to fund continuing operations. The development of the Barsele Project will require the commitment of substantial financial resources. The amount and timing of expenditures will depend on a number of factors, including the progress of ongoing exploration and development, cash calls by Agnico Eagle, the results of consultants' analysis and recommendations, the rate at which operating losses are incurred, and the Company's acquisition of additional projects, some of which are beyond the Company's control. There can be no assurance that the Company will ever achieve profitability.

***The Company's operations are dependent on receiving and maintaining required permits and licenses***

Continued operations at the Barsele Project are subject to receiving and maintaining permits from appropriate governmental authorities for various aspects of exploration, mine development and ultimately mine operation. The exploration permits in respect of the Barsele Project have a defined lifespan and will eventually need to be renewed or converted to exploitation permits.

Where required, obtaining necessary permits is a complex, time consuming and costly process. The costs and delays associated with obtaining necessary permits and complying with these permits and applicable

laws and regulations could stop or materially delay or restrict the Company from proceeding with the exploration and development of the Barsele Project or the operation or further development of a future project. There is no assurance that all necessary renewals or extension of permits for future operations will be issued on a timely basis or at all.

***Successfully establishing mining operations and profitably producing gold cannot be assured***

The Company has no history of producing gold. There can be no assurance that the Company will successfully establish mining operations or profitably produce gold from the Barsele Project or any other project.

The Barsele Project is in the exploration and evaluation stage and as a result, the Company is subject to all of the risks associated with establishing new mining operations and business enterprises including: (i) the availability of capital to finance construction and development activities is uncertain, may not be available, or may not be available at a cost which is economic to construct and develop a mine; (ii) the timing and cost, which can be considerable, to construct mining and processing facilities is uncertain and subject to increase; (iii) the availability and cost of skilled labour, consultants, mining equipment and supplies; (iv) the timing to receive any outstanding documentation, including permits, tax exemptions and fiscal guarantees required to commence construction and/or draw down on any loan facility that may be entered into by the Company in the future; and (v) the costs, timing and complexities of mine construction and development may be increased with the Barsele Project.

It is common in new mining operations to experience unexpected problems and delays during construction, development and mine start-up. Accordingly, there are no assurances that the Company's activities will result in profitable mining operations or that the Company will successfully establish mining operations or profitably produce gold at the Barsele Project or any of its future projects.

***The Company's economic prospects and the viability of the Barsele Project is subject to changes in, and volatility of, the price of gold***

A principal factor that will affect the Company's ability to successfully execute its business plan is the price of gold. There are numerous factors outside of the Company's control that may affect the price of gold including industrial and retail demand, central bank lending, sales and purchases of gold, forward sales of gold by producers and speculators, levels of gold production, short-term changes in supply and demand because of speculative hedging activities, confidence in the global monetary system, expectations of the future rate of inflation, the availability and attractiveness of alternative investment vehicles, the strength of the US dollar (the currency in which the price of gold is generally quoted), interest rates, terrorism and war, and other global or regional political or economic events or conditions.

The future trend in the price of gold cannot be predicted with any degree of certainty. The market price of gold affects the economics of any potential development project, as well as having an impact on the perceptions of investors with respect to gold equities, and therefore, the ability of the Company to raise capital. A decrease in the market price of gold and other metals could affect the Company's ability to finance exploration and development of the Barsele Project, which would have a material adverse effect on the Company's financial condition and results of operations and, potentially, result in dilution in its ownership interest in the Barsele Project. There can be no assurance that the market price of gold will remain at current levels or that such prices will improve or that market prices will not fall.

***Government regulations and permitting may have an adverse effect on the Company's activities***

The Company's exploration and development activities are subject to a number of laws and regulations governing health and worker safety, employment standards, exports, price controls, taxation, waste disposal, management and use of toxic substances and explosives, protection of the environment, mine development, protection of endangered and protected species, reclamation, historic and cultural preservation and other matters. Failure to comply with applicable laws, regulations and permits may result

in enforcement actions thereunder, including the forfeiture of claims, orders issued by regulatory or judicial authorities requiring operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional equipment or costly remedial actions. The Company may be required to compensate those suffering loss or damage by reason of its exploration activities and may have civil or criminal fines or penalties imposed for violations of such laws, regulations and permits.

It is possible that future changes in applicable laws, regulations, agreements or changes in their enforcement or regulatory interpretation could result in changes in legal requirements or in the terms and conditions of existing permits and agreements applicable to the Company or its projects (including retroactively), which could have a material and adverse effect on the Company's exploration activities, operations or planned exploration and development projects. Any failure to comply with applicable laws and regulations or permits, even if inadvertent, could result in interruption or closure of exploration, development or mining operations or material fines, penalties or other liabilities, any of which would have a material and adverse effect on the Company's financial condition, results of operations and prospects.

### ***Country risks***

The Barsele Project is located in Sweden and therefore its activities are subject to the risks normally associated with the conduct of business in foreign countries. The occurrence of one or more of these risks could have a material and adverse effect on the Company's profitability or the viability of its affected foreign operations, which could have a material adverse effect on the Company's business, results of operations, financial condition and prospects.

