



**ERDENE RESOURCE DEVELOPMENT CORPORATION**

Metropolitan Place  
99 Wyse Road, Suite 1480  
Dartmouth, Nova Scotia  
Canada B3A 4S5

Phone: (902) 423-6419

Website: [www.erdene.com](http://www.erdene.com)  
Trading Symbols: TSX:ERD, MSE:ERDN

**ANNUAL INFORMATION FORM**

**For the Fiscal Year ended  
December 31, 2022**

**March 22, 2023**

**ERDENE RESOURCE DEVELOPMENT CORPORATION  
ANNUAL INFORMATION FORM**

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## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

Except for statements of historical fact, information contained, or incorporated by reference, herein constitutes “forward-looking information” and “forward-looking statements” within the meaning of applicable securities laws. Forward-looking information is often, but not always, identified by the use of words such as “seek”, “anticipate”, “plan”, “continue”, “planned”, “expect”, “project”, “predict”, “potential”, “targeting”, “intends”, “believe”, and similar expressions, or describes a “goal”, or variation of such words and phrases or states that certain actions, events or results “may”, “should”, “could”, “would”, “might” or “will” be taken, occur or be achieved. Statements relating to mineral resources are deemed to be forward-looking statements, as they involve the implied assessment, based on certain estimates and assumptions, that the mineral resources described exist in the quantities predicted or estimated or that it will be commercially viable to produce any portion of such resources. Forward-looking statements and forward-looking information are not guarantees of future performance and are based upon a number of estimates and assumptions of management at the date the statements are made, including among other things, the future prices of gold, copper, silver and other metals, the price of other commodities such as coal, fuel and electricity, currency exchange rates and interest rates; favourable operating conditions, the potential impact of COVID-19 on the business; political stability, timely receipt of governmental approvals, licenses and permits (and renewals thereof); access to necessary financing; stability of labour markets and in market conditions in general; availability of equipment; the accuracy of mineral resource estimates, and of any metallurgical testing completed to date; the ability to satisfy the conditions to completion of the Strategic Alliance; estimates of costs and expenditures to complete our programs and goals and the speculative nature of mineral exploration and development in general, including the risk of diminishing quantities or grades of mineralization. Many of these assumptions are inherently subject to significant business, social, economic, political, regulatory, competitive and other risks and uncertainties, contingencies, and other factors that are not within the control of Erdene Resource Development Corp. (“**Erdene**” or the “**Corporation**”) and could thus cause actual performance, achievements, actions, events, results or conditions to be materially different from those projected in the forward-looking statements and forward-looking information.

Forward-looking information and forward-looking statements herein includes, but is not limited to: statements or information concerning the future financial or operating performance of Erdene and its business, operations, properties and condition, resource potential, including the potential quantity and/or grade of minerals, or the potential size of a mineralized zone, potential expansion of mineralization, the timing and results of future resource estimates, the timing of other exploration and development plans at Erdene’s mineral project interests, Erdene’s future plans for its non-material properties, the amenability of mineralization to produce a saleable concentrate of sufficiently high enough grade and quality to be economic; changes in project parameters as plans continue to be refined; illustrative mine lives of the Corporation’s various mineral project interests, the proposed timing and amount of estimated future production, expectations with respect to future payments of dividends, the completion of the investment by Mongolian Mining Corporation under the Strategic Alliance (including the timing of completion), and the information in the section entitled “The Corporation’s Objectives and Strategy”.

Such forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Erdene to be materially different from any future results, performance or achievements expressed or implied. Such factors include, among others: the speculative nature of mineral exploration and development; liquidity concerns and the ability of Erdene to secure additional financing; changes to the Mongolian legal environment; the inability to obtain or renew licenses, leases or permits; the lack of infrastructure in the areas where the Corporation operates; liability for accidents, pollution and other hazards for which the Corporation is unable to obtain insurance; public health crises such as COVID-19; conflicts of interest between the interests of the Corporation’s directors and officers and the Corporation; changes in the exchange rates between the local currency of Mongolia, the U.S. dollar, and the Canadian dollar; changes in the market price for metals and other minerals; evolving environmental and regulatory requirements; the loss of or inability to recruit key personnel; changes in Mongolian and Canadian political conditions; increased competition for mineral development properties; breaches or failures of information systems and cyber security threats; economic instability and supply chain issues and their effect on costs of operations; the Ukraine-Russia conflict; relationships with local communities and environmental, social and governance matters generally; risks associated with acquisitions, joint ventures and other business arrangements the Corporation enters into; the impacts of claims and legal proceedings involving the Corporation; and the inherent risks involved in the exploration, development and mining business in general.

This AIF also contains references to estimates of mineral reserves and mineral resources. The estimation of reserves and resources is inherently uncertain and involves subjective judgments about many relevant factors. The mineral resource estimates contained in this AIF are exclusive of mineral reserves. Further, mineral resources that are not mineral reserves do not have demonstrated economic viability. The accuracy of any such estimates 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 future production, the anticipated tonnages and grades that will be achieved or the indicated level of recovery that will be realized), which may prove to be unreliable. There can be no assurance that these estimates will be accurate or that such mineral reserves and mineral resources can be mined or processed profitably. Such estimates are, in large part, based on the following:

- Interpretations of geological data obtained from drill holes and other sampling techniques. Large scale mineral continuity and character of the deposits can be improved with additional drilling and sampling; actual mineralization or formations may be different from those predicted. It may also take many years from the initial phase of drilling before production is possible, and during that time the economic feasibility of exploiting a deposit may change. Reserve and resource estimates are materially dependent on prevailing metal prices and the cost of recovering and processing minerals at the individual mine sites. Market fluctuations in the price of metals or increases in the costs to recover metals or the actual recovery percentage of the metal(s) from the Corporation's mining projects may render mining of mineral reserves uneconomic and affect the Corporation's operations in a materially adverse manner. Moreover, various short-term operating factors may cause a mining operation to be unprofitable in any particular accounting period;
- Assumptions relating to commodity prices and exchange rates during the expected life of production, mineralization of the area to be mined, the projected cost of mining, and the results of additional planned development work. Actual future production rates and amounts, revenues, taxes, operating expenses, environmental and regulatory compliance expenditures, development expenditures, and recovery rates may vary substantially from those assumed in the estimates. Any significant change in these assumptions, including changes that result from variances between projected and actual results, could result in material downward revision to current estimates; and
- Assumptions relating to projected future metal prices. The Corporation uses prices reflecting market pricing projections in financial modeling which are subjective in nature. It should be expected that actual prices will be different than the prices used for such modeling (either higher or lower), and the differences could be significant.

In addition, see "Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Resources" in this respect.

Although the Corporation has attempted to identify important factors that could cause actual performance, achievements, actions, events, results or conditions to differ materially from those described in forward-looking statements or forward-looking information, there may be other factors that cause performance, achievements, actions, events, results or conditions to differ from those anticipated, estimated or intended. Further details relating to many of these factors is discussed in the section entitled "Risk Factors" in this AIF.

Forward-looking statements and forward-looking information contained herein are made as of the date of this AIF and the Corporation disclaims any obligation to update or revise any forward-looking statements or forward-looking information, whether as a result of new information, future events, or results or otherwise, except as required by applicable law. There can be no assurance that forward-looking statements or forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements or forward-looking information. All forward-looking statements and forward-looking information attributable to us is expressly qualified by these cautionary statements.

## **CAUTIONARY NOTE TO UNITED STATES INVESTORS CONCERNING ESTIMATES OF MEASURED, INDICATED AND INFERRED RESOURCES**

Information in this AIF, including any information incorporated by reference, and disclosure documents of Erdene that are filed with Canadian securities regulatory authorities concerning mineral properties have been prepared in accordance with the requirements of securities laws in effect in Canada, which differ from the requirements of United States securities laws.

Without limiting the foregoing, these documents use the terms “measured resources”, “indicated resources” and “inferred resources”. Shareholders in the United States are advised that, while such terms are defined in and required by Canadian securities laws, the United States Securities and Exchange Commission (the “SEC”) does not recognize them. Under United States standards, mineralization may not be classified as a reserve unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. United States investors are cautioned not to assume that all or any part of measured or indicated resources will ever be converted into reserves. Further, inferred resources have a great amount of uncertainty as to their existence and as to whether they can be mined legally or economically. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration; however, there is no certainty that these inferred mineral resources will be converted into mineral reserves, once economic considerations are applied. Under Canadian rules inferred mineral resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under National Instrument 43-101. Therefore, United States investors are also cautioned not to assume that all or any part of the inferred resources exist, or that they can be mined legally or economically. Disclosure of contained ounces is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report resources as in place tonnage and grade without reference to unit measures. Accordingly, information concerning descriptions of mineralization and resources contained in these documents may not be comparable to information made public by United States companies subject to the reporting and disclosure requirements of the SEC.

## **PRELIMINARY NOTES**

Throughout this Annual Information Form (“AIF”) Erdene Resource Development Corporation is referred to as “Erdene”, the “Corporation” or the “Company”. All information is given as at December 31, 2022, unless stated otherwise.

### **Currency and Exchange Rates**

All currency references in this AIF are in Canadian dollars unless otherwise indicated. Reference to “United States dollars” or “U.S. dollars” or the use of the symbol “US\$” refer to United States dollars. The closing rate of exchange reported by the Bank of Canada for the conversion of Canadian dollars into United States dollars on March 22, 2023, was \$1.00 = US\$0.7293 (US\$1.00 = Cdn\$1.3712) and on December 31, 2022, was \$1.00 = US\$0.7383 (US\$1.00 = Cdn\$1.3544).

### **Measurements and Frequently Used Abbreviations and Acronyms**

Amounts in this AIF are generally in metric units. Conversion rates from Imperial measure to metric, and from metric to Imperial are provided below:

<b>Imperial Measure</b>	<b>=</b>	<b>Metric Unit</b>	<b>Metric Measure</b>	<b>=</b>	<b>Imperial Unit</b>
2.47 acres		1 hectare (“ha”)	0.4047 hectares		1 acre
3.28 feet		1 metre (“m”)	0.3048 metres		1 foot
0.62 miles		1 kilometre (“km”)	1.609 kilometres		1 mile
35.315 cubic feet		1 cubic metre	0.0283 cubic metres		1 cubic foot
0.032 ounces (troy)		1 gram (“g”)	31.103 grams		1 ounce (troy)
1.102 tons (short)		1 tonne (“t”)	0.907 tonnes		1 ton

All ounces are troy ounces. 14.58 troy ounces equal one pound (containing 16 Imperial ounces). Measurements and amounts in this AIF have been rounded to the nearest two decimal places.

### **Financial Statements and Management Discussion and Analysis**

This AIF should be read in conjunction with the audited consolidated financial statements of Erdene for the year ended December 31, 2022 (the “**Audited Financial Statements**”), and the accompanying management’s discussion and analysis (“**MD&A**”) for that year. Unless otherwise indicated, financial information contained in this AIF is presented in accordance with International Financial Reporting Standards (“**IFRS**”). The Audited Financial Statements and MD&A are available at [www.erdene.com](http://www.erdene.com) and on SEDAR at [www.sedar.com](http://www.sedar.com).

### **Standard Resource and Reserve Reporting System**

National Instrument 43-101 *Standards of Disclosure for Mineral Projects*, Companion Policy 43-101CP and Form 43-101F1 (collectively, “**NI 43-101**”) are a set of rules developed by the Canadian Securities Administrators, which has established standards for all public disclosure an issuer makes of “scientific and technical information” concerning mineral projects (“**Technical Information**”). Unless otherwise indicated, all Technical Information, including resource estimates and reserves attributable to Erdene’s property interests contained in this AIF, and including any information contained in certain documents referenced in this AIF, has been prepared in accordance with NI 43-101, and applicable standards of the Canadian Institute of Mining, Metallurgy and Petroleum Standing Committee on Reserve Definitions (the “**CIM Standards**”).

### **Material Property Interest**

As at December 31, 2022 and March 22, 2023, the Corporation holds interests in two mineral properties considered to be material within the meaning of applicable Canadian securities laws:

<b>Property Name</b>	<b>Ownership Entity</b>	<b>% Interest</b>
Altan Nar	Erdene Mongol LLC	100%
Bayan Khundii	Erdene Mongol LLC	100%

See the discussion in this AIF under the heading “Technical Disclosure” for a summary of, and Technical Information for, these properties.

### **Technical Disclosure**

Unless otherwise indicated, Erdene has prepared the Technical Information in this AIF based on information contained in the technical reports and news releases (collectively the “**Disclosure Documents**”) available under Erdene’s company profile on SEDAR at [www.sedar.com](http://www.sedar.com). The Disclosure Documents are each intended to be read as a whole, and sections should not be read or relied upon out of context. The Technical Information is subject to the assumptions and qualifications contained in the Disclosure Documents.

Each of the Corporation’s Disclosure Documents was prepared by or under the supervision of a Qualified Person. Readers are encouraged to review the full text of the Disclosure Documents which qualifies the Technical Information.

The following documents are incorporated by reference into this AIF:

- "Bayan Khundii Gold Project Feasibility Study NI 43-101 Technical Report" dated August 31, 2020, prepared by Benny Cha, FAusIMM, Roma Group Limited; Cameron Norton, P. Geo., Tetra Tech Canada Inc.; Andrew Kelly, P.Eng., Blue Coast Research Ltd.; Anthony Keers, MAusIMM, Auralia Mining Consulting Pty Ltd; Kevin Styles, FIMMM, Fugro (Hong Kong) Limited; Mark Dillion, MIEAust, ATC Williams Pty Ltd.; Jeff Jardine, FAusIMM, O2 Mining Limited; Julien Lawrence, FAusIMM, O2 Mining Limited; Kenny Li, CFA, Roma Appraisals Limited, and; Stanislaus Blanks, MIAH, Pando (Australia) Pty Ltd. (the "**Bayan Khundii Feasibility Study**" or "**BFS**")
- "Altan Nar Gold-Polymetallic Project NI 43-101 Technical Report" with an effective date of December 31, 2020 and a report date of March 29, 2021, prepared by Michael MacDonald, P.Geo (N.S), Jeremy Clark, AusAIG, RPM Global, Andrew Kelly, P.Eng., Blue Coast Research Ltd (the "**Altan Nar Technical Report**").

With the exception of the deposits listed immediately below, any inferences disclosed in the AIF of potential quantity and grade at Erdene's exploration property interests are conceptual in nature, and there has been insufficient exploration to date to define a mineral resource:

- Altan Nar gold-polymetallic deposit ("Altan Nar") in southwest Mongolia; and
- Bayan Khundii gold deposit ("Bayan Khundii") in southwest Mongolia.

It is uncertain if further exploration will result in other targets at these projects, or any of the Corporation's other mineral property interests, being delineated as a mineral resource.

Mineral resource and mineral reserve estimates contained herein are only estimates and no assurance can be given that any particular level of recovery of minerals will be realized or that an identified resource will ever qualify as a commercially mineable or viable deposit which can be legally and economically exploited. In addition, the grade of mineralization ultimately mined may differ from the one indicated by drilling results and the difference may be material. The estimated resources described herein should not be interpreted as assurances of mine life or of the profitability of future operations. Readers are advised that mineral resources that are not mineral reserves do not have demonstrated economic viability.

Mr. Peter Dalton, P. Geo., Senior Geologist of Erdene, and a Qualified Person, has reviewed and approved the Technical Information in this AIF.

## **CORPORATE STRUCTURE**

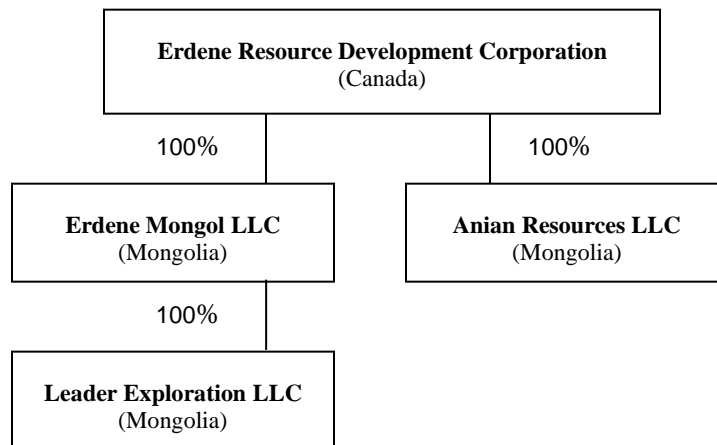
### **Name, Incorporation and Office**

The Corporation was incorporated under the *Canada Business Corporations Act* on June 27, 2000, as "3779751 Canada Inc." On February 18, 2003, the Corporation changed its name to "Erdene Gold Inc." and on May 29, 2008, the Corporation changed its name to "Erdene Resource Development Corporation".

The Corporation's head office is located at 99 Wyse Road, Suite 1480, Dartmouth, Nova Scotia, Canada B3A 4S5, and its registered office is located at 1300 – 1969 Upper Water Street, Halifax, Nova Scotia, Canada B3J 2V1. The Corporation also has an office in Ulaanbaatar, Mongolia.

### **Intercorporate Relationships**

The following chart depicts the corporate structure of the Corporation as at December 31, 2022, and March 22, 2023, together with the jurisdiction of incorporation of each of the Corporation's subsidiaries and the percentage of the votes attached to all voting securities of the subsidiary beneficially owned by the Corporation.



## GENERAL DEVELOPMENT OF THE BUSINESS

### General

The Corporation was incorporated in 2000 to explore for gold in Nova Scotia, Canada. In 2002 the name was changed to Erdene and the Corporation began to focus on the exploration and development of gold, copper, molybdenum, uranium and coal deposits in Mongolia. The Corporation commenced trading on the TSX Venture Exchange on March 16, 2004, and on December 14, 2005, Erdene was granted a senior listing and began trading on the Toronto Stock Exchange (“**TSX**”) (TSX - ERD). On June 19, 2018, Erdene commenced trading on the Mongolian Stock Exchange (“**MSE**”), becoming the first cross-listed company on the MSE (MSE - ERDN).

The Corporation currently holds three mining licenses (Khundii, Altan Nar and Khuvyn Khar) covering 13,019 hectares and a mineral exploration license (Ulaan) covering 1,780 hectares. All of the Corporation’s licenses are registered in the name of the Corporation’s subsidiaries (Erdene Mongol LLC, Anian Resources LLC and Leader Exploration LLC). The Corporation’s principal projects are the Bayan Khundii Gold Project (located on the Khundii license) and the Altan Nar Gold-Polymetallic Project (located on the Altan Nar license), located within the Corporation’s Khundii Minerals District, in southwest Mongolia.

The following is a summarized history of the development of the business over the past three years.

### Khundii Minerals District (“KMD”)

#### 2020

In July 2020, Erdene announced results of an independent BFS for the Bayan Khundii Gold Project. The report, titled “Bayan Khundii Gold Project Feasibility Study, NI 43-101 Technical Report”, dated August 31, 2020, was prepared by international and Mongolian firms with significant experience operating in Mongolia. The study incorporates detailed mine design and scheduling, front-end engineering and design for the processing plant and site infrastructure, a hydrogeological assessment, mineral waste facility design, comprehensive capital and operating cost estimation, and an updated economic model.

The BFS envisions a high-grade, open pit mine beginning at surface in the southern portion of the BK deposit (Striker and Gold Hill), expanding northward into adjacent zones at Midfield and North Midfield. The project incorporates conventional crushing and grinding, leach and a Carbon in Pulp (“**CIP**”) plant with processing capacity of 1,800 tonnes per day. The BFS includes 3.4 million mineable tonnes from the BK resource at an average diluted head grade of 3.7 g/t gold, all of which are Proven and Probable Reserves. Further details of the Bayan Khundii BFS are provided under the Mineral Properties section of this AIF.

Concurrent with the BFS, the Bayan Khundii Environmental and Social Impact Assessment (“**ESIA**”), led by Sustainability East Asia, LLC was completed. Given the project’s modest initial scale and commitment to industry leading avoidance and mitigation measures, the project’s benefits are expected to outweigh the low and moderate residual anticipated impacts from the operations. The statutory Mongolian Detailed Environmental Impact Assessment (“**DEIA**”) was also prepared in parallel with the ESIA.

In addition to the pre-development activity for Bayan Khundii, Erdene continued exploration within the Khundii Minerals District in 2020. Early in the year, Erdene announced the discovery of the Greater Dark Horse (Khar Mori) prospect area. Located 3.5 km north of the BK deposit, on a previously underexplored portion of the Khundii Mining License, the discovery was based on surface exploration, including detailed geologic mapping and geochemical sampling (rock chip and soil). In June 2020, the Company trenched gold zones at Dark Horse, with assays returning 6 metres grading 8.8 g/t gold, including 1 metre of 50.8 g/t gold, and 4 metres of 14 g/t gold, including 1 metre of 45.3 g/t gold. See press release “Erdene Confirms Three New Near-Surface, High-Grade Gold Zones at Khundii Gold Project”, dated July 15, 2020, for further details. Initial drilling at the Greater Dark Horse prospect, consisting of 25 holes totaling 4,660 metres, was completed in the second half of 2020. Results from the late 2020 exploration program, reported in early 2021, defined a N-S trending, 1.2 km long mineralized structure, open to the north, south, and at depth, along trend.



## 2021

Throughout 2021, Erdene progressed the Bayan Khundii Gold Project towards construction and gold production, while further exploring the Dark Horse prospect. Project efforts during the year were focused on detailed design and engineering, procurement, permitting and financing; however, progress was impacted by the COVID-19 restrictions in place during much of the year.

Detailed design and engineering for the CIP processing plant was completed in 2021 and design work for the mine support infrastructure was also substantially completed with approximately 90% of the detailed design completed in the year. In March 2021, the Company contracted with CITIC for the comminution circuit for the Project's processing plant. Additionally, Erdene contracted with COMO to provide the processing plant's elution circuit in Q4 2021. Procurement tender packages were developed for the remainder of supplies and services required for construction. The general arrangement for the site, as well as the detailed drawings for key mine support facilities, including offices, mine dry, security guard house, workshop, warehouse, and permanent camp, were submitted for approval near the end of the year.

In July 2021 the Company entered a Local Cooperation Agreement ("**LCA**") with the Bayankhongor Provincial Government, the host community for the BK Gold Project. Key terms of the LCA include milestone-based community investments tied to permitting, construction and first production, as well as training, employment and local procurement commitments. Additionally, in late November 2021, the Mongolian Ministry of Environment and Tourism approved Erdene's statutory Detailed Environmental Impact Assessment ("**DEIA**").

Over the course of 2021, Erdene drilled 126 holes, totaling 11,608 metres at Dark Horse, tracing gold mineralization along the 1.5 km N-S trending Dark Horse Mane structure, that remains open along strike and at depth. The program intercepted several near surface oxide gold zones along trend, with multiple holes returning intersections exceeding 100 g/t gold intervals.

In June 2021, the Company reported a significant new gold discovery just 300 metres west of the Bayan Khundii Deposit in the southern portion of the Ulaan license. Multiple drill holes returned hundreds of metres (up to 354 metres) of gold mineralization, often ending in mineralization, over an area 200 metres by 250 metres. Gold grades up to 156 g/t are hosted by the same volcanic sequence that characterize the Bayan Khundii deposit.

## 2022

During 2022, Erdene continued to advance the Bayan Khundii Gold Project towards development. Efforts during the year were focused on site preparation and permitting, with significant progress on both fronts. During the first half of 2022, the Company completed an expansion of its camp and erected cellular towers at site to facilitate communications, in anticipation of full construction.

In mid-2022, the technical drawings for the processing plant and mineral waste facility received regulatory approval. Additionally, constructability, value engineering, and HAZOPS review continued, following the completion of tender and re-pricing for most critical facilities and services. Preferred vendors were identified for most major facilities, with contracting expected to commence alongside a project construction decision.

Environmental management work was expanded in 2022, with the Company establishing a two-hectare nursery at site to cultivate endemic plants and trees, sowing 10,000 seedlings to date. Moving forward, the Company will harvest seed and transplant vegetation for landscape improvement at site as well as future rehabilitation. In April 2022, Erdene committed to plant one million trees by 2030, as part of Mongolia's "Billion Trees" campaign.

Contributions to stakeholder engagement and community development continued during the period. The Company provided approximately US\$1M of funding for public health and community programs through its LCA with the government of Bayankhongor, the province within which the Company's projects are located, over the past year. In October 2022, Erdene announced the renewal of its LCA, committing a further US\$1.2M over the next two years to community development initiatives.

During 2022, the Company drilled approximately 10,000 metres on the Ulaan and Khundii licenses. Exploration at the Ulaan SE discovery intersected some of the widest intervals of mineralization in the KMD to date, as well as an interpreted high-grade, gold bearing feeder structure. Exploration in near surface zones at Bayan Khundii confirmed, and in some cases extended, the mineralization that is planned to be mined in the first phases of the Bayan Khundii development.

### **Dark Horse Mane Prospect**

The greater Dark Horse prospect area (approximately 20 square kilometres) is located in the northern portion of the Khundii mining and Ulaan exploration licenses and is characterized by elevated gold in soil anomalism with multiple surface rock-chip, trench and drill core samples assaying greater than 1 g/t gold. To date the Company has completed 24,092 metres of drilling in 218 holes ranging in vertical depths from 8 to 318 metres within the greater Dark Horse prospect portion of the Khundii mining license, including 28 holes totaling 2,355 metres in 2022.

Most of the drilling has been focused on the Dark Horse Mane discovered in early 2021. Erdene discovered the Dark Horse Mane, 2 kilometres north of the Bayan Khundii deposit, when initial drilling returned 6.0 g/t gold over 45 metres, beginning 10 metres downhole, including 8 metres of 27.1 g/t gold (AAD-58). Drilling over the past year has defined a 1.5-kilometre trend of alteration and gold mineralization within the Dark Horse Mane that remains open along strike to the north and south, and at depth. Highlight interceptions at Dark Horse Mane since the initial discovery include:

- AAD-126: 30 metres of 5.6 g/t gold, beginning 10 metres downhole, including 24.1 g/t over six metres, starting 26 metres downhole
- AAD-137: 24.5 metres of 9.4 g/t gold beginning 1.5 metres downhole, including 13.5 metres of 16.1 g/t gold
- AAD-138: 25 metres of 6.1 g/t gold beginning 18 metres downhole, including 8 metres of 17.1 g/t gold
- AAD-177: 23 metres of 11.4 g/t gold beginning 1 metre downhole, including 4 metres of 59.8 g/t gold within 8 metres of 32.2 g/t gold
- AAD-178: 15 metres of 42.8 g/t gold beginning 11 metres downhole, including 3 metres of 160.4 g/t gold within 5 metres of 123.5 g/t gold
- AAD-218: 12 metres of 20.2 g/t gold beginning at surface, including 6 metres 39.6 g/t gold

The Dark Horse Mane is associated with a north-south trending, linear structural corridor which intersects deep seated northeast trending transform faults, believed to be a conduit for primary mineralizing fluids. The N-S structure has been traced over five kilometres, from the southern portion of the Bayan Khundii deposit to the northern extension of the Dark Horse Mane. Gold mineralization is hosted within strongly altered tuffaceous and volcanoclastic rocks, crosscut by quartz and quartz-hematite veins and stockwork zones. The Dark Horse Mane shallow oxide zone begins at surface, hosting supergene enriched gold zones with values up to 195 g/t over 1 metre and ranging in thickness from 20 to 60 metres vertical depth with locally deeper oxidation along fractures. The high-grade oxide body exhibits strong continuity along a north-south strike. Mineralization remains open along strike and at depth.

The near surface oxide gold zones discovered at Dark Horse Mane are the result of oxidation of sulfide bearing epithermal veins and hydrothermal breccias within white mica altered host lithologies. Limited deeper drilling has gold bearing epithermal veins and associated white mica and sulfide alteration zones to a depth of up to 230 metres vertically, that remains open at depth. The gold mineralization near surface at Dark Horse Mane is related to broader areas of structurally controlled alteration and mineralization believed to be connected to feeder structures, distributing gold bearing fluids over a wide area as these fluids approached the paleo surface. Evidence for these feeder structures includes a series of exposed residual quartz lithocaps, associated locally with increasing copper anomalism at depth interpreted to predate the gold mineralization. These lithocaps are distributed along dominant NE trending structures believed to represent transform faults and potential feeder conduits from a magmatic porphyry source at depth. The highest-grade gold bearing oxide zones at the southern end of the Dark Horse Mane are located proximal to the residual quartz lithocaps and hosted within tuffaceous to porphyritic volcanoclastic units.

RC drilling in mid-2022 identified several prospects within the broader Dark Horse Mane prospect. Multiple RC holes at East Mane, an 8-hectare area, 500 metres east of Dark Horse Mane, returned anomalous gold (up to 0.22 g/t gold over 3 metres) and pathfinder elements (antimony and arsenic). The East Mane area also exhibits structural and geological similarities to high-grade Dark Horse Mane South mineralization.

### **Ulaan Southeast**

On August 30, 2017, the Corporation acquired a 51% interest in the 1,780-hectare Ulaan exploration license (“**Ulaan Property**”), situated immediately adjacent its Khundii license, held by Leader Exploration LLC for US\$750,000. On December 10, 2020, Erdene acquired 100% interest in the Ulaan exploration license with the purchase of the remaining 49% interest in Leader Exploration LLC for US\$750,000.

During 2019 and 2020, the Company conducted limited exploration on the Ulaan license as resources were focused on the Bayan Khundii Gold Project. However, in June 2021, the Company completed the maiden gold exploration program in the southern portion of the Ulaan license, reporting a significant new gold discovery just 300 metres west of the Bayan Khundii Deposit. Results to date, including follow-up drilling in Q2 2022, have confirmed a significant gold discovery at Ulaan SE. Multiple drill holes have returned hundreds of metres (up to 354 metres) of gold mineralization, often ending in mineralization, over an area 200 metres by 250 metres. Gold mineralization begins approximately 80 metres from surface with anomalous gold intersected as shallow as 4 metres depth (UDH-18) and remains open along strike to the west/northwest and at depth. Gold grades up to 156 g/t are related to intense quartz  $\pm$  hematite veins and stockwork zones enveloped by the same gold bearing silicified, white mica altered lapilli tuff sequence which hosts Erdene’s Bayan Khundii epithermal gold deposit, located just east on the Khundii mining license. Structural controls are also similar with northwest striking, southwest dipping veins hosting the gold and intensifying adjacent to bounding structures and/or feeder conduits typically oriented northeast or north. Gold mineralization, particularly the low-grade envelope, also appears to be partially controlled by lithology with low permeability silicified ash tuffs focusing fluid flow and coarser lapilli tuffs acting as a preferred host to mineralization, stratigraphically dipping to the northwest.