### ***Adverse changes may be made to mining laws, tax rates, and related regulations***

There can be no assurance that future changes will not be made to the mining law and other legislation applicable to the Company in Sweden and elsewhere. Any such changes could materially increase the cost of exploration activities, mine development or mine operations through changes in royalty or tax rates, among others.

### ***Mineral Resource and Mineral Reserve estimates are only estimates and may not reflect the actual deposits or the economic viability of gold extraction***

The estimation of Mineral Resources and Mineral Reserves is inherently uncertain and involves subjective judgments about many relevant factors. The accuracy of any such estimate is a function of the quantity and quality of available data, and of the assumptions made and judgments used in engineering and geological interpretation, which may prove to be unreliable and depend, to a certain extent, upon the analysis of drilling results and statistical inferences that may ultimately prove to be inaccurate. Estimates may have to be re-estimated based on, among other things: (i) fluctuations in the price of gold; (ii) results of drilling; (iii) results of metallurgical testing, process and other studies including the grade and recovery of material; (iv) changes to proposed mine plans; (v) capital and operating costs; (vi) the evaluation of mine plans subsequent to the date of any estimates; and (vii) the possible failure to receive required permits, approvals and licenses. Actual recoveries of mineral products may differ from Mineral Resources and Mineral Reserves as reported due to inherent uncertainties in acceptable estimating techniques.

### ***The Company relies on its management team and the loss of one or more of these persons may adversely affect the Company***

The Company's activities are managed by a small number of key individuals who are intimately familiar with its operations. Consequently, the success of the operations and activities of the Company is dependent to a significant extent on the efforts and abilities of this management team. Investors must be willing to rely to a significant extent on management's discretion and judgment, as well as the expertise and competence of outside contractors. The Company does not have in place formal programs for succession of management and training of management. The loss of one or more of these key employees or contractors, if not replaced, could adversely affect the Company's profitability, results of operations and financial condition. Should any

or all of the existing management resign from the Company, there can be no assurance that the directors will be able to replace such persons or replace them in a timely manner. Any such occurrence may materially and adversely affect the Company's profitability, results of operations and financial condition. At present, the Company does not maintain any "key man" life insurance.

***The Company's operations rely on the availability of local labour, local and outside contractors and equipment when required to carry out our exploration and development activities***

The Company relies upon the performance of outside consultants and contractors for drilling, geological and technical expertise. The loss of access to existing consultants and contractors, or an inability to hire suitably qualified consultants, contractors or personnel to address new areas of need, would materially impact the Company's ability to carry out the exploration and development activities.

***Minority interest in the joint venture with Agnico Eagle for the Barsele Project***

The Company currently holds its 45% interest in the Barsele Project through a joint venture with Agnico Eagle. The Company is therefore subject to the typical risks associated with joint ventures, including disagreement on how to develop, operate or finance the project and contractual and legal remedies of the Company's partners in the event of such disagreements. In addition, any limitation on the transfer of cash or other assets between the Company and such entities, or among such entities, could restrict the Company's ability to fund its operations efficiently. The Company is subject to all the risk attendant upon being the holder of a minority interest in such a joint venture. Any such limitations or the perception that such limitations may exist now or in the future, could have a material adverse effect on the Company's results of operations or financial condition. Pursuant to the terms of the JVA, Agnico Eagle's ownership interest in Gunnarn Mining, the joint venture company that holds the Barsele Project, will increase from 55% to 70% and Barsele's interest in Gunnarn Mining will be reduced from 45% to 30% if and when Agnico Eagle contributes a pre-feasibility study on the Barsele Project to Gunnarn Mining. Such outcome could also have a material adverse effect on the Company's results of operations or financial condition.

Additionally, the Company is subject to risks that Agnico Eagle may: (i) have economic or business interests or targets that are inconsistent with the Company's; (ii) take action contrary to the Company's policies or objectives with respect to their investments, for instance by veto of proposals in respect of joint venture operations; (iii) be unable or unwilling to fulfil their obligations under the joint venture or other agreements; or (iv) experience financial or other difficulties. Any of the foregoing may have a material adverse effect on the Company's results of operations or financial condition.

***The Barsele Project, and future projects, are subject to title risks***

The Company has taken all reasonable steps to ensure it has proper title to its projects. However, no guarantees can be provided that there are no unregistered agreements, claims or defects which may result in the Company's mineral titles to the Barsele Project being challenged. Should the Company lose any mineral titles at the Barsele Project or any of its future mineral projects, the loss of such legal rights could have a material and adverse impact on the Company and its ability to explore, develop and/or operate the mineral project.