Highlight interceptions at Ulaan SE since the initial discovery include:

- UDH-14: 217 metres of 1.1 g/t gold beginning 188 metres downhole, including 3.5 g/t gold over 53 metres
- UDH-21: 335 metres of 1.1 g/t gold beginning 115 metres downhole, including 8.7 g/t gold over 27 metres within 77 metres of 3.2 g/t gold
- UDH-22: 152 metres of 1.7 g/t gold beginning 85 metres downhole, including 3.1 g/t gold over 65 metres
- UDH-35: 23 metres of 13.7 g/t gold within 41 metres of 8.1 g/t gold, beginning 187 metres downhole
- UDH-36: 179 metres of 1.2 g/t gold, beginning 72 metres downhole, including several one-metre intervals, ranging from 10 to 33 g/t gold, and ending in mineralization at 350 metres
- UDH-53: 2 metres of 24.9 g/t gold within 27 metres of 3.5 g/t gold, beginning 248 metres downhole

Together with the Bayan Khundii deposit and Dark Horse prospect, results from drilling at Ulaan Southeast demonstrate the potential scale of mineralization within the nearly 4,000-hectare Khundii-Ulaan Hydrothermal system, which extends from Ulaan over 10 kilometres to the northeast onto the Khundii license.

### **Zuun Mod**

In late 2021, Erdene initiated a review of its Zuun Mod project, one of Asia’s largest undeveloped molybdenum-copper deposits. The review included an assessment of resource growth opportunities and the completion of a conceptual project assessment by RPMGlobal. RPM’s work suggested a large, long-life, low-strip mining operation at then current resource prices. The potential growth opportunities are significant with the molybdenum deposit remaining open in all directions and multiple satellite targets for both molybdenum and copper within the 16 km circumference alteration area. With molybdenum prices approximately doubling between late 2022 and early 2023, and copper prices forecast to remain strong, unlocking the value of the Zuun Mod project, as well as the Khuvyn Khar copper-silver prospect located on the license, will be a priority in 2023.

### **Financing**

The Corporation's activities have been financed through the issuance and sale of securities of the Corporation by way of private placement, asset sale, royalty sale, investments, its initial public offering in March 2004, joint venture funding, and a convertible debenture issuance.

On August 11, 2020, the Corporation closed a C\$20 million equity financing, by way of a non-brokered private placement, led by a C\$15 million strategic investment from Mr. Eric Sprott.

In late 2020, the Corporation executed a Project Finance mandate letter with Export Development Canada (“EDC”) for the senior secured debt facility to develop the Bayan Khundii Gold Project in southwest Mongolia. Due diligence

for the loan is largely complete, with EDC's technical consultants delivering their report in January 2022. However, progress has been much slower than anticipated primarily due to COVID-19.

On October 12, 2021, the Corporation closed an over-subscribed, non-brokered private placement offering of Common Shares on the Mongolian Stock Exchange ("MSE") for gross proceeds of approximately US\$5 million. The Corporation remains the only firm cross-listed on the TSX and MSE, following its initial MSE offering in June 2018.

The Corporation raised approximately C\$14 million through non-brokered private placements during 2022. On August 4, 2022, the Corporation closed a C\$7 million equity financing, by way of a non-brokered private placement. The Corporation completed another C\$7 million equity financing, also by way of a non-brokered private placement on December 22, 2022. Mr. Eric Sprott, the Corporation's largest equity holder, participated in both financings, and currently holds 18% of the Corporation's outstanding equity (20% partially diluted).

### **Expected Changes to the Business**

In January 2023, Erdene entered a Strategic Alliance with Mongolian Mining Corporation ("MMC"), Mongolia's largest independent miner. Under the terms of the Strategic Alliance, MMC will invest US\$40 million for a 50% interest in Erdene's Mongolian subsidiary, Erdene Mongol LLC ("EM"), which holds the Khundii and Altan Nar mining licenses, and the Ulaan exploration license, through a three-stage transaction. Erdene will retain a 50% equity interest in EM as well as a 5% Net Smelter Return royalty on all production from the Khundii, Altan Nar and Ulaan licenses, as well as any properties acquired within five kilometres of these licenses, after the first 400,000 ounces of gold recovered. Erdene maintains a 100% interest in the Zuun Mod copper-molybdenum project.

The first stage of the Strategic Alliance was completed in late January 2023, with MMC advancing US\$5 million to finance an updated Feasibility Study ("FS") and Life of Mine ("LOM") Plan for the Bayan Khundii Gold Project, as well as exploration in areas adjacent to BK. MMC will invest an additional US\$5 million upon delivery of the updated FS to complete pre-development and exploration work. The third stage of the partnership will see MMC invest a further US\$30 million once EM has reached a construction decision, providing equity capital for the Bayan Khundii Gold Project, targeting close in Q3 2023.

As of the date of this AIF, management of the Corporation does not expect any further material changes to the business; however, as is typical of the mineral exploration and development industry, from time-to-time Erdene reviews potential merger, acquisition, investment and joint venture transactions and opportunities that could enhance shareholder value. Furthermore, there can be no assurance that the results of exploration or development programs planned or underway will not result in material changes to the scientific and technical information contained herein. Accordingly, readers of this AIF are urged to read the press releases issued by Erdene once they become available on SEDAR, for full and up-to-date information concerning the Corporation's business and its material exploration property interests.

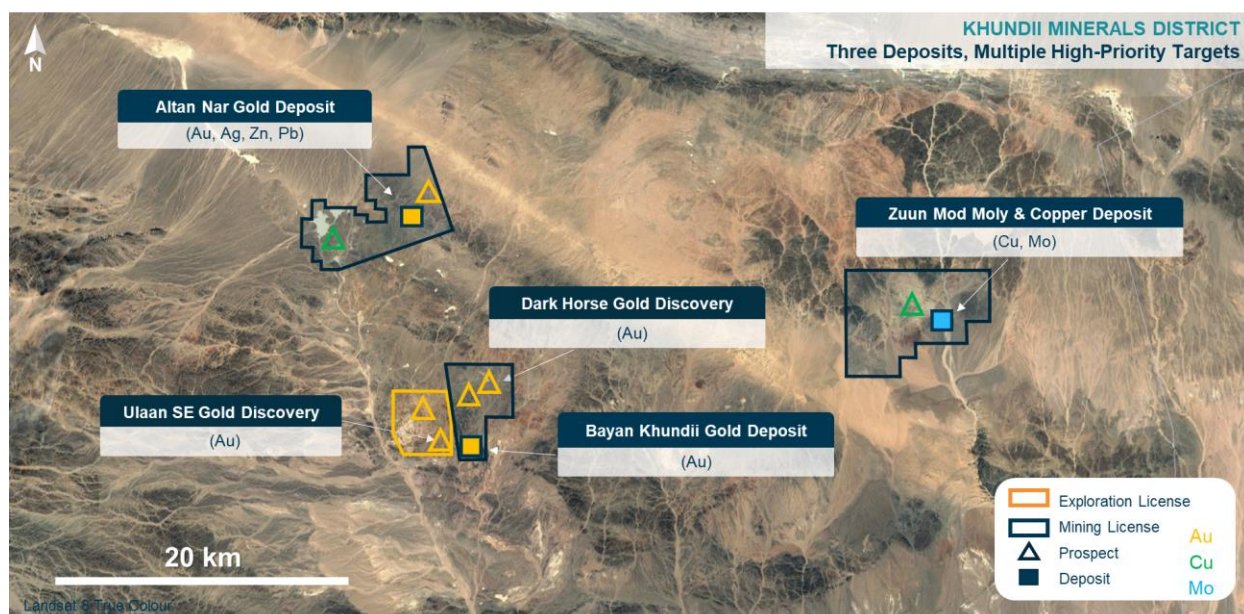
### **Significant Acquisitions**

Erdene did not make any significant acquisitions during the financial year ended December 31, 2022, that would require the Corporation to file a Form 51-102F4 Business Acquisition Report under Part 8 of National Instrument 51-102 - Continuous Disclosure Obligations ("NI 51-102").

## DESCRIPTION OF THE BUSINESS

The primary business of the Corporation is the acquisition, exploration and development of precious and base mineral deposits in underexplored and highly prospective Mongolia.

Erdene's deposits are located in the Trans Altai Terrane, within the Central Asian Orogenic Belt ("CAOB"), host to some of the world's largest gold and copper-gold deposits. Although epithermal gold and porphyry copper-gold deposits are well documented across the border in China and along the Belt's westward trend, exploration in Mongolia was limited until the mid-1990's, when the country opened to foreign investment. Since that time, exploration in southeast Mongolia led to the discovery of the world-class Oyu Tolgoi gold-copper deposit. Erdene has been the leader in exploration in Mongolia's southwest and is responsible for the discovery of the Khundii Minerals District. Within the Khundii Minerals District, the Company has discovered multiple high-grade gold and base metal prospects, two of which are being considered for development: Bayan Khundii and Altan Nar. In addition, the Company discovered and defined a large molybdenum-copper resource on its 100% owned Zuun Mod project, 33 kilometres to the east.



In July 2020, Erdene announced the positive results of a feasibility study for the Bayan Khundii Gold Project. Prepared by the Roma Group, this independent study confirmed the high-return, low-capital and low-operating potential of the project, that will form the cornerstone development in the emerging Khundii Minerals District. An update to this BFS is underway given recent resource expansion, optimization resulting from value engineering, as well as inflationary cost changes.

While focused on the Bayan Khundii Gold Project, Erdene continues to explore the broader KMD. The KMD hosts the full spectrum of arc-related base and precious metal systems, including copper-molybdenum porphyries, intermediate sulphidation/carbonate base metal gold deposits, and low sulphidation epithermal gold and gold-silver systems. In late 2020, Erdene intersected high-grade gold in multiple holes at its Dark Horse prospect, 3.5 km north of Bayan Khundii. Since that time, the Company has defined a 1.5 km mineralized trend, Dark Horse Mane, 2.4km north of Bayan Khundii, that remains open along strike and at depth. Additionally, drilling in the southern portion of the company's Ulaan license in 2021 led to a new discovery, with subsequent drilling returning the thickest intervals of gold mineralization intercepted in the KMD to date, including exceptionally high-grade zones, and remains open at depth and to the west.

Recent exploration results support Erdene's thesis that the Khundii-Ulaan alteration trend, including the Bayan Khundii Project and the Dark Horse and Ulaan prospects, has the potential to host a multimillion-ounce gold deposit.

## THE CORPORATION'S OBJECTIVES AND STRATEGY

Erdene is focused on creating shareholder value through the discovery, acquisition and development of high-quality, base and precious metal projects in regions where the Company has a competitive advantage. The following forms the basis of the Corporation's strategy:

### **Geographic and Commodity Focus**

- The CAOB contains highly prospective terranes for the discovery of base and precious metal deposits. The CAOB trends across the southern portion of Mongolia.
- Due to its relative isolation prior to 1990, Mongolia did not receive significant modern exploration, particularly in the remote southern part of the country, which has the potential for the discovery of world-class deposits.
- Over the past 20 years, economic growth in China and the related interest in resource development has fueled mineral exploration and development in southern Mongolia leading to a build-up of infrastructure in the southern part of the country.
- Mongolia hosts the world-class Oyu Tolgoi gold-copper deposit. This project is now in production along with several other precious, base metal and coal deposits, resulting in the development of an experienced workforce and significant upgrade of local infrastructure.
- Erdene's founders and executive were members of the first western-financed team to carry out regional exploration in Mongolia during the mid to late 1990's.
- The Corporation has an experienced in-country management team with strong relationships at all levels in Mongolia, and a proven ability to discover precious and base metal deposits in the region.
- Precious metals (gold and silver) are priority commodities for the Corporation based on opportunities in the region and supply and demand factors which support future price increases:
  - Central bank precious metal purchases historically increase in periods of economic uncertainty and rising sovereign debt levels;
  - Individual investor demand is influenced by geopolitical and economic instability, population growth and urbanization and wealth creation in the largest gold consuming regions; and
  - Gold production is plateauing as the discovery of large deposits becomes increasingly difficult and those that are found are of rapidly declining grade.
- The Corporation's precious metals exploration is focused on large, high-grade bulk tonnage, open-pit mineable resources with modest processing costs.
- Copper remains the Corporation's highest priority industrial metal due to supply issues facing the sector and increasing demand resulting from the urbanization of the world's population.
- The Corporation's Zuun-Mod Molybdenum project will be a focus in the coming years given a significant rise in the price of this commodity over the past two years.

### **Project and Corporate Plans**

The Corporation has defined a new minerals district and is advancing its exploration and development projects in the region through the technical, environmental and socio-economic studies required for production. Concurrently, Erdene continues to explore gold and copper prospects in the region to create additional stakeholder value.

The Corporation is focused on the following near and long-term goals:

- Close the Strategic Alliance with Mongolian Mining Corporation;
- Complete the construction readiness activities and obtain the permits and licenses to commence construction of the Bayan Khundii Gold Project;
- Develop the Bayan Khundii Gold Project and produce at least 60,000 ounces per year;
- Expand production at the Bayan Khundii Gold Project to more than 150,000 ounces per year with the identification of additional on-license resources focusing on the areas of Dark Horse, prospects adjacent to the Bayan Khundii deposit, and Altan Nar;
- Carry out further exploration on the Ulaan license to determine the mineralization potential of this property;
- Participate in tenders for high priority targets released by Mongolia's Ministry of Mining and Heavy Industry;
- Maintain a pipeline of opportunities by exploring current properties and acquiring new projects;
- Continue to develop management, technical, administrative and community development teams; and
- Secure a partner for the Zuun Mod Molybdenum-Copper Project with the financial and technical capability to move towards development.

### **Social and Environmental Policies**

Erdene is committed to improving the lives of those who work for, partner with and host the Corporation in their communities. The Corporation prioritizes hiring locally and supports local community development projects.

Erdene's sustainable development program is driven by a philosophy of capacity building, particularly in rural southwest Mongolia. The Corporation prioritizes funding for education, health and secure livelihoods. Erdene employs a full-time representative to work directly with local government officials, community members, school and hospital officials.

Mongolia has a well-preserved and unique ecology, and the Corporation is committed to the highest standards of environmental stewardship. While the Corporation does not currently have mining operations in Mongolia, its objective is to minimize its environmental footprint. The Corporation files an environmental protection and reclamation plan with the Governor of each district in which it operates and works to ensure those plans exceed requirements.

In February 2016, the Corporation joined seven other mining and exploration companies working in Mongolia in signing a voluntary Code of Practice related to water management practices, facilitated by the International Finance Corporation. The initiative was supported by the Government of Canada, the 2030 Water Resources Group, the European Bank for Reconstruction and Development, and the International Council on Mining and Metals. The Code of Practice requires mining companies to publicly report water risks and management practices, support training and awareness-raising on groundwater protection, and involve impacted communities in monitoring a mining company's water performance.

As part of its Bayan Khundii Gold Project development, Erdene completed a comprehensive Environmental and Social Impact Assessment. Prepared by Sustainability East Asia, LLC, the ESIA has concluded that given the project's modest initial scale and commitment to industry leading avoidance and mitigation measures, the project's benefits are expected to outweigh the low and moderate residual anticipated impacts from the operations. A copy of the full ESIA is available on the Corporation's website and has also been disclosed by the EBRD. The Mongolian statutory Detailed Environmental Impact Assessment for Bayan Khundii, built upon the ESIA, was approved by the Mongolian Ministry of Environment and Tourism in late November 2021.

### **Competitive Conditions**

The Corporation's business is intensely competitive, and the Corporation competes with other exploration, development, and mining companies, many of which have greater resources and experience. As described in this AIF, under "Risk Factors", competition in the precious metals mining industry is primarily for mineral rich properties which can be developed and operated economically and the capital for the purpose of financing development of desired properties.

In addition, this competition may impact the Corporation's ability to recruit or retain qualified employees with the technical expertise to find, develop, or operate such properties. Erdene believes that its success is dependent on the performance of its management and key employees, many of whom have specialized knowledge and skills relating to the precious metals exploration business. The Corporation believes it has adequate personnel with the specialized skills required to successfully carry out its operations.