***The Barsele Project is subject to environmental risks which may affect operating activities or costs***

Exploration programs and potential future mining operations, including the Barsele Project, have inherent risks and liabilities associated with pollution of the environment and the disposal of waste products occurring as a result of mineral exploration and production. Laws and regulations involving the protection and remediation of the environment, including those addressing emissions into the air, discharges into water, management of waste, management of hazardous substances, protection of natural resources, antiquities and endangered species and reclamation of lands disturbed by mining operations and the governmental policies for implementation of such laws and regulations are constantly changing and are generally becoming more restrictive, with the trend towards stricter standards and enforcement, increased fines and

penalties for non-compliance, more stringent environmental assessments of proposed projects and increasing responsibility for Companies and their officers, directors and employees.

Compliance with environmental laws and regulations may require significant capital or operational outlays on behalf of the Company and may cause material changes or delays in the Company's actual or intended activities. There can be no assurance that future changes in environmental regulations will not adversely affect the Company's business, and it is possible that future changes in these laws or regulations could have a significant adverse impact on some portion of the Company's resources and business, causing the Company to re-evaluate those activities or estimates at that time. The Company cannot give any assurance that, notwithstanding its precautions and history of activities, breaches of environmental laws (whether inadvertent or not) or environmental pollution will not materially and adversely affect its financial condition and its results from operations.

***The Barsele Project, if mining operations are established, will be subject to operational risks and hazards inherent in the mining industry***

The Company does not have a project in pre or commercial production. Potential future mining operations will be subject to the risks inherent in the mining industry, including fluctuations in metal prices, exchange rates, fuel prices, costs of constructing and operating a mine as well as processing and refining facilities in a specific environment, the availability of economic sources of energy and the adequacy of water supplies, adequate access to the site, unanticipated transportation costs, delays and repair costs resulting from equipment failure, changes in the regulatory environment (including regulations relating to prices, royalties, duties, taxes, restrictions on production, quotas on exportation of minerals, as well as the costs of protection of the environment and agricultural lands), and industrial accidents and labour actions or unrest. The occurrence of any of these factors could result in detrimental delays or stoppages to the development of a project and, as a result, materially and adversely affect the Company's business, financial condition, results of operations and cash flow.

Unanticipated grade and tonnage of ore to be mined and processed, unusual or unexpected adverse geological or geotechnical formation, or unusual or unexpected adverse operating conditions, slope failure, failure of pit walls or dams, fire, and natural phenomena and "acts of nature" such as inclement weather conditions, floods, or other conditions may be encountered in the drilling and removal of ore. These occurrences could result in damage to, or destruction of, mineral projects or production facilities, personal injury or death, environmental damage, delays in mining, monetary losses and possible legal liability. The Company may incur liability as a result of pollution and other casualties and may not be able to insure fully or at all against such risks, due to political reasons, unavailability of coverage in the marketplace or other reasons, or may decide not to insure against such risks as a result of high premiums or for other reasons. This can result in delayed production and increases in production costs or liability. Paying compensation for obligations resulting from such liability may be very costly and could have an adverse effect on the Company's financial position, cash flows or prospects.

***Failure to continue to have strong local community relations may impact the Company***

Mining Companies face increasing public scrutiny and monitoring of their activities to demonstrate that operations will benefit local governments and the communities surrounding projects. Companies are required to expend significant amounts of time and money on local consultation and meetings as part of developing their 'social license to operate'. Potential consequences of this increased scrutiny and additional consultative requirements may include lawsuits, demands for increased social investment obligations and increased taxes to support local governments or fund local development projects or in extreme cases, significant local opposition to mineral exploration, project development and/or mining operations. These additional risks could result in increased costs, delays in the permitting process or other impacts on operations, any of which could adversely impact the Barsele Project and any future prospects and ability to develop or mine any mineral deposit.

***Evolving anti-corruption laws may result in fines or other legal sanctions***

The Company is required to comply with the *Corruption of Foreign Public Officials Act* (Canada) which has recently seen an increase in both the frequency of enforcement and severity of penalties. While the Company's code of ethical conduct mandates compliance with anti-corruption laws, there can be no assurance that the Company's internal control policies and procedures will always protect the Company from recklessness, fraudulent behaviour, dishonesty or other inappropriate acts by its employees or contractors. Violation or alleged violation of anti-corruption laws could lead to civil and criminal fines and penalties, reputational damage and other harm that may materially adversely affect our financial condition and results of operation.

***The Company's insurance coverage does not cover all of its potential losses, liabilities and damages related to its business and certain risks are uninsured or uninsurable***

The Company maintains insurance to protect it against certain risks related to its current operations in amounts that it believes are reasonable depending upon the circumstances surrounding each identified risk. The Company may elect, however, not to insure against certain risks due to high premiums or for various other reasons.

Although the Company maintains insurance in amounts it believes to be reasonable, such insurance may not provide adequate coverage in all circumstances. No assurance can be given that such insurance will continue to be available at economically feasible premiums or that it will provide sufficient coverage for losses related to these or other risks and hazards. Should liabilities arise as a result of insufficient or non-existent insurance, any future profitability could be reduced or eliminated and result in increasing costs and a decline in the value of the Company's assets.