### **Employees**

The Corporation employed seven (full and part-time) Canadian employees at the end of 2022, with three of these employees typically splitting time between Canada and Mongolia. With the loosening of COVID-19 travel restrictions staff were able to travel internationally in 2022. The Corporation had a further 52 (full and part-time) employees in Mongolia at the end of 2022.

## **RISK FACTORS**

**An investment in securities of the Corporation involves a significant degree of risk and must be considered highly speculative due to the nature of the Corporation's business and the present stage of exploration and development of its mineral property interests. There are a number of risks that may have a material and adverse impact on the future operating and financial performance of Erdene and could cause the Corporation's operating and financial performance to differ materially from the estimates described in forward-looking statements related to the Corporation.**

**The risks set out below are not the only risks facing the Corporation. There are widespread risks associated with any form of business and specific risks associated with Erdene's business and its involvement in the gold exploration and development industry.**

Resource exploration and development is a speculative business, characterized by a number of significant risks including, among other things, unprofitable efforts resulting not only from the failure to discover mineral deposits but also from finding mineral deposits, which, though present, are insufficient in quantity or quality to return a profit from production. **Shareholders of Erdene may lose their entire investment.**

In addition to the other information set forth elsewhere in this AIF, the following risk factors should be carefully reviewed by prospective investors. These risks may not be the only risks faced by Erdene. Risks and uncertainties not presently known by Erdene, or which are presently considered immaterial may also adversely affect Erdene's business, properties, results of operations and/or condition (financial or otherwise). **If any of the following risks actually occur, Erdene's business, financial condition, results and prospects could be adversely affected.**

Additional risks and uncertainties not presently known to Erdene or those that are currently deemed immaterial may also impair the Corporation's business operations. If any such risks actually occur, the business, financial condition and operating results of the Corporation could be materially harmed. All references to "Erdene" or the "Corporation" in this section entitled "Risk Factors" include Erdene and its subsidiaries and joint ventures, except where the context otherwise requires. Before making an investment decision, prospective investors should carefully consider the risks and uncertainties herein, as well as the other information contained in the Corporation's public filings.

Mongolia is still considered to be an emerging market. Many of the Risk Factors identified in this AIF reflect risks and characteristics unique to operating in an emerging market.

### ***Risks Inherent in the Nature of Mineral Exploration and Development***

Development of the Corporation's mineral exploration properties is contingent upon obtaining satisfactory exploration results. Mineral exploration and development involves substantial expenses and a high degree of risk, which even a combination of experience, knowledge and careful evaluation may not be able to adequately mitigate. The degree of risk increases substantially when an issuer's properties are in the exploration phase as opposed to the development



phase. There is no assurance that commercial quantities of ore will be discovered on any of the Corporation's exploration properties. There is also no assurance that, even if commercial quantities of ore are discovered, a mineral property will be brought into commercial production.

The discovery of mineral deposits is dependent upon a number of factors not the least of which is the technical skill of the exploration personnel involved. The commercial viability of a mineral deposit, once discovered, is also dependent upon a number of factors, some of which are the particular attributes of the deposit, such as size, grade and proximity to infrastructure, metal prices and government regulations, including regulations relating to royalties, allowable production, importing and exporting of minerals, and environmental protection. In addition, assuming discovery of a commercial ore body, depending on the type of mining operation involved, years may elapse from the initial phase of drilling until commercial operations are commenced. Most of the above factors are beyond the control of the Corporation.

All phases of the mineral exploration and development activities of the Corporation are subject to various laws governing prospecting, development, production, taxes, labour standards and occupational health, mine safety, toxic substances and other matters. Mining and exploration activities are also subject to various laws and regulations relating to the protection of the environment. Although the Corporation believes that its exploration and development activities are currently carried out in accordance with all applicable rules and regulations, no assurance can be given that new rules and regulations will not be enacted or that existing rules and regulations will not be applied in a manner that would limit or curtail production or development. Amendments to current laws and regulations governing the operations and activities of the Corporation or more stringent implementation thereof could have a substantial adverse impact on the Corporation. In the context of environmental permitting, including the approval of reclamation plans, the Corporation must comply with known standards, existing laws and regulations which may entail greater or lesser costs and delays depending on the nature of the activity to be permitted and how stringently the regulations are implemented by the permitting authority. The Corporation is not aware of any material environmental constraint affecting the Bayan Khundii Gold Project that would preclude the economic development or operation of the Bayan Khundii Gold Project.

***Reserve and Resource Estimates May Prove to be Incorrect***

Disclosed reserve and mine life estimates for the Bayan Khundii Gold Project should not be interpreted as assurances of mine life or of the profitability of current or future operations. The Corporation estimates and reports mineral reserves and resources in accordance with the requirements of the applicable Canadian securities regulatory authorities and industry practice.

The United States Securities and Exchange Commission ("SEC") does not permit mining companies in their filings with the SEC to disclose estimates other than mineral reserves. However, because this document has been prepared in accordance with Canadian disclosure requirements, this document also incorporates estimates of mineral resources. Mineral resources are concentrations or occurrences of minerals that are judged to have reasonable prospects for economic extraction, but for which the economics of extraction cannot be assessed, whether because of insufficiency of geological information or lack of feasibility analysis, or for which economic extraction cannot be justified at the time of reporting. Consequently, mineral resources are of a higher risk and are less likely to be accurately estimated or recovered than mineral reserves.

Erdene's mineral reserves and resources are estimated by persons who are "independent" for purposes of applicable securities legislation.

The mineral reserve and resource figures included or incorporated in this document by reference are estimates based on the interpretation of limited sampling and subjective judgments regarding the grade, continuity and existence of mineralization, as well as the application of economic assumptions, including assumptions as to operating costs, production costs, mining and processing recoveries, cut-off grades, long-term commodity prices and, in some cases, exchange rates, inflation rates and capital costs. As a result, changes in estimates or inaccuracy of estimates may affect our reserves and resources.

The sampling, interpretations or assumptions underlying any reserve or resource estimate may be incorrect, and the impact on reserves or resources may be material. Should the mineralization and/or configuration of a deposit ultimately turn out to be significantly different from that currently envisaged, or should regulatory standards or enforcement change, then the proposed mining plan may have to be altered in a way that could affect the tonnage and grade of the reserves mined and rates of production and, consequently, could adversely affect the profitability of the mining operations. In addition, short term operating factors relating to the reserves, such as the need for orderly development

of ore bodies or the processing of new or different ores, may cause reserve and resource estimates to be modified or operations to be unprofitable in any particular fiscal period.

There can be no assurance that the Corporation's projects or operations will be, or will continue to be, economically viable, that the indicated amount of minerals will be recovered or that they will be recovered at the prices assumed for purposes of estimating reserves. The Corporation is still engaged in exploration on its material properties in order to determine if any additional economic deposits exist thereon. The Corporation may expend substantial funds in exploring some of its properties only to abandon them and lose its entire expenditure on the properties if no commercial or economic quantities of minerals are found. Even if commercial quantities of minerals are discovered, the exploration properties might not be brought into a state of commercial production. Finding mineral deposits is dependent on a number of factors, including the technical skill of exploration personnel involved.

***The Actual Cost of Developing the Bayan Khundii Gold Project May Differ Materially from the Corporation's Estimates, and Development May Involve Unexpected Delays or Problems***

The Corporation's estimates regarding the cost of development and operation of the Bayan Khundii Gold Project are estimates only and are based on the assumptions and analyses of independent consultants and the Corporation's management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believes are appropriate in the circumstances. These estimates and the assumptions upon which they are based are subject to a variety of risks and uncertainties and other factors that could cause actual expenditures to differ materially from those estimated. If these estimates prove incorrect, the total capital expenditures required to complete development of the Bayan Khundii Gold Project may increase, which may have a material adverse impact on the Corporation, its results of operations, financial condition and share price. Specifically, the estimated schedule and cost for the completion of the Bayan Khundii Gold Project development, may differ materially from what was announced as part of the Bayan Khundii Feasibility Study.

***Liquidity Concerns and Future Financings***

The further development and exploration of the various mineral properties in which the Corporation holds interests depends upon the Corporation's ability to obtain financing through debt financing, equity financing or other means. There is no assurance that the Corporation will be successful in obtaining required financing as and when needed, including the financing required for the construction of the Bayan Khundii Gold Project. Volatile markets for precious and base metals may make it difficult or impossible for the Corporation to obtain debt financing or equity financing on favourable terms or at all. The Corporation's operations are in a region of the world that has been prone to economic and political upheaval, which may make it more difficult for the Corporation to obtain debt financing from project lenders. Failure to obtain additional financing on a timely basis may cause the Corporation to postpone any development plans, forfeit rights in some or all of its properties or joint ventures or reduce or terminate some or all of its operations.

***Mongolian Legal Environment***

Since 1990, Mongolia has been in transition from state socialism and a planned economy to a political democracy and a free market economy. Much progress has been made in this transition, but much progress remains to be made, particularly with respect to the rule of law. Many laws have been enacted, but in many instances, they are not well understood or enforced. For decades Mongolians have looked to politicians and bureaucrats as the sources of the "law". This has changed in theory, but often not in practice. With respect to most day-to-day activities in Mongolia, government civil servants interpret the law. This situation is gradually changing but at a relatively slow pace. Laws may be applied in an inconsistent, arbitrary and unfair manner and legal remedies may be uncertain, delayed or unavailable.

As a sign of improving legal environment for investment, Canada and Mongolia signed the Canada-Mongolia Foreign Investment Promotion and Protection Agreement (FIPA) on September 8, 2016, which will provide a more transparent and predictable regulatory environment for Canadian investors in Mongolia. On March 7, 2017, Canada's Minister of International Trade, François-Philippe Champagne, officially announced the entry into force of the FIPA.

The ability of the Corporation to conduct mining operations or exploration and development activities in Mongolia is subject to changes in legislation or government regulations or shifts in political attitudes beyond its control.

### ***Licenses, Leases and Permits***

The Corporation has investigated its rights to explore and exploit its various properties and, to the best of its knowledge, those rights are in good standing, but no assurance can be given that such rights will not be revoked, or significantly altered, to the detriment of the Corporation. There can also be no assurance that the Corporation's rights will not be challenged or impugned by third parties.

The Corporation's exploration and mining licenses are subject to periodic renewal. While the Corporation anticipates that renewals will be given as and when sought, there is no assurance that such renewals will be given as a matter of course and there is no assurance that new conditions will not be imposed in connection therewith. The Corporation's business objectives may also be impeded by the costs of holding its mineral licenses. License fees in Mongolia for mineral exploration licenses increase substantially upon renewal. The Corporation will need to continually assess the potential of each mineral exploration license, particularly when it must be renewed, to determine if the costs of maintaining the mineral exploration license are justified by the exploration results to date and will likely need to let some of its mineral exploration licenses lapse.

### ***Lack of Infrastructure***

The Corporation's Mongolian exploration properties are located in remote areas which lack basic infrastructure, including sources of power, water, housing, food and transport. The Corporation will need to hire personnel, establish facilities and otherwise establish an exploitation infrastructure before it can commence operations. The Corporation will also need to engage expatriate workers where there is a shortage of locally trained personnel. In addition, the Corporation will need to establish the facilities and material necessary to support operations in the remote locations in which the Corporation's exploration properties are situated. The inability to make suitable arrangements may delay the conduct of the Corporation's exploration/exploitation program and prevent the Corporation from meeting its stated business objectives. The remoteness of certain of the Corporation's exploration properties will also affect the potential viability of mining operations, as the Corporation will also need to establish substantially greater sources of power, water, physical plant and transport infrastructure in the area before it could conduct mining. The unavailability of such sources may adversely affect mining feasibility and will, in any event, require the Corporation to arrange significant financing, locate adequate supplies and obtain necessary approvals from national, provincial and regional governments, none of which can be assured.

### ***Uninsurable Risks***

The Corporation may become subject to liability for accidents, pollution and other hazards against which it cannot insure or against which it may elect not to insure because of premium costs or for other reasons, or in amounts which exceed policy limits. The impact of any uninsured liabilities would likely have a material adverse effect on the financial position of the Corporation.

### ***Currency Risk***

The Corporation's operations incur most expenditures in the local currency of Mongolia ("MNT") and in U.S. dollars, while most of the funds it raises are Canadian dollars. This renders the Corporation subject to foreign currency fluctuations which may materially affect its financial position and operating results.

### ***Volatile Minerals Prices***

The mining industry is intensely competitive and there is no assurance that, even if commercial quantities of a mineral resource are discovered, a profitable market will exist for the sale of the same. There can be no assurance that metals and other minerals prices will be such that the Corporation's properties can be mined at a profit. Factors beyond the control of the Corporation may affect the marketability of any minerals discovered. Minerals prices are subject to volatile price changes from a variety of factors including international economic and political trends, expectations of inflation, global and regional demand, currency exchange fluctuations, interest rates and global or regional consumption patterns, speculative activities and increased production due to improved mining and production methods. The supply of, and demand for, the Corporation's principal exploration targets, precious and base metals, is affected by various factors, including political events, economic conditions and production costs.

### ***Environmental and Regulatory Requirements***

The Corporation's operations are subject to environmental regulations in the various jurisdictions in which it operates. Environmental legislation is evolving in a manner which will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for companies and their officers, directors and employees. There is no assurance that future changes in environmental regulation, if any, will not adversely affect the Corporation's operations.

Government approvals and permits are required in connection with the Corporation's operations. To the extent such approvals are required and not obtained, the Corporation may be delayed or prohibited from proceeding with planned exploration or development of its mineral properties.

Amendments to current laws, regulations and permits governing operations and activities of mining companies, or more stringent implementation thereof, could have a material adverse impact on the Corporation and cause increases in capital expenditures or require abandonment or delays in development of new mining properties.

### ***Key Personnel***

Recruiting and retaining qualified personnel is critical to the Corporation's success. The number of persons skilled in the acquisition, exploration and development of mining properties is limited and competition for such persons is intense. As the Corporation's business activity grows, it will require additional key financial, administrative, mining, marketing and public relations personnel as well as additional staff on the operations side. Although the Corporation believes that it will be successful in attracting and retaining qualified personnel, there can be no assurance of such success.

### ***Political Instability***

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

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

Certain of the directors and officers of the Corporation are directors or officers of, or have significant shareholdings in, other mineral resource companies and, to the extent that such other companies may participate in ventures in which the Corporation may participate, the directors of the Corporation may have a conflict of interest in negotiating and concluding terms respecting the extent of such participation. Such other companies may also compete with the Corporation for the acquisition of mineral property rights. In the event that any such conflict of interest arises, a director or officer who has such a conflict is required to disclose the conflict to a meeting of the directors of the Corporation and, if the conflict involves a director, the director is required to abstain from voting for or against the approval of such a participation or such terms. In appropriate cases, the Corporation will establish a special committee of independent directors to review a matter in which several directors, or management, may have a conflict.

### ***Inherent Risks***

Mining operations are subject to hazards normally encountered in exploration, development and production. These include unexpected geological formations, rock falls, flooding, dam wall failure and other incidents or conditions which could result in damage to plant or equipment or the environment and which could impact production throughput. Although it is intended to take adequate precautions to minimize risk, there is a possibility of a material adverse impact on the Corporation's operations and its financial results.

### ***Competition***

Significant and increasing competition exists for mineral acquisition opportunities throughout the world. As a result of this competition, some of which is with large, better established mining companies with substantial capabilities and greater financial and technical resources, the Corporation may be unable to acquire rights to explore additional attractive mining properties on terms it considers acceptable. Accordingly, there can be no assurance that the Corporation will acquire any additional exploration properties.