***The mining industry is extremely competitive***

The competition to discover and acquire mineral projects considered to have commercial potential is intense. The Company competes with other mining companies, many of which are larger and have greater financial resources than the Company, including with respect to the discovery and acquisition of interests in mineral projects, financing of such projects, the recruitment and retention of qualified employees, securing other contract personnel and the obtaining of necessary equipment. There can be no assurance that the Company will be able to successfully compete against such companies.

***Currency fluctuations may affect the Company's financial performance***

Currency fluctuations may affect costs of the Company's operations. Gold is sold throughout the world based principally on a US dollar price, but the majority of the Company's operating expenses are in non-US dollar currencies. Any appreciation of these non-US dollar currencies against the US dollar could negatively affect the Company's profitability, cash flows and financial position. The Company does not currently have a currency or gold hedging policy and does not have any hedges in place. Accordingly, the Company currently has no protection from declines in mineral prices and currency fluctuations.

***Investors may have difficulty enforcing judgments in Canada, the United States and elsewhere***

The Company is organized under the laws of Canada and its registered office is located in the Province of British Columbia. All of the Company's directors and officers, and some of the experts named herein, are residents of Canada. Given that the Company's material assets and its joint venture partner's management personnel and experts are located outside of Canada, investors may have difficulty in effecting service of process within Canada and collecting from or enforcing against the Company (or its joint venture partner's management personnel and experts who are located outside of Canada) any judgments obtained by the Canadian courts or Canadian securities regulatory authorities and predicated on the civil liability provisions of Canadian securities legislation or otherwise.

It may also be difficult for investors in the United States to bring an action against directors, officers or experts who are not resident in the United States. It may also be difficult for an investor to enforce a judgment obtained in a United States court or a court of another jurisdiction of residence predicated upon the civil liability provisions of federal securities laws or other laws of the United States or any state thereof or the equivalent laws of other jurisdictions of residence against those persons or the Company.

In the event a dispute arises from the Company's foreign operations, the Company may be subject to the exclusive jurisdiction of foreign courts or may not be successful in subjecting foreign persons to the jurisdictions of courts in Canada.

***Shareholders' interest in the Company may be diluted in the future***

The Company may undertake additional offerings of its Shares or of securities convertible into Shares including stock options and similar incentive plans in the future. The increase in the number of Shares issued and outstanding and the possibility of the issuance of Shares on conversion of current and future convertible securities may have a depressive effect on the price of the Shares. In addition, as a result of such additional Shares, the voting power of the Company's existing shareholders will be diluted.

***The Shares are publicly traded on the TSXV and are subject to various factors that have historically made the share price volatile***

The market price of the Shares may fluctuate based on a number of factors. In addition to those factors listed in this AIF, the following factors may cause the volatility of the Shares to increase: (i) the Company's operating performance and the performance of competitors and other similar Companies; (ii) the market's reaction to the issuance of securities or to other financing transactions, to the Company's press releases and other public announcements, and to the Company's filings with the various securities regulatory authorities; (iii) changes in valuations or recommendations by research analysts who cover the Shares or the shares of other Companies in the resource sector; (iv) changes in general economic conditions; (v) the arrival or departure of key personnel; (vi) acquisitions, strategic alliances or joint ventures involving the Company or its competitors; (vii) variables not directly related to the Company's success and is therefore not within the Company's control; and (viii) the factors listed under the heading "*Forward Looking Statements*".

The effect of these and other factors on the market price of the Shares on the TSXV has historically made the Company's share price volatile and suggests that the Company's share price will continue to be volatile in the future.

***Dividends to Shareholders***

The Company has not, since the date of its incorporation, declared or paid any dividends or other distributions on its Shares. The Company does not anticipate paying cash dividends on the Shares in the foreseeable future. The Company currently intends to retain all future earnings to fund the development and growth of its business. Any payment of future dividends will be at the discretion of the directors and will depend on, among other things, the Company's earnings, financial condition, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends, and other considerations that the directors deem relevant. Investors must rely on sales of their Shares after price appreciation, which may never occur, as the only way to realize a return on their investment.

***Securities or Industry Analysts***

The trading market for Shares could be influenced by research and reports that industry and/or securities analysts may publish about the Company, its business, the market or competitors. The Company does not have any control over these analysts and cannot assure that analysts will cover it or provide favourable coverage. If any of the analysts who may cover the Company's business change their recommendation regarding the Company's stock adversely, or provide more favourable relative recommendations about its

competitors, the stock price would likely decline. If any analyst who may cover the Company's business were to cease coverage or fail to regularly publish reports on the Company, it could lose visibility in the financial markets, which in turn could cause the stock price or trading volume to decline.

### ***Public Companies are Subject to Securities Class Action Litigation Risk***

In the past, securities class action litigation has often been brought against a Company following a decline in the market price of its securities. If the Company faces such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could materially harm its business.

### ***Conflict of Interest***

Certain of the Company's directors and officers are, and may continue to be, involved in the mineral exploration industry through their direct and indirect participation in corporations, partnerships or joint ventures which are potential competitors of the Company. Situations may arise in connection with potential acquisitions or opportunities where the other interests of these directors and officers may conflict with the Company's interests. Directors and officers of the Company with conflicts of interest will be subject to and must follow the procedures set out in applicable corporate and securities legislation, regulations, rules and policies. Notwithstanding this, there may be corporate opportunities which the Company is not able to procure due to a conflict of interest of one or more of the Company's directors or officers.

## **DIVIDENDS AND DISTRIBUTIONS**

The Company has never declared or paid a dividend. The Board intends to retain future earnings for reinvestment in the Company's business, and therefore, has no current intention to declare or pay dividends on the Shares in the foreseeable future. The Company's dividend policy will be reviewed from time to time in the context of its earnings, financial condition and other relevant factors. There can be no assurance that the Company will generate sufficient earnings or cash flow to allow it to pay dividends.

## **DESCRIPTION OF CAPITAL**

The following summary of the Company's authorized capital structure does not purport to be complete and is subject to, and is qualified in its entirety by reference to, the applicable provisions of British Columbia corporate law, the Company's notice of articles and articles.

The Company is authorized to issue an unlimited number of Shares. As at October 28, 2020, 124,320,699 Shares, no warrants and 9,975,000 stock options are issued and outstanding.

### **Shares**

Each issued and outstanding Share is entitled to one vote (in person or by proxy) at any shareholder meeting properly called and constituted for the transaction of business. Holders of Shares are entitled to receive notice of, attend and vote at all meetings of the shareholders of the Company. The holders of Shares are entitled to receive dividends, as and when declared by the Board, and subject to the rights, privileges, restrictions and conditions attached to any other class of shares of the Company, are entitled to receive the remaining property of the Company in the event of liquidation, dissolution or winding-up of the Company.

## **MARKET FOR SECURITIES**

### **Market**

The Shares are listed for trading on the TSXV under the symbol "BME". The closing price of the Shares on the TSXV on October 27, 2020 was \$0.53.

### Trading Price and Volume of the Shares

The following sets forth the high and low market prices and the volume of the Shares traded on the TSXV during the period commencing 12 months prior to the date of this AIF (stated in Canadian dollars):

Month (2020)	Price Range <sup>(1)</sup>		Volume <sup>(2)</sup>
	High \$	Low \$	
October 1 – 27	0.60	0.49	209,517
September	0.63	0.465	444,500
August	0.60	0.465	733,100
July	0.59	0.32	1,136,000
June	0.475	0.345	747,400
May	0.495	0.33	187,900
April	0.42	0.29	250,100
March	0.40	0.11	1,173,000
February	0.49	0.35	931,500
January	0.64	0.38	862,500
<b>Month (2019)</b>			
December	0.54	0.49	110,600
November	0.55	0.48	170,800
October	0.69	0.49	321,200

(1) Includes intra-day highs and lows.

(2) Total volume traded in the month.

### Prior Sales

The following table sets forth certain information regarding the sale of Shares during the period commencing 12 months prior to the date of this AIF and to the end of the month prior to the date of this AIF.

Date of Issue	Number and Type of Securities	Issue Price (\$)	Nature of Consideration
January 16, 2019	1,100,000 shares	0.10	Exercise of options
April 19, 2019	100,000 shares	0.10	Exercise of options
May 6, 2019	50,000 shares	0.10	Exercise of options
June 11, 2019	100,000 shares	0.10	Exercise of options
October 16, 2019	400,000 shares	0.10	Exercise of options
May 29, 2020	100,000 shares	0.10	Exercise of options
June 16, 2020	200,000 shares	0.10	Exercise of options
June 22, 2020	650,000 shares	0.10	Exercise of options
June 25, 2020	450,000 shares	0.10	Exercise of options

### DIRECTORS AND EXECUTIVE OFFICERS

The following table sets out the names and country and state or province of residence of the directors and executive officers of the Company, their present position(s) and offices with the Company, their principal occupations during the last five years and their holdings of Shares, as applicable, as at the date hereof.

The term of office of the directors expires annually at the time of the Company's annual shareholder meeting or until his or her successor is elected. The term of office of the Company's executive officers expires at the discretion of the Board.

Name, Office Held, and Resident	Director / Officer Since	Number of Shares Beneficially Owned, Directly or Indirectly, or Over Which Control or Direction Is Exercised	Principal Occupation During the Past Five Years
Gary Cope <sup>(1)</sup> President, CEO and Director BC, Canada	Feb 20, 2013	Direct: 2,224,500 Indirect: 15,689,300 <sup>(2)</sup>	Mining Executive, past President of Orko Silver Corp. (junior mining); and current President of the Company
N. Ross Wilmot Chief Financial Officer and Director BC, Canada	Feb 20, 2013	Direct: 1,816,200	Financial Consultant - Cedarwoods Group (financial consulting); Chief Financial Officer of the Company; and past director and officer of several listed companies
William Henry (Harry) White <sup>(1)</sup> Director BC, Canada	May 9, 2014	Direct: 200,000	President of H. White Consulting (transportation/logistics consulting); and director of the Company
Arthur Freeze Director BC, Canada	Feb 20, 2013	Direct: 1,156,500 Indirect: 890,000 <sup>(3)</sup>	Consulting Geologist of Stillwater Enterprises Ltd. (geology consulting); director of the Company; and director and officer of several listed companies
Rick Sayers <sup>(1)</sup> Director BC, Canada	Feb 20, 2013	Direct: 271,259 Indirect: 3,741 <sup>(4)</sup>	Director of the Company; and retired CFO of Lordco Parts Ltd. (automotive parts retail)

(1) Denotes a member of the Audit Committee, Corporate Governance Committee, and Compensation Committee.