### ***Information Systems and Cyber Security***

The Corporation's operations depend on information technology ("IT") systems. These IT systems could be subject to network disruptions caused by a variety of sources, including computer viruses, security breaches and cyberattacks, as well as disruptions resulting from incidents such as cable cuts, damage to physical plants, natural disasters, terrorism, fire, power loss, vandalism and theft. The Corporation's operations also depend on the timely maintenance, upgrade and replacement of networks, equipment, IT systems and software, as well as pre-emptive expenses to mitigate the risks of failures. Any of these and other events could result in IT system failures, delays and/or increase in capital expenses. The failure of IT systems or a component of information systems could, depending on the nature of any such failure, adversely impact the Corporation's reputation and results of operations. Although to date the Corporation has not experienced any material losses relating to cyber-attacks or other information security breaches, there can be no assurance that the Corporation will not incur such losses in the future. The Corporation's risk and exposure to these matters cannot be fully mitigated because of, among other things, the evolving nature of these threats. As a result, cyber security and the continued development and enhancement of controls, processes and practices designed to protect systems, computers, software, data and networks from attack, damage or unauthorized access remain a priority. As cyber threats continue to evolve, the Corporation may be required to expend additional resources to continue to modify or enhance protective measures or to investigate and remediate any security vulnerabilities.

### ***Economic Volatility and Production and Development Costs***

Risks related to global economic instability, including global supply chain issues, inflation and fuel and energy costs may affect our business.

The volatile global economic environment has created market uncertainty and volatility recently. This global economic uncertainty has negatively affected the mining and minerals sectors in general. Many industries, including the mining industry, are impacted by these market conditions. Global financial conditions remain subject to sudden and rapid destabilizations in response to economic shocks. A slowdown in the financial markets or other economic conditions including but not limited to global supply chain issues, inflation, fuel and energy costs, business conditions, lack of available credit, the state of the financial markets, interest rates and tax rates, may adversely affect our growth. Future economic shocks may be precipitated by a number of causes, including a continued rise in the price of oil and other commodities, the volatility of metal prices, geopolitical instability (including events such as the Russian invasion of Ukraine), terrorism, pandemics, the devaluation and volatility of global stock markets and natural disasters. Any sudden or rapid destabilization of global economic conditions could impact our ability to obtain equity or debt financing in the future on terms favorable to us or at all. In such an event, our operations and financial condition could be adversely impacted.

Prices and availability of commodities and raw materials consumed or used in connection with exploration and development and mining, such as natural gas, diesel, oil and electricity, also fluctuate, and these fluctuations affect the costs of operations and could have a major impact on the Corporation's profitability. Changes in costs of the Corporation's mining and processing operations could occur as a result of unforeseen events, including international and local economic and political events, increased costs and scarcity of labour, and could result in changes in profitability or mineral reserve estimates. Many of these factors may be beyond the Corporation's control. These fluctuations can be unpredictable, can occur over short periods of time and may have a material adverse impact on our operating costs or the timing and costs of various projects.

### ***Russia-Ukraine Conflict***

As the conflict in Ukraine continues to develop, the Corporation's business could be materially adversely affected by increased commodity prices and supply-chain disruptions. Oil and gas prices have increased rapidly due to the ongoing conflict and the escalating sanctions threatened or imposed by several nations against Russia and Russian oil and gas exports have added to global uncertainty. Given its geographic proximity, the majority of Mongolia's oil and gas is

imported from Russia. In the event that the Ukraine-Russia conflict escalates and expands to other nations, such a shift in the conflict could result in a global economic downturn that could adversely affect the Corporation's business. The Corporation cannot accurately predict the impact that the ongoing conflict in Ukraine will have on its financial position or operations.

### ***Environmental, Social and Governance ("ESG")***

The Corporation's relationships with the communities in which the Corporation operates are critical to ensuring the future success of existing operations and the construction and development of future projects. There is an increasing level of public interest worldwide relating to the perceived effect of mining activities on the environment and on communities impacted by such activities. Certain non-governmental organizations ("NGOs"), some of which oppose globalization and resource development, are often vocal critics and attempt to interfere with the mining industry and its practices, including the use of cyanide and other hazardous substances in processing activities. Adverse publicity generated by such NGOs or others related to extractive industries generally, or their operations specifically, could have an adverse effect on the Corporation's reputation or financial condition and may impact the Corporation's relationship with the communities in which it operates. While the Corporation firmly believes that it operates in a socially responsible manner, there is no guarantee that the Corporation's efforts and investments in this respect will mitigate this potential risk.

### ***Acquisitions, Joint Ventures and Other Business Arrangements***

As part of the Corporation's business strategy, it has sought and will continue to seek new exploration and development opportunities in the mining industry through acquisitions, joint ventures or other business arrangements. Additionally, the Corporation may enter such arrangements to develop its current properties, such as the Strategic Alliance with MMC, announced in January 2023.

In pursuit of such opportunities, it may fail to select appropriate acquisition or joint venture candidates, negotiate appropriate terms, conduct sufficient due diligence to determine all related liabilities or to negotiate favourable terms of arrangement. The Corporation cannot assure that it can complete any acquisition, joint venture or business arrangement that it pursues, or is pursuing, including the Strategic Alliance with MMC, on favourable terms, or that any acquisitions, joint ventures or business arrangements completed will ultimately benefit its business.

Any future acquisitions, joint ventures or other business arrangements would be accompanied by risks, such as a significant decline in the relevant metal price after the Corporation commits to an arrangement; the quality of the mineral deposit subject to the arrangement proving to be lower than expected; the difficulty of assimilating the operations and personnel of the companies party to an arrangement; the potential disruption of its ongoing business; the inability of management to realize anticipated synergies and maximize its financial and strategic position; the failure to maintain uniform standards, controls, procedures and policies; and the potential for unknown or unanticipated liabilities associated with acquired assets, joint venture interests and businesses, including tax, environmental or other liabilities. There can be no assurance that any business or assets, or any interests therein, acquired in or subject to a business arrangement will prove to be profitable, that the Corporation will be able to integrate the acquired businesses, assets or interests successfully or that the Corporation will identify all potential liabilities during the course of due diligence. Any of these factors could have a material adverse effect on its business, expansion, results of operations and financial condition.

### ***Lawsuits and Litigation***

The Corporation is or may be subject to various claims and legal proceedings, including adverse rulings in current or future litigation against it or its directors or officers. The outcome of these claims may be subject to uncertainty, and it is possible that some of these claims may be resolved unfavourably against the Corporation, which may result in a material adverse impact on the Corporation's financial performance, cash flow or results of operations. The Corporation carries liability insurance coverage and establishes reserves for matters that are probable and can be reasonably estimated; however, there can be no assurance that the amount of such coverage is sufficient to protect against all potential liabilities. In addition, the Corporation may be involved in disputes with other parties in the future that may result in litigation, which may have a material adverse impact on the Corporation's future cash flow, profitability, operations and financial condition.

***Public health crises, including the ongoing COVID-19 pandemic, have affected the Corporation's business, and may continue to do so in the future.***

The Corporation's business, operations and financial condition have been, and may continue to be in the future adversely, and possibly materially adversely, affected by the outbreak of epidemics or pandemics or other health crises.

In late January 2020, the Government of Mongolia instituted limitations on public gatherings, suspended in-person classroom learning, and implemented international border controls in response to COVID-19. The Canadian Government adopted similar measures in March 2020, as did most governments globally during 2020. With the first confirmed cases of community transmission of COVID-19 in November 2020, the Government of Mongolia further restricted the movement of people and the delivery of goods and services. While restrictions were eased in early 2021, precautionary measures were subsequently reintroduced in late Q1 2021 following an increase in the number of reported cases in Mongolia.

In March 2021, Bayankhongor Province, where Erdene's projects are located, reported its first confirmed case of community transmission of COVID-19, leading to the imposition of restrictions on the movement of people within and to/from the province. Furthermore, in late June 2021, Bayankhongor province and the sub-province of Shinejinst, the communities in which Erdene operates, imposed states of emergency due to worsening community spread of COVID-19 in the area. Although the Company temporarily halted field work in late June in response, Company staff and contractors returned to site in early August 2021 to commence follow-up exploration work, which has continued without interruption due to COVID since this date. Additionally, Canadian and International staff and consultants resumed travel to Mongolia in Q3 2021. On February 14, 2022, the Government of Mongolia fully reopened its borders to vaccinated international travelers, allowing the Company's staff and key contractors to travel to the Country with minimal disruption.

However, Mongolia saw disruptions at its land borders with China for much of 2022, given the latter's zero COVID policies. These disruptions impacted the availability and prices of industrial and consumer goods required for the construction of the Bayan Khundii Gold Project. Although China relaxed its zero COVID policies in late 2022, largely reopening its land borders with Mongolia, trade between the two countries is still returning to normal. At the present time, it is not possible to predict the duration, severity or scope of the pandemic, and to accurately predict or quantify the extent to which COVID-19 will impact the Corporation. The COVID-19 pandemic may affect, potentially materially, the Corporation's financial condition, liquidity, and future results of operations and outlook.

## MINERAL PROPERTIES

The Corporation is involved in mineral exploration and evaluation in Mongolia where it holds several projects at various stages of exploration through to feasibility. Two of the Corporation's projects are considered material properties to the Corporation; the Bayan Khundii Gold Project and the Altan Nar Gold-Polymetallic Project. These projects are described below. The remaining properties of the Corporation are in a relatively early stage of development or on hold and are not material.

### ***Bayan Khundii Gold Project***

Except as otherwise stated herein, the following disclosure relating to the Bayan Khundii Gold Project is extracted from the technical report prepared by Roma Group Limited for the Bayan Khundii Gold Project entitled "Bayan Khundii Gold Project Feasibility Study, NI 43-101 Technical Report", and has an effective date of July 20, 2020 and a report dated of August 31, 2020 and was prepared in accordance with NI 43-101. The authors of the Bayan Khundii Feasibility Study are independent of Erdene and are independent "Qualified Persons" (as defined by NI 43-101). See in this AIF, "Interests of Experts".

Readers are directed to and encouraged to review the Bayan Khundii Feasibility Study, which can be reviewed in its entirety under the Corporation's profile on SEDAR at [www.sedar.com](http://www.sedar.com) and which qualifies the following disclosure. The executive summary section of the Bayan Khundii Feasibility Study reproduced below directly from the Bayan Khundii Feasibility Study but is not exhaustive. The Bayan Khundii Feasibility Study is intended to be read as a whole, and sections should not be read or relied upon out of context. The Bayan Khundii Feasibility Study contains the expression of the professional opinion of the Qualified Persons based upon information available at the time of preparation of the Bayan Khundii Feasibility Study. The following disclosure, which is derived from the Bayan Khundii Feasibility Study, is subject to the assumptions and qualifications contained in such report. All capitalized terms used in the summary below that are not otherwise defined shall have the meanings ascribed thereto in the Bayan Khundii Feasibility Study.

## EXECUTIVE SUMMARY

### **1.1 Introduction**

Erdene Resource Development Corporation ("Erdene", or the "Company") commissioned Roma Oil and Mining Associates Limited ("ROMA") to support and manage the technical reporting of a Feasibility Study ("FS" or "FS Report") in accordance with the Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") for their 100% owned Bayan Khundii Gold Project (the "Project") located in Bayankhongor province, southwestern Mongolia. Technical works for this FS Report were provided by a group of independent engineering and consulting firms with experience in Mongolia and globally. The effective date of the FS is July 20, 2020 and is based on a Mineral Resource with an effective date of October 1, 2019 and includes an updated Mineral Reserve with an effective date of July 1, 2020.

The FS envisions a high-grade, open pit mine, beginning at surface in the southern portion of the Bayan Khundii deposit (Striker and Gold Hill), and expanding northward into adjacent zones at Midfield and North Midfield to a maximum depth of 144 meters. The total mineable mineralized plant feed is 3.4 million tonnes at an average diluted head grade of 3.7 g/t gold and average strip ratio of 9.1:1 (waste tonne: plant feed tonne).

The development incorporates conventional crushing and grinding, leach and a Carbon in Pulp ("CIP") plant with processing capacity of 1,800 tonnes per day and a projected gold recovery of 93%. Total recovered gold over the life of the Bayan Khundii deposit is 381,700 ounces. Gold will be produced as a doré and sold to the Bank of Mongolia at the daily spot price on the London Metals Exchange.

Based on the current reserves the development will operate for eight years including a one-year pre-production period, six-year mining and processing period and one-year closure period. Prospective areas in the vicinity of the deposit and untested prospects on the Khundii mining license provide significant opportunities to expand resources and extend the mine life. These areas are currently the focus of the Company's exploration work with drilling and technical studies underway to improve confidence for future development.



## 1.2 Key Study Outcomes

This section presents the outcomes of the mine plan and economic analysis completed for the Bayan Khundii FS. The economic analysis represents forward-looking information that is subject to a number of known and unknown risks, uncertainties and other modifying factors that may cause actual results to differ materially from those presented. The material factors or assumptions used in the economic analysis and associated risks, or uncertainties are fully described in Section 22 – Economic Analysis and Section 25.7 – Interpretation and Analysis - Risk.

The results of the economic analysis, using base case parameters, are favorable for the Bayan Khundii Project. The Project's pre-tax Net Present Value at 5 % discount ("NPV5%") is US\$144.8 million at the base gold price of US\$1,400 per ounce. The Project's post-tax NPV5% at US\$1,400 per ounce of gold is US\$100.3 million. The Internal Rate of Return ("IRR") is 55.0% pre-tax and 42.4% post-tax. The payback period is expected to be 1.6 years pre-tax and 1.9 years post-tax.

The key study outcomes for the projected mine plan and economic results are presented in Table 0-1.

Cash Flow Summary (Based on US\$1,400/oz Gold)			
Financial Results	Units	Amount	US\$/ounce <sup>[1]</sup>
Processing Target	M Tonne	3.4	N/A
Actual Feed	g/tonne	3.7	N/A
<b>Doré Production</b>			
Gold Ounces Produced	Ounces	381,675	N/A
Payable Gold (99.85%)	Ounces	381,102	N/A
Revenue	US\$ M	533.5	1,397.9
Doré Selling Costs	US\$ M	(1.1)	(2.8)
<b>Net Project Revenue</b>	<b>US\$ M</b>	<b>532.5</b>	<b>1,395.1</b>
Operating Costs	US\$ M	(242.0)	(634.0)
Royalties	US\$ M	(32.0)	(83.9)
Real Estate Tax	US\$ M	(1.4)	(3.6)
<b>Operating Earnings</b>	<b>US\$ M</b>	<b>257.1</b>	<b>673.7</b>
Initial Capital Expenditure	US\$ M	(59.2)	(155.1)
Sustaining Capital Expenditure	US\$ M	(3.7)	(9.6)
Environmental & Closure Costs	US\$ M	(2.9)	(7.6)
Salvage Value	US\$ M	2.0	5.2
<b>Pre-Tax Cash Flows</b>	<b>US\$ M</b>	<b>193.4</b>	<b>506.7</b>
Corporate Income Tax	US\$ M	(55.8)	(146.3)
<b>Post-Tax Cash Flows</b>	<b>US\$ M</b>	<b>137.6</b>	<b>360.4</b>
<b>Result Summary</b>			
Financial Results	Units	Amount	US\$/ounce <sup>[1]</sup>
<b>Pre-Tax</b>			
NPV <sup>5%</sup>	US\$ M	144.8	N/A
IRR	%	55.0	N/A
Payback Period	Year	1.6	N/A
<b>Post-Tax</b>			
NPV <sup>5%</sup>	US\$ M	100.3	N/A
IRR	%	42.4	N/A
Payback Period	Year	1.9	N/A

**Table 0-1 Financial Results from the Bayan Khundii Economic Model.**

Notes:

1. Amount per ounce is calculated based on gold ounces produced totaled to 381,675 ounces.
2. Initial capital expenditure consists of construction, pre-production, and contingency.
3. Totals may not add up due to rounding.