(2) These Shares are owned by 683192 B.C. Ltd., a private Company wholly-owned by Gary Cope.

(3) 850,000 Shares are owned by Stillwater Enterprises Ltd., a private Company wholly-owned by Arthur Freeze and 40,000 Shares are owned by Freeze Family Holdings Ltd.

(4) These Shares are held in Mr. Sayers' TFSA.

As at the date of this AIF, the Company's directors and executive officers as a group beneficially own, directly or indirectly, or exercise control or direction over an aggregate of 22,251,500 Shares, representing 17.9% of the issued and outstanding Shares.

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

To the knowledge of management, except as disclosed herein, no director or executive officer of the Company is, as of the date of this AIF, or was, within the 10 years before the date hereof, a director, chief executive officer or chief financial officer of any company that was the subject of a cease trade order, an order similar to a cease trade order or an order that denied the company access to any exemption under securities legislation that was in effect for a period of more than 30 consecutive days, that was issued: (i) while such person was acting in that capacity; or (ii) after such person was acting in such capacity and which resulted from an event that occurred while that person was acting in such capacity.

To the knowledge of management, except as disclosed herein, no director or executive officer of the Company, or shareholder holding a sufficient number of securities to affect materially the control of the Company is, as of the date of this AIF, or has been, within 10 years before the date hereof, a director or executive officer of any company that, while such 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.

To the knowledge of management, no director or executive officer of the Company, or shareholder holding a sufficient number of securities to affect materially the control of the Company has, within the 10 years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder.

To the knowledge of management, no director or executive officer of the Company, or shareholder holding a sufficient number of securities to affect materially the control of the Company has been subject to 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 has been subject to 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.

### **Conflicts of Interest**

To the best of the Company's knowledge, except as otherwise noted in this AIF, there are no existing or potential conflicts of interest among the Company, its directors, officers, or other members of management of the Company except that certain of the directors, officers and other members of management serve as directors, officers and members of management of other public companies and therefore it is possible that a conflict may arise between their duties as a director, officer or member of management of such other companies and their duties as a director, officer or member of management of the Company.

The directors and officers of the Company are aware of the existence of laws governing accountability of directors and officers for corporate opportunity and requiring disclosure by directors and officers of conflicts of interest and the Company will rely upon such laws in respect of any directors' or officers' conflicts of interest or in respect of any breaches of duty to any of its directors and officers. All such conflicts must be disclosed by such directors or officers in accordance with British Columbia corporate law.

Every quarter, the members of the Board, as well as the Company's officers and senior management, each sign a confirmation acknowledging the Company's code of ethical conduct and the following policies implemented by the Company: (i) conflicts of interest; (ii) insider trading; and (iii) discrimination, harassment, and bullying.

## **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

There are no legal proceedings or regulatory actions to which the Company is a party, or to which any of its projects are subject, nor are there any such proceedings known or contemplated, that are of a material nature.

## **AUDIT COMMITTEE INFORMATION**

### **Audit Committee Charter**

The charter of the Audit Committee is attached as Schedule "B" to this AIF.

### **Composition of the Audit Committee and Independence**

The Audit Committee is composed of Gary Cope, Rick Sayers, and William White. Each of Messrs. Sayers and White are "independent" and all of the members of the Audit Committee are "financially literate" within the meanings ascribed thereto in NI 52-110.

## Relevant Education and Experience

Each of the members of the Audit Committee has had several years of experience as a senior executive and a member of the board of directors of significant business enterprises in which he has assumed substantial financial and operational responsibility. In the course of these duties, the members have gained a reasonable understanding of the accounting principles used by the Company; an ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves; experience analyzing and evaluating financial statements that present a breadth and level of complexity of issues that can reasonably be expected to be raised by the Company's financial statements, or experience actively supervising one or more individuals engaged in such activities; and an understanding of internal controls and procedures for financial reporting.

The following chart summarizes each of the Audit Committee member's relevant education and experience.

Member	Independent/ Not Independent	Financially Literate/ Not Financially Literate	Relevant Education and Experience
Gary Cope	Not Independent	Financially Literate	Mr. Cope is currently the President and CEO of multiple publicly listed companies on the TSX-V. He has served as a director for various private and public companies and understands the financial issues that affect exploration companies.
Rick Sayers	Independent	Financially Literate	CPA, CA (Chartered Professional Accountant). Retired former VP Finance and Chief Financial Officer for Lordco Parts Ltd.
William White	Independent	Financially Literate	MBA - Harvard Business School.