### 1.3 Property Description and Location

The Project is located in southwest Mongolia, approximately 980 km southwest of the Mongolian capital and 300 km south of the provincial capital, Bayankhongor City, as shown in Figure 0-1. The Project is situated within an emerging gold district that Erdene refers to as the Khundii Gold District (“KGD”), which includes the Bayan Khundii gold deposit, the Company’s Altan Nar gold-polymetallic deposit and Zuun Mod copper-molybdenum deposit, and a collection of mineral occurrences at various stages of exploration.

The Project is 100% held by Erdene Mongol LLC, a wholly owned subsidiary of Erdene. The Project includes the Khundii Exploration License (XV-015569; 2,205.71 ha) and the Khundii Mining License (MV-021444, 2,308.62 ha). Tenure of these minerals licenses has been confirmed as of the date of this FS Report. Permits have been obtained for ongoing exploration and technical field programs and remains ongoing for the planned construction and operation of mining activities, which include Water Permits, Land Use Permits and the payment of Environmental Bond.

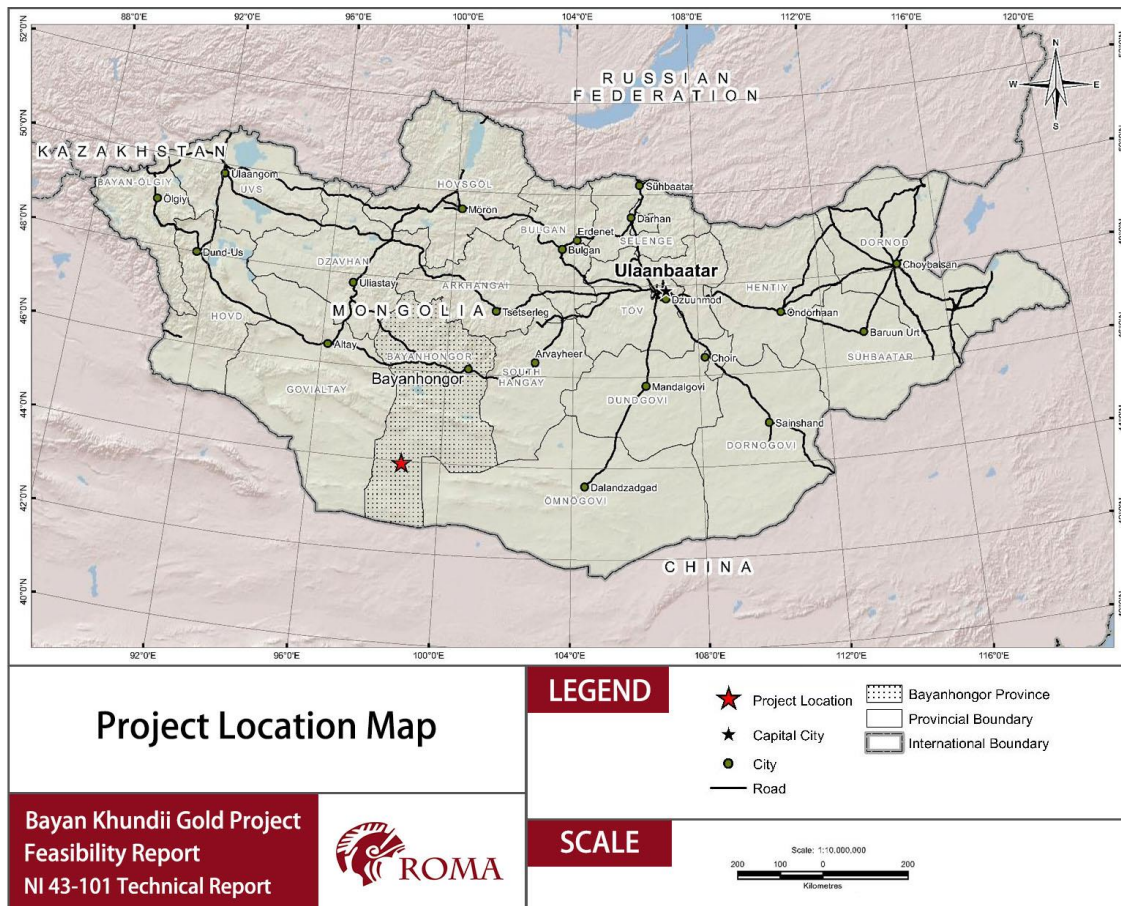


Figure 0-1 Location of the Project.

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

Erdene has completed the following studies and executed the listed agreements for the Project in compliance with the applicable Mongolia regulations and Project standards:

- **Environmental and Social Impact Assessment (“ESIA”)**: An independent ESIA for the Project has been prepared in accordance with the requirements of the European Bank of Reconstruction and Development and disclosed in June 2020.
- **Detailed Environmental Impact Assessment (“DEIA”)**: An independent DEIA for the Project has been prepared and is planned to be submitted to the government for approval in 2020.
- **Local Cooperation Agreement**: The Company has executed a Local Cooperation Agreement with local government pursuant to Article 42 of the Law on Minerals of Mongolia through the end of 2020.
- **Annual Environmental Management Plan and Report**: The Project remains in good standing with its annual environmental reporting requirements as of the date of this FS Report.
- **Hazardous Materials**: The Company has prepared its statutory risk assessment for hazardous materials as required in the Project DEIA. Formal application for hazardous materials permission, including for reagents and chemicals, such as cyanide, for the Project must be submitted subsequent to the construction and State commissioning of its facilities.

The Company has received land use permits for the Project development. A water reserve for the purposes of mining and mineral processing at Bayan Khundii has been registered with the government. Application for water use permits must be submitted upon commissioning of the water supply system.

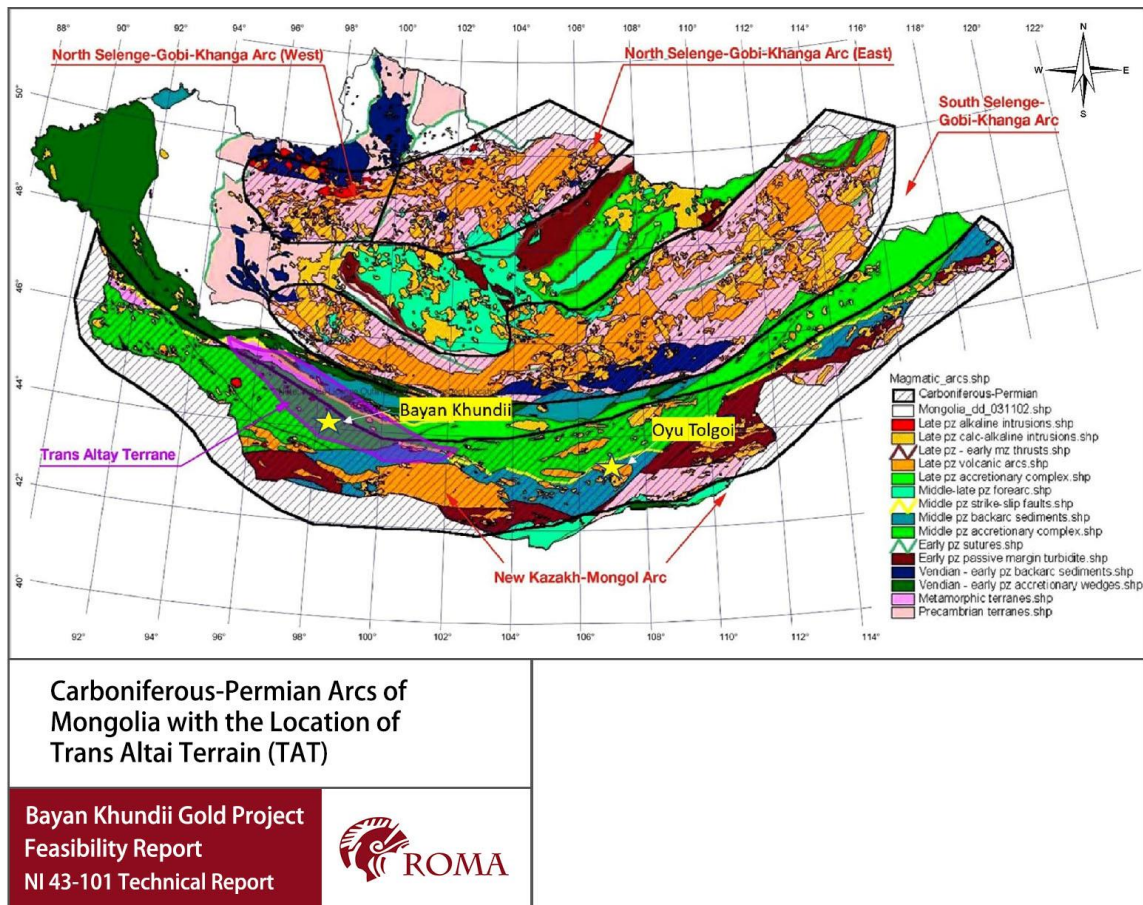
Baseline studies and impact assessments for the Project, which are documented in full in the ESIA and DEIA, have been completed for the potential impact domains of climate and air quality, noise and vibration, topography, landscape, geology, soil and seismicity, surface water quality, hydrology and hydrogeology, biodiversity conservation, waste, population and demography economy and employment, land use, cultural heritage, occupational and community health, safety and security, and transport. Management plans have been created for each of these areas of potential impact.

Erdene consults with stakeholders in the course of its business, including both statutory and voluntary. The statutory consultations required under Mongolian law during the DEIA process were in progress as of the date of this FS Report, with expected completion in late 2020. The Local Cooperation Agreement also commits the Project to ongoing consultation with local stakeholders over the course of the Project life cycle.

Mine closure and reclamation will be performed in accordance with Mongolian regulations and guidelines. All buildings and facilities not identified for a post-mining use will be removed from the site during the salvage and site demolition phase. Mine closure costs have been estimated at US\$3.1 million. The conceptual mine closure plan (CMCP) for the Project will be reviewed and continually improved during the development and operations phases of the project. A statutory mine closure plan must be filed with the government three years prior to the planned completion of mine operations.

#### **1.5 Geology Setting and Mineralization**

The Project is located within the Edren island arc terrane which is part of the larger composite Trans Altai Terrane (“TAT”) (Figure 0-2). The TAT forms part of the western end of the large, composite, arcuate-shaped Paleozoic New Kazakh-Mongol Arc terrane (“NKMA”) (Yakubchuk, 2002) which extends along the southern margin of Mongolia, including the border region with China, and is host to the Oyu Tolgoi copper-gold porphyry mine to the east. The TAT consists mostly of Middle Paleozoic volcanic, sedimentary and metasedimentary rocks that were intruded by Middle Paleozoic calc-alkaline and alkaline plutons.



**Figure 0-2 Carboniferous-Permian Arcs of Mongolia with location of Trans Altai Terrain.**

The KGD is mainly composed of the Lower Carboniferous Ulziithar Formation. The Bayan Khundii gold deposit is hosted in the lower member of the Ulziithar Formation which is terrigenous tuffogenic and approximately 1,200 m thick. Other geological units in the KGD include Jurassic Ovoot Ulaan Formation and the Upper Carboniferous Bayan-Airag Intrusive Complex.

The bedrock geology of the Khundii license area is dominated by a sequence of the Lower Carboniferous Ulziithar Formation consisting of volcanic (andesite, andesite porphyry) and pyroclastic rocks (ash, lapilli, and block and ash tuffs). These were intruded by units of the Upper Carboniferous Bayan-Airag Intrusive Complex, and together these rocks were unconformably overlain by Jurassic Ovoot Ulaan Formation volcanic and sedimentary units. All rocks in the region are overlain by unconsolidated sediments of Quaternary or Recent age.

The overall structural model consists of a series of tilted, extensional, domino-style fault blocks with NE-trending, SE-verging extensional faults. The main north-northeast trending mineralized zone, comprised of the Striker-Midfield-North Midfield zones, is interpreted as a 'relay ramp' whereby stress is transferred from the ends ('tip points') of adjacent northeast-trending, southeast-verging extensional faults via a series of northeast trending parallel structures.

Mineralization at Bayan Khundii consists of gold  $\pm$  silver in massive-saccharoidal, laminar and comb-textured quartz  $\pm$  hematite veins, multi-stage quartz-adularia-chalcedony  $\pm$  hematite veins, quartz-hematite breccias, along late fractures ( $\pm$  hematite/specularite), and as disseminations within intensely illite-quartz altered pyroclastic rocks, where it is commonly associated with hematite that partially or completely replaced pyrite grains. Gold mineralization is mostly hosted in parallel NW-SE trending, moderately-dipping (approximately 45°) zones that range in width from 4 to 149 m.

Gold mineralization at surface is present in three separate areas over a 1.7 km NE trend at the Bayan Khundii Deposit. These include the SW Prospect area (550 m x 300 m), the NE Prospect area (300 m x 300 m), located approximately

0.7 km to the northeast, and the NE Extension located an additional 500 m to the northeast. All of the Bayan Khundii mineral resource lies within the SW Prospect area which includes the Gold Hill, Striker, Midfield and North Midfield zones. The NE, and NE Extension Prospect areas have undergone limited exploration drilling with anomalous gold mineralization intersected in a number of drill holes.

## **1.6 Exploration**

Exploration in the Bayan Khundii area was initiated in 2010 including property-wide geological mapping, soil sampling and a magnetic survey while more detailed exploration, including detailed geological mapping, rock chip sampling and trenching was focused on the central part of the license on a project referred to as Altan Arrow.

In early 2015, Erdene geologists identified, through rock chip sampling, high-grade gold mineralization associated with a zone of intensely altered (quartz-illite) pyroclastic lithologies located about 3.5 km south of Altan Arrow. This area, referred to as the Bayan Khundii (Rich Valley) Project, was the focus of a detailed exploration program carried out from 2015 to 2019 that culminated in the identification of the Bayan Khundii gold deposit, the focus of this report.

There are multiple areas with the potential to add further resources at Bayan Khundii, including, but not limited, to the following:

- The Bayan Khundii Resource includes an Inferred Resources of 103,000 ounces of gold at a grade of 3.68 g/t gold. All or a portion of this resources could potentially be added to open-pit reserves through both additional drilling and rising gold prices.
- Recent drilling at the Midfield SE and Striker SW zones of the Project area intersected exceptionally high-grade gold, including one meter of 582 g/t gold within an intersection of 5.5 meters grading 126 g/t at Midfield SE, in areas of the resource currently classified as waste or sub-grade material. The areas could potentially provide additional high-grade feed in the early phases of development.
- Additionally, very high gold grades observed in drilling in the Striker West portion of the deposit have the potential to provide additional high-grade resources should closer spaced drilling improve continuity.

The reported resource is pit constrained and based on multiple parameters (Table 0-2, note 4) including a US\$1350 gold price. Multiple high-grade intersections outside the pit provide expansion targets requiring additional drilling in a rising gold price environment.

Exploration on other areas on the Khundii license, outside the Bayan Khundii deposit was carried out between 2010 and 2020, resulting in the identification of the South Bayan Khundii, Altan Arrow, Khundii North and Khar Mori (Dark Horse) prospects. Exploration techniques included the following:

- Detailed geological and structural mapping;
- Rock chip sampling;
- Progressively more detailed soil sampling with select areas now at 50 m grid sampling;
- Geophysical surveys, including:
  - Ground magnetic surveys with line spacing at 100 m, 25 m and 10 m spacing;
  - IP dipole-dipole lines at 200 m spacing with 150 m spaced dipoles;
  - Ground gravity survey at 200 m station spacing;
  - Compilation and 3D modelling of all geophysical data; and
- Scout drilling (South Bayan Khundii, Altan Arrow and Khundii North prospects).

Further exploration is required at each of these prospects to determine the extent of mineralization on the license. Erdene intends to continue exploration in these areas with the goal of expanding resources on the Khundii Mining License.

## **1.7 Mineral Resource Statement**

[Note to reader: Subsequent to the filing of the Bayan Khundii Feasibility Study, Tetra Tech updated the Mineral Resource Estimate for the Bayan Khundii Gold Project, incorporating 2020 drilling at Striker West, Striker, Midfield and Midfield North, and reflecting current gold prices. The updated Mineral Resource has an effective date of June 17, 2021. Please refer to the SUBSEQUENT EVENTS section of this AIF, immediately following this Executive Summary]



The current Mineral Resource Estimate for the Bayan Khundii deposit was prepared by Mr. Cameron Norton of Tetra Tech as reported in the “Khundii Gold Project NI 43-101 Technical Report”, December 4, 2019, authored by Ms. M Phifer, Messrs. C. Norton, J. Clark, A. Kelly, H. Ghaffari, M. Horan and M. Fawcett. The effective date of the Bayan Khundii Mineral Resource Estimate is October 1, 2019.

The Tetra Tech Bayan Khundii Mineral Resource Estimate is based on data from 266 holes, totaling 44,859 meters of drilling, and structural interpretation study completed by Erdene on the Property. The results of the Mineral Resource Estimate for the Bayan Khundii deposit, presented in Table 0-2, have been constrained to a conceptual pit shell and are reported at a 0.55 g/t Au cut-off.

Cut-off Grade <sup>(1)</sup> (Au g/t)	Resource Classification	Tonnage	Grade Au (g/t)	Gold (oz)
0.55	Measured	1,410,000	3.77	171,000
	Indicated	3,710,000	2.93	349,700
	<b>Measured &amp; Indicated</b>	<b>5,120,000</b>	<b>3.16</b>	<b>520,700</b>
	Inferred	868,000	3.68	102,800

**Table 0-2 Mineral Resource Estimate for Bayan Khundii, effective October 1, 2019.**

Notes:

1. Cut-off grades have been calculated using a gold price of \$1,350/ounce, mining costs of \$3.0/tonne, milling and G&A costs of \$16.0/tonne, and an assumed gold recovery of 95%.
2. Bulk density of 2.66 for mineralized domains.
3. All figures are rounded to reflect the relative accuracy of the estimate. Numbers may not add exactly due to rounding.
4. Conforms to NI 43-101, Companion Policy 43-101CP, and the CIM Definition Standards for Mineral Resources and Mineral Reserves.
5. Mineral resources which are not mineral reserves do not have demonstrated economic viability.

## 1.8 Mineral Reserve Statement

Mineral Reserves estimated for the Bayan Khundii deposit are based on Measured and Indicated Resources, as calculated by Tetra Tech, with an effective date of October 1, 2019, and use FS engineering designs for the pit and associated process plant operating parameters.

The cut-off grade for mineral reserve calculations is 0.7 g/t Au and is based on a gold price of \$1,400/oz. The Resource as defined by the regularized block model contains modelled mineral losses of 1% and average internal dilution of 9% within the ultimate pit.

A summary of the Mineral Reserves estimated for the Bayan Khundii deposit with an effective date of July 1, 2020, can be found in Table 0-3.

Classification	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)
Proven	1.2	4.2	166
Probable	2.2	3.5	244
<b>Grand Total</b>	<b>3.4</b>	<b>3.7</b>	<b>409</b>

**Table 0-3 Bayan Khundii Gold Deposit – Mineral Reserve Statement, July 1, 2020.**

Notes:

1. The effective date of the Mineral Reserve estimate is July 1, 2020. The Qualified Person for the estimate is Mr. Anthony Keers of Auralia Mining Consulting;
2. The Mineral Reserve estimates were prepared with reference to the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) Definition Standards (2014 CIM Definition Standards) and the 2003 CIM Best Practice Guidelines;
3. Reserves estimated assuming open pit mining methods;
4. Waste to ore cut-offs were determined using a NSR for each block in the model. NSR is calculated using prices and process recoveries for each metal accounting for all off-site losses, transportation, smelting and refining charges. This equates to a deposit average of 0.7 g/t Au;
5. Reserves are based on a gold price of \$1,400/oz; and
6. Mineral Reserves were calculated from a diluted “mining” block model which included average dilution of 9% and losses of 1%.

## 1.9 Mining Method

Mining operations, designed as part of this FS, focus on the Bayan Khundii open-pit and surrounding infrastructure. The Bayan Khundii site is comprised of the open pit mine, processing plant and integrated waste rock and dry cake tailings storage facility. Additional infrastructure for maintenance facilities and an accommodation village are included. The proposed mine uses conventional open-pit truck and shovel methods for ore extraction.

Initial evaluation of Whittle™ pit shells was completed based on geotechnical and economic parameters to determine potentially economically minable material. The Whittle™ optimization process identified three main pit areas defined as Striker, Midfield and North Midfield. Subsequently, three stages of pit design and development were planned based on the Whittle™ optimization output. The pit exit level is approximately 1,232 meters above sea level (“MASL”) and reaches a maximum depth of 1,088 MASL at the North Midfield Pit.

Overall mining inventory within the ultimate pit design is 34.6 million tonnes (“Mt”) of which 31.2 Mt is classified as waste and 3.4 Mt is classified as ore. The average grade for process plant feed is 3.7 g/t gold containing approximately 409 thousand ounces (“Koz”) of gold in total.

The designed process plant throughput rate is 600 thousand tonnes per annum (“Ktpa”) with 450 Ktpa for the first year of operations and 600 Ktpa from Year 2 onwards. The total productive mine life is 6 years, with an additional 3 months of pre-production to generate waste for construction of the run-of-mine stockpile (“ROM”) and integrated waste facility (“IWF”) in advance of process plant commissioning. An average of 8.9 Mtpa of total ex-pit production is required from Year 1 to 3 and this progressively reduces down to 1 Mtpa from Year 4 to Year 6, at which time ore from the North Midfield zone is sufficiently exposed to generate consistent process plant feed.

The stockpile and process plant feeding strategy optimizes project Net Present Value (“NPV”), balancing feed grade and stockpile re-handle quantities. A cap of 4.5 g/t Au for feed over a monthly period has been applied to reduce the risk of gold recovery loss in the processing plant. The maximum stockpile quantity is approximately 300 Kt, and total re-handle of stockpile material is approximately 300 Kt over the life of mine.

In total, 381 Koz of gold are expected to be recovered at an average gold recovery rate of 93%.

Schedule Items	Unit	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Total
<b>Total Mining Inventory</b>									
Total Ex-pit	Kt	808	8,072	8,880	8,880	5,473	1,504	1,057	34,674
Waste	Kt	808	7,528	8,107	8,407	4,923	904	571	31,246
Ore	Kt	0	544	773	473	550	600	487	3,427
Au Grade	g/t	0.00	3.66	3.53	4.37	3.39	4.39	2.96	3.71
Mined Gold	oz	0	64,081	87,838	66,488	59,913	84,675	46,329	409,323
<b>Processing and Stockpile Balance</b>									
Mill Feed	Kt	0	450	600	600	600	600	577	3,427
Feed Au Grade	g/t	0.00	4.25	4.31	3.63	3.18	4.39	2.63	3.71
Process Recovery	%	0	93%	93%	93%	93%	93%	92%	93%
Gold Recovered	oz	0	57,428	77,702	65,162	56,999	79,108	45,270	381,668
<b>Stockpile Balance</b>									
In tonne	Kt	0	95	201	7	6	0	0	309
In Au grade	g/t	0.00	0.85	0.84	0.83	0.86	0.00	0.00	0.84
Out tonne	Kt	0	1	28	134	55	0	91	309
Out Au grade	g/t	0.00	0.86	0.84	0.84	0.84	0.00	0.84	0.84
Balance tonne	Kt	0	94	267	140	91	91	0	
Balance Au grade	g/t	0.00	0.85	0.84	0.84	0.84	0.84	0.00	

**Table 0-4 LOM Schedule Summary in Year.**

To satisfy the productivity and selectivity required over the life of mine, bulk waste excavation will be undertaken with two 75-tonne-class backhoe configuration excavators and selective waste excavation and ore excavation will be undertaken with a single 36-tonne-class backhoe configuration excavator. 55-tonne rigid frame dump trucks will be used to move ore and waste material, maximizing overall truck utilization, and unifying the truck spare parts stock. A single 40-tonne ADT truck was selected for tailings haulage from the process plant to the tailing cells located within the IWF.

Both production and control drilling are needed during mining operations. Production drilling is for bulk waste material, and control drilling is for wall blast, selective waste and ore blast.

Ancillary and support fleet were also selected based on the project scale and experience from similar projects.

Core Equipment	No. Required
<b>Major Fleet</b>	
75T HEX	2
36T HEX	1
55T Dump Truck	10
40T ADT Truck	1
Drill#1 – DTH	1
Drill#2 – TH	1
<b>Ancillary</b>	
Front End Loader (3cum bucket)	2
Dozer#1 – 475 hp	2
Dozer#2 – 365 hp	3
36T HEX with scaling attachment	1
Grader – Mine spec 14' blade	1
Water Carts – 50 kL	1
Service Truck – full lube and fuel	1
Compactor - 10T	1
<b>Support Fleet</b> (various light vehicle units, lighting, pumps, emergency equipment, etc.)	

**Table 0-5 Fleet Summary.**

## 1.10 Project Infrastructure

Project infrastructure for the Bayan Khundii mine is designed to support efficient day-to-day operations and includes the processing plant, integrated rock waste and tailings storage facility, maintenance and administration buildings, site services facilities such as water supply, power plant, fuel station and heating facilities, emergency facilities, site haul roads, surface water management infrastructure and accommodation camp.

Infrastructure placement and design was sited with consideration of the prevailing winds on site to mitigate dust formation, areas of light and heavy vehicle interaction on haul roads, and drainage and catchment areas to mitigate potential flooding.

An on-site power plant is proposed to meet reliability and anticipated power requirements, with a combined solar/diesel generation method. Average load demand of approximately 4.8 MW is expected with distribution on site transmitted at 6.6 kV via substations at areas with major power requirements.

The site requires an average of approximately 0.6 ML/day (or 6.9 L/s) of raw water to sustain mineral processing, mine dust suppression and camp domestic water requirements. Water is envisaged to be supplied from the nearby Khuren Tsav-Bosgyn Sair (“KT-BS”) bore field located approximately 1 to 4 km south-southwest of the Bayan Khundii processing plant. This nearby bore field has indicative capacity to meet the annualized demand rate. However, as groundwater is primarily hosted in localized fracture systems that are highly variable with limited connectivity, further investigation is required to quantify the aquifer storage and spatial extents. A below-ground pipeline is proposed to transport water from the bore field to a raw water tank adjacent to the processing plant for treatment. Secondary water requirements at the accommodation camp and other buildings or site facilities will be treated further to allow a potable water source for drinking water and safety showers.

### 1.10.1 Infrastructure Design and Material Estimation

The design of project infrastructure followed a customized process that included Erdene input, general and architectural concepts, and a final conceptual approval by a qualified Architect and Erdene. Design and engineering works were then advanced to a level of detail sufficient for securing budget pricing for this FS Report (AACE Class II). Simultaneously, technical drawings were developed in Mongolian for government approval and sign-off (also referred to as “expertising”). Detailed, approved design drawings are required prior to the application for a construction permit, the final step in the process.

For capital and operating cost estimation, engineering material take-offs were based on neat line quantities, or unless otherwise specified, derived from the project drawings and sketches. Allowances were included for each discipline as appropriate. Conceptual quantities were prepared where drawing information was not available.



### **1.10.2 Procurement Process**

A Request for Proposal (“RFP”) or Quotation (“RFQ”) framework was prepared for the Project. Dependent upon the nature of the service, works, equipment, or materials required, costing packages were prepared for each facility and all services required by the Project. In total, 54 Process Plant RFPs and 66 Non-Process RFPs were sent to suppliers located in Mongolia, China, Europe, Asia, Australia and South Africa. RFPs were issued for process plant equipment, construction materials, mining equipment, all-in construction of site infrastructure, freight and logistic costs. Additionally, RFPs for power, fuel, and laboratory services were based on criteria to design, build, operate, and transfer.

The infrastructure of the Bayan Khundii Gold Project includes the engineering design, procurement, construction, and management for the following site works:

- Main and internal access roads;
- Bulk earthworks, including clearing of all required areas, installations, including culverts, box cuts for landfill, backfill and compaction of construction locations, hard stands, dams, drains, catchments, services trenching and water storage ponds;
- Accommodation village installation, reticulated services, waste disposal, water treatment, medical facility, and associated infrastructure;
- Communications system;
- Buildings, including ablutions, laboratory, reagents storage and bus shelters;
- Steel-framed buildings, including an Office (inclusive of emergency medical facility), Mine Dry, HV/LV workshops, Warehouse, Central Heating Plant and Security Guard House;
- Fuel storage and distribution facility;
- Power related civils and genset/solar generation area;
- Power, water, heating, and wastewater reticulation across the project site;
- Site fencing and security;
- Process plant and gold room security; and
- Bore field water supply.

The proposals and quotes received were assessed against criteria including completeness of the submission, methodology, commercial terms, presentation, previous experience and evidence of understanding.

### **1.11 Integrated Waste Facility**

The Integrated Waste Facility (“IWF”) will comprise the co-disposal of waste rock and processed dry cake tailings generated during mining activities at the BK open pit. Both waste rock and dry cake tailing, with a final target moisture content of around 15%, will be transported to the IWF via haul trucks.

The IWF has been designed to store tailings within cells located in the core of the IWF structure and away from potential failure planes along the dump batter slopes identified from the stability analysis. Throughout the LOM, the IWF will see the deposition of waste rock and tailings at an approximate ratio of 10:1, respectively, which will see the IWF grow vertically until it reaches its ultimate shell height of 76 m at RL 1302 m.

A water balance for the IWF system has been developed as a means to size other components of the system and to understand the likelihood of overtopping of the containment structures during a 1,000-year period of time. Auxiliary infrastructure will support the overall water management of the IWF and has been designed to minimize runoff migration into the IWF project areas, as well as minimizing the amount of potential contaminant water that is to be collected and re-handled as a means to avoid cyanide leachate migration into the broader environment.

Auxiliary infrastructure for the IWF water management system entails:

- Diversion drain along the north-western flank of the IWF to divert clean water runoff away from the site;
- Engineered clay liner over the foundation sitting below the tailings cells within the IWF;
- Contaminant collection underdrain, along centerline of engineered clay liner;
- Contaminant Runoff Collection Pond (“CRCP”), south of the IWF; and
- Southern clean runoff collection drains, to divert runoff in contact with waste rock, away from the project’s site.

The water collected at the CRCP is to be returned to the process plant for reuse, although this will not be a steady and reliable source of water for the materials processing based on the low rainfall averages expected at the site.

## **1.12 Mineral Processing and Metallurgical Testing**

### **1.12.1 Metallurgical Test Work**

A series of metallurgical test programs were conducted on material from the Bayan Khundii deposit between 2016 and 2020. Throughout this period, testwork included various comminution tests, gravity concentration testwork, a whole ore cyanidation optimization program, cyanide variability tests, carbon adsorption, cyanide destruction and dewatering testwork. Data from all tests programs is utilized in support of this study.