## Audit Committee Oversight

Since the commencement of the Company's most recently completed financial year, the Board has not failed to adopt a recommendation of the Audit Committee to nominate or compensate an external auditor.

## Pre-Approval Policies and Procedures

The Company has not adopted specific policies and procedures for the engagement of non-audit services. The Audit Committee will review the engagement of non-audit services as required.

## External Auditor Service Fees

The following table provides information about the fees billed to the Company, for professional services rendered by Davidson & Company LLP, Chartered Professional Accountants, during the financial years ended December 31, 2019 and 2018:

	2019	2018
	(\$)	(\$)
Audit Fees <sup>(1)</sup>	25,000	25,000
Audit Related Fees <sup>(2)</sup>	0	0
Tax Fees <sup>(3)</sup>	1,700	0
All Other Fees <sup>(4)</sup>	0	0
<b>Total:<sup>(5)</sup></b>	<b>26,700</b>	<b>25,000</b>

Notes:

<sup>(1)</sup> Audit fees were for professional services rendered by the Company's auditors for the audit of the Company's annual consolidated financial statements.

- (2) Audit related fees were for services related to limited procedures performed by the Company's auditors related to interim reports as well as services provided in connection with statutory and regulatory filings.
- (3) Tax fees are for tax compliance, tax advice and tax planning.
- (4) All other fees for services performed by the Company's auditors.
- (5) These fees only represent professional services rendered and do not include any out-of-pocket disbursements or fees associated with filings made on the Company's behalf. These additional costs are not material as compared to the total professional services fees for each year.

## **INTERESTS OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

The Company is not aware of any material interest, direct or indirect, of any director or officer of the Company, or any person or company that is a direct or indirect beneficial owner of, or who exercises control or direction over, more than ten percent of the Shares, or any affiliate of such persons or companies, in any transaction within the three most recently completed financial years or during the current financial year that has materially affected or will materially affect the Company.

## **TRANSFER AGENTS AND REGISTRARS**

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

## **MATERIAL CONTRACTS**

Except for the JVA (see summary under the heading "*Corporate Structure of the Company – Barsele Project Joint Venture*") contracts entered into by the Company in the ordinary course of business or otherwise disclosed herein, the Company has no contracts which can reasonably be regarded as material.

## **INTERESTS OF EXPERTS**

### **Names of Experts**

The current auditor of the Company is Davidson & Company LLP, Chartered Professional Accountants. Davidson & Company LLP is independent of the Company within meaning of the *Rules of Professional Conduct of the Institute of Chartered Professional Accountants of British Columbia*.

The scientific and technical information in this AIF regarding the Barsele Project referred to in the "*Description of the Business*" section is based on the Technical Report prepared by InnovExplo.

### **Interests of Experts**

To the knowledge of the Company, as of the date hereof, none of Davidson & Company LLP, InnovExplo, nor any of their "designated professionals" as defined in NI 51-102, hold any beneficial interest in, directly or indirectly, Shares, or securities convertible into Shares, equal to or greater than one percent (1%) of the issued and outstanding Shares.

### **ADDITIONAL INFORMATION**

Additional information relating to the Company may be found on SEDAR at [www.sedar.com](http://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 Company's most recent management proxy circular for its the annual general and special meeting of its shareholders held on June 24, 2020. Additional financial information is provided in the Company's audited financial statements and management discussion and analysis for the financial year ended December 31, 2019. Copies of the above referenced documents may be obtained upon request from the Company's head office or may be viewed under the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

## **SCHEDULE "A"**

### **Audit Committee Charter**

The purpose of the Audit Committee (the "**Committee**") is to assist the Barsele Board of Directors in fulfilling its oversight responsibilities by reviewing the financial information which will be provided to the shareholders and others; reviewing the systems of internal controls which management and the Barsele Board of Directors have established; appointing, retaining and overseeing the performance of independent accountants; and overseeing the Company's accounting and financial reporting processes and the audits of the Company's financial statements. Details of the responsibilities are laid out in National Instrument 52-110 Audit Committees ("**NI 52-110**").

The Committee will fulfill these responsibilities by carrying out the activities defined below under "Duties and Responsibilities." The Committee shall be given full and direct access to the Barsele Board Chairman, Company executives, and independent accountants as necessary to carry out these responsibilities. However, the Committee's function is one of oversight only and shall not relieve the Company's management of its responsibilities for preparing financial statements which accurately and fairly present the Company's financial results and condition, or the responsibilities of the independent accountants relating to the audit or review of financial statements.

#### **COMPOSITION OF THE AUDIT COMMITTEE**

The Committee shall be comprised of at least three directors, each of whom will be independent to the extent possible and as regulated. No member of the Committee, to the extent possible, shall have participated in the preparation of the financial statements of the Company or any current subsidiary of the Company at any time during the preceding year. Each appointed Committee member shall be subject to annual reconfirmation after the Annual General Meeting and may be removed by the Barsele Board of Directors at any time.

All members of the Committee shall be "financially literate" as defined in NI 52-110, meaning that they are able to read and understand fundamental financial statements, including a balance sheet, income statement of financial position and statements of operations and comprehensive loss, shareholders' equity and cash flow statements. At least one member of the Committee shall have been employed previously in finance or accounting, or possess current or former certification in accounting, or any other comparable experience or background, which would result in financial sophistication, including being or having been a chief executive officer, chief financial officer or other senior officer with financial oversight responsibilities.

#### **DUTIES AND RESPONSIBILITIES**

To fulfill its duties and responsibilities, the Committee shall:

1. Review annually the Audit Committee Charter for adequacy and recommend any changes to the Barsele Board of Directors.
2. Review the significant accounting principles, policies and practices followed by the Company in accounting for and reporting its financial results of operations in accordance with International Financial Reporting Standards ("**IFRS**").
3. Review the financial, investment and risk management policies followed by the Company in operating its business activities.

4. Review the Company's annual audited financial statements, related disclosures, including the MD&A portion of the Company's filings, and discuss with the independent accountants the matters required to be discussed by auditing standards, including (a) the quality as well as acceptability of the accounting principles applied in the financial statements, and (b) new or changed accounting policies; significant estimates, judgments, uncertainties or unusual transactions; and accounting policies relating to significant financial statement items. Also review with Management the results of the Company's review of Internal Controls over Financial Reporting for each quarter, and more generally its disclosure controls and procedures.
5. Review any management letters or internal control reports prepared by the independent accountants or auditors and responses to prior management letters, and review with the independent accountants or auditors the Company's internal financial controls.
6. Review the effectiveness of the independent audit effort, including approval of the scope of, and fees charged in connection with, the annual audit, quarterly reviews and any non-audit services being provided.
7. Be directly responsible for the appointment, determination of the compensation for, retention and oversight of the work of the independent accountants employed to conduct the audit (including resolution of disagreements between the independent accountants and management regarding financial reporting) or other audit, review or attest services. The independent accountants shall report directly to the Audit Committee.
8. Pre-approve all audit services and permissible non-audit services by the independent accountants. The Committee may establish pre-approval policies and procedures for the engagement of independent accountants to render services to the Company, including but not limited to policies that would allow the delegation of preapproval authority to one or more members of the Committee, provided that any preapprovals delegated to one or more members of the Committee are reported to the Committee at its next scheduled meeting.
9. Review the hiring policies for any employees or former employees of the independent accountants.
10. Obtain on an annual basis a formal written statement from the independent accountants delineating all relationships between the accountants and the Company, and review and discuss with the accountants any disclosed relationships or services the accountants have with the Company which may affect the accountants' independence and objectivity. The Committee is responsible for taking, or recommending that the full Barsele Board of Directors take appropriate action to oversee the independence of the independent accountants.
11. For each of the first three fiscal quarters and at year end, at a Committee meeting, review with management the financial results, any proposed earnings press release and any formal guidance which the Company may plan to offer.
12. Review management's analysis of any significant accounting issues, changes, estimates, judgments or unusual items relating to the financial statements and the selection, application and effects of critical accounting policies applied by the Company (including an analysis of the effect of alternative methods permitted under IFRS) and review with the independent accountants the reports on such subjects delivered.
13. Review the disclosure required in Form 52-110F2 to be included in the annual management information circular in connection with the Annual General Meeting.
14. Following completion of the annual audit, review separately with the independent accountants and management any significant difficulties encountered during the course of the audit.

15. Engage and determine funding for such independent professional advisers and counsel as the Committee determines are appropriate to carry out its functions hereunder. The Company shall provide appropriate funding to the Committee, as determined by the Committee, for payment of (1) compensation to the independent accountants for services approved by the Committee, (2) compensation to any outside advisers retained by the Committee, and (3) ordinary administrative expenses of the Committee that are necessary or appropriate in carrying out its duties.
16. Report to the Barsele Board of Directors at a subsequent Board meeting on the major events covered by the Committee and make recommendations to the Barsele Board of Directors and management concerning these matters.
17. Perform any other activities consistent with this charter, the Company's Articles and governing law as the Committee or the Barsele Board of Directors deems necessary or appropriate, including but not limited to the Company's legal and regulatory compliance.
18. Approve all related party transactions, as defined by regulation to which the Company is a party.
19. Establish procedures for:
  - a) the receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters, and (b) the confidential, anonymous submission by employees of concerns regarding questionable accounting or auditing matters.

#### **AUDIT COMMITTEE MEETINGS**

The Committee will meet on a regular basis at least four times each year, and will hold special meetings as circumstances require. The timing of the meetings to be scheduled for an upcoming fiscal year shall be determined by the Committee prior to the beginning of such fiscal year. A calendar of proposed meetings will be reviewed by the Committee at the same time as the annual Audit Committee Charter review. The calendar shall include appropriate meetings to be held separately with representatives of the independent accountants and management. In addition, the Committee will meet at any time that the independent accountants believe communication to the Committee is required.

At all Committee meetings a majority of the total number of members shall constitute a quorum. Minutes shall be taken at each meeting of the Committee and retained.