#### **Comminution Tests**

Comminution test results suggest that Bayan Khundii material is moderately hard to hard. Comminution testwork consisted of Bond Ball Mill Work Index tests (“BWI”), SAG Mill Comminution testing (SMC Tests®) and Abrasion Index tests. Additional JK Drop Weight Tests and Crusher Work Index tests were conducted as well.

The average Bond Work Index is 18.1 kWh/tonne, however, there were some geographic trends noted in the hardness of the material. The average BWI from the Striker zone was 17.2 kWh/tonne, while the average BWI from Midfield and North Midfield was 18.4 and 19.1 respectively. Since this generally aligns with the proposed mining sequence, then the implication is that feed to the mill will get progressively harder over the course of the mine life. The SMC Tests® also align with this observation. Abrasion Index results suggest the material is moderately abrasive to abrasive. The data from the comminution testwork was used to appropriately design and size the crushing and grinding circuit for a design basis of the primary grind size of 80% passing 60 µm.

#### **Gravity Concentration**

Gravity concentration studies conducted during the 2019 test program were completed in order to obtain a greater understanding of the gravity response from average grade material (BK-MET-COMP\_18-01) and from high grade material which could make up a portion of the mill feed early in the mine life (BK-MET-COMP\_18-02). The cumulative gravity recoverable gold (“GRG”) ranged from 40.5% for BK-MET-COMP\_18-01, to 57.7% for BK-MET-COMP\_18-02. While there was a reasonable amount of gold present as GRG in each composite, that gold was quite fine and late liberating, thus making high recovery by gravity alone quite difficult. Gravity recovery is not included in the design of the Bayan Khundii plant.

#### **Whole Ore Cyanidation Testwork**

Numerous whole ore cyanidation test programs were conducted on Bayan Khundii material. During the various test programs the effects of primary grind size, cyanide concentration, lead nitrate addition, and oxygen addition were studied. Variability testwork allowed for a study of the impact of head grade and geography on gold recovery. On average, gold recovery ranged in the low to mid 90% range. A few lower grade samples yielded recovery less than this mark. The key findings from these programs were:

- Finer primary grind sizes provided higher overall gold extraction. A primary grind size of 80% passing 60 µm was selected as the design basis;
- Cyanide consumption was low and a sodium cyanide addition rate to the leach circuit of 0.5 g/L is sufficient to ensure acceptable gold extraction;
- The addition of lead nitrate or oxygen did not materially change the leach performance;
- Gold recovery was relatively insensitive to a solids content between 35% and 55% in the cyanidation circuit. A percent solids target of 42% was maintained as the design basis;
- Cyanidation residence time of 36 hours was appropriate.; and
- Gold recovery from the Striker Zone material is slightly higher than that from Midfield and North Midfield.

Carbon adsorption testwork on cyanide leach slurries indicated no issues with adsorption of gold and silver onto activated carbon.

## Cyanide Destruction

A cyanide destruction program was conducted to evaluate conditions required to adequately detoxify process solutions and ensure that weak acid dissociable cyanide (“CNWAD”) present in tailings liquor complies with the project’s stated target of less than 50ppm for impoundment in the Integrated Waste Facility. Testwork used the SO<sub>2</sub>/Air process to oxidize CNWAD to cyanate. Since Bayan Khundii is relatively clean material without many metal cyanide complexes formed in solution, most of the residual cyanide is present as free cyanide and copper sulphate had to be added to catalyze the reaction.

Optimized cyanide destruction parameters were 40 minutes retention time, copper concentration of 100 ppm and SO<sub>2</sub> addition rate of 5.5 g SO<sub>2</sub> / g CNWAD. These parameters were sufficient to adequately oxidize CNWAD content of the Bayan Khundii tails liquor from approximately 185 ppm to less than 10 ppm.

## Dewatering Testwork

Thickening and filtration characteristics were evaluated on a sample of Bayan Khundii CIP tailings. Dynamic thickening testwork showed that Bayan Khundii CIP tailings could be thickened to underflow densities of 57% to 59%, while still maintaining reasonable overflow clarity. The sample was sensitive to flux rate, and tests conducted at a rate of 0.5 t/m<sup>2</sup>hr had overflows with high total suspended solids (>30,000 ppm). Increasing the floc dosages to 80 g/t improves the overflow clarify. The best results were achieved with a feed solids dilution to 5%. Increasing the feed solids to 7.5% still produced good overflow clarity, however it reduced the underflow solids to 50%. This may be acceptable considering additional filtration stages are found downstream of the tails thickener.

Four different filtration systems were evaluated: cloth disc, ceramic disc, vacuum belt and pressure filtration. The lowest cake moisture was achieved with ceramic disc filters and pressure filters. Ceramic disc and pressure filtration were clearly superior to vacuum belt filtration or cloth disc filtration which only achieved cake moistures in the low to mid 20% range. The average moisture content from the ceramic filter test runs was 17%, however a few runs achieved a moisture content of less than 15%. Ceramic disc filtration provided clear filtrates than pressure filtration and was selected as the basis for the processing plant design.

## Projected Gold and Silver Recovery

A relationship between head grade and gold recovery was developed during earlier phases of study and continuously updated as new test results became available. This relationship was a series of linear equations based on specific head grade bands. While the average gold recovery from Bayan Khundii material is in the low to mid 90% range, a few lower grade composites returned recovery less than this mark. Life-of-mine gold recovery is expected to be 93%. The gold recovery equations are highlighted in Table 0-6.

Grade Band (g/t)	2020 Recovery Equation
0 – 0.35	Au Rec (%) = 230.61 * Au Grade (g/t)
0.35 – 1.18	Au Rec (%) = 13.32 * Au Grade (g/t) + 76.052
1.18 – 22.0	Au Rec (%) = 0.314 * Au Grade (g/t) + 92.045
>22.0	Au Rec (%) = 99.0

**Table 0-6 Bayan Khundii Gold Head Grade Recovery Relationship.**

Silver recovery was tracked throughout the 2020 test program. At the target 60 µm grind size the silver recovery amongst the variability composites ranged from 43% to 67%. Average silver recovery from Bayan Khundii material is expected to be 55%.

### 1.12.2 Mineral Processing and Recovery Methods

Mill feed from the Bayan Khundii pit to the processing plant is expected to average 3.7 g/t gold with similar silver content which does not generate any modelled revenue, nor does it negatively impact the performance of the proposed processing plant. Testwork conducted concludes that the ore is amenable to conventional cyanide leaching with life-of-mine recoveries averaging 93% using this method for a grinding product of nominal P80 of 60 µm.

The proposed conventional cyanide leaching process is designed to produce gold doré bars for transport off-site for further refining.

The simplified gold recovery process is as follows:

- Comminution;
- Cyanide Leaching;
- Carbon-in-Pulp Adsorption;
- Elution;
- Electrowinning;
- Carbon Regeneration; and
- Tailings Treatment.

The process plant will consist of single stage crushing, 2 stage grinding via a Semi-Autogenous followed by Ball Grinding (“SAB”) circuit, cyanide leaching, adsorption via carbon-in-pulp methods, elution via the Pressure Zadra, electrowinning and furnace smelting to produce doré bars. Subsequent carbon regeneration will be conducted in a diesel-fired kiln before replacement in the CIP tanks. Tailings will be thickened to recover residual cyanide, following cyanide detoxification and vacuum filtered to a dry cake before disposal in constructed cells within the integrated waste facility. As stated in Section 1.12.1, a gravity circuit has not been included in the design.

### 1.13 Capital and Operating Cost Estimation

Capital costs for the Bayan Khundii operations were estimated according to the Association of Advancement of Cost Engineers (“AACE”) Class 2 estimate. The accuracy of the estimate is  $\pm 10 - 15\%$ . All currencies are in United States Dollars unless otherwise specified. This capital cost estimate is based on a contractor mining scenario for the Bayan Khundii Gold project. The total estimated initial capital costs for the Bayan Khundii operation is US\$59.2 M, as summarized in Table 0-7:

Capital Cost	US\$ (Million)
Process Plant	24.3
Non-Process Infrastructure	9.8
Permanent Accommodation	2.0
Construction Indirects	6.0
Engineering & Support	4.8
<b>Construction Costs</b>	<b>46.9</b>
Pre-Production Costs	7.5
Contingency	4.8
<b>Subtotal Plant and Infrastructure</b>	<b>59.2</b>
Sustaining Capital	3.7
Reclamation and Mine Closure	2.9
Salvage	(2.0)
<b>Total (US\$ millions)</b>	<b>63.8</b>

**Table 0-7 Capital Cost Estimate.**

The life of mine average operating cost for the Bayan Khundii operations is estimated at US\$70.60/t milled. This operating cost excludes any initial or sustaining capital and excludes pre-production costs. Operating costs for mining, processing and general and administrative costs are summarized in Table 0-8 below.

Operating Costs	Total Cost (LOM Millions)	Cost \$/t Milled (LOM Average)
Mining Costs	146.1	42.63
Processing Costs	89.1	26.00
General and Administrative Costs	6.8	1.98
<b>TOTAL OPERATING COST</b>	<b>242.0</b>	<b>70.61</b>

**Table 0-8 Operating Cost (US\$ Million).**

*\*General and Administrative costs include US\$2.25M of offsite costs.*

#### **1.14 Economic Analysis**

An economic evaluation of the Bayan Khundii operation was undertaken as at June 30, 2020, using a US\$1,400 per ounce gold price. The summarized results of the evaluation are as follows:

- Base Case Net Present Value at a 5.0% discount rate of US\$144.8 million pre-tax and US\$100.3 million post-tax;
- The estimated pre-tax Internal Rate of Return (“IRR”) is 55.0% and the post-tax IRR is 42.4%; and
- Payback period of 1.6 years pre-tax and 1.9 years post-tax.

Sensitivity analysis were carried out on the post-tax financial model NPV and IRR results with respect to key project variables including gold price, capital expenditures and operating costs and the Mongolian to United States exchange rate. Both the project NPV and IRR are most sensitive to fluctuations in the gold price and operating costs and least sensitive to capital expenditures and the exchange rate. Details of the sensitivity analysis can be found in Section 22.10.

The key study outcomes for the projected mine plan and economic results are presented in Table 0-1.

#### **1.15 Interpretations and Conclusions**

Based on the currently identified Mineral Resources and Mineral Reserves and the assumed prices and parameters, the authors of this FS Report have concluded that profitable operations can be sustained for six years on the Bayan Khundii site under the conditions and assumptions of this report.

##### **1.15.1 Geology and Mineral Resource**

Mineralization at Bayan Khundii consists of gold ± silver in massive-saccharoidal, laminar and comb-textured quartz± hematite veins within parallel northwest-southeast trending, moderately-dipping (~45°) zones that range in width from 4 to 149 m. These zones typically consist of narrower higher-grade mineralization surrounded by broader lower grade mineralization. Intense alteration overprints all Carboniferous tuffaceous rocks at Bayan Khundii, including the outcropping Southwest and Northeast Prospects where virtually all primary minerals have been variably replaced by quartz and illite. Bayan Khundii is characterized as a low sulphidation epithermal gold deposit.

The mineralization at Bayan Khundii is exposed at surface in the southern portions of the deposit (Striker Zone) but constrained stratigraphically to the north (Midfield and North Midfield) by a package of Jurassic sediments (primarily conglomerates and sandstones) which unconformably overlay the mineralized tuff and contain localized intercalated basalt flows. At depth, mineralization is further constrained, locally, by a granitoid body.

The resource was estimated using three interpolation methods: nearest neighbor, inverse distance squared, and ordinary kriging. The results of the ordinary kriging method were used for the resource tabulation.

At a cut-off grade of 0.55 g/t Au, Bayan Khundii has been estimated with a Measured Resource of 1.41 Mt at an average grade 3.77 g/t Au, an Indicated Resource of 3.71 Mt at an average grade of 2.93 g/t Au, and an estimated Inferred Resource of 0.868 Mt at an average grade of 3.68 g/t Au.

##### **1.15.2 Metallurgical Test Work**

The following conclusions may be drawn based on the metallurgical testwork to date.

A relationship between head grade and gold recovery has been developed for the Bayan Khundii material. Life-of-mine gold recovery is expected to be 93%. Silver recovery is expected to average 55%. Gold recovery is strongly correlated to primary grind size. Finer primary grind sizes produce higher overall gold recovery. A primary grind of 80% passing 60 µm was considered optimal and selected as the design basis of the plant.

Comminution testwork suggests that Bayan Khundii material is moderately hard to hard. Abrasion Index results suggest the material is moderately abrasive to abrasive. Comminution tests show that material gets moderately harder when transitioning from Striker through Midfield and North Midfield. The comminution circuit has been designed based on the testwork data.

Moderate cyanide addition rates are able to achieve high gold extraction. A sodium cyanide concentration of 0.5 g/L is appropriate in the leach circuit. Most composites achieved maximum gold extraction after 36 hours of leaching. A

retention time of 36 hours was selected as the design basis for the plant. Gold recovery and leach kinetics were insensitive to the solids content during cyanidation. 42% solids was selected as the design basis for the leach plant.

Bayan Khundii ore is relatively clean material, without many metal cyanide complexes, and detoxification testwork showed that most of the residual cyanide in the CIP tailings is present as free cyanide and requires the addition of copper sulphate to catalyze the SO<sub>2</sub>/Air cyanide detox reaction. A retention time of 40 minutes, 100 ppm Cu<sup>2+</sup>, 5.7 g SO<sub>2</sub>/g CNWAD resulted in CNWAD concentrations at the discharge of the cyanide destruction reactor of less than 10 ppm, well below the target of 50 ppm.

Dewatering tests highlight that CIP tails may be thickened to 50% solids with moderate flocculant dosage rates of 60-80 g/t. Feed well dilution to 5% solids improved settling characteristics of the material. Filtration of CIP tailings using ceramic disc filters or pressure filters could achieve a final moisture content as low as 15%. Disc filtration was selected as the design basis for the FS.

### **1.15.3 Mineral Reserve Estimate**

Estimations of Mineral Reserves for the BK deposit are based on Measured and Indicated Resources and meet the definitions of Proven and Probable Mineral Reserves as stated by NI 43-101 and defined by the CIM standards on Mineral Resources and Reserves Definitions and Guidelines (2014). The Mineral Reserve estimates are based on a mine plan and open pit design developed using modifying parameters including metal price, metal recovery based on performance of the processing plant, and operating cost estimates. The Proven and Probable Reserves are inclusive of the Mineral Resource and based on a three-year moving average gold price of \$1,400/oz.

Geotechnical investigations were conducted to assess the expected rock quality at Bayan Khundii. Characterization of structural domains was completed for slope stability and pit design considerations. Overall slope angles and bench parameters were provided from the geotechnical analysis as inputs to the pit optimization study.

Average mining costs of \$42.63/t Milled, processing costs of \$26.00/tonne milled, and \$1.98/t Milled general and administrative costs have been used to estimate the reserves along with a gold price of US\$1400/oz.

Proven and Probable Reserves total 3.4 Mt of ore, with estimated contained gold of 409 Koz.

### **1.15.4 Mining and Process Operations**

Following completion of the open-pit optimization study and in order to maximize recovery of ore and minimize waste stripping and haulage costs, a pit has been designed to extract the reserves contained in the ultimate pit shell from the optimization that has dimensions of approximately 800 m by 380 m by 144 m.

A detailed production schedule has been developed incorporating two pushback phased mining stages and the ultimate design pit. The production schedule will take place over six years inclusive of a one-year commissioning ramp up for the processing plant until nameplate capacity is achieved. Over the LOM, the pit will produce 3.4 Mt of mineralized material and 31.2 Mt of waste rock. The LOM average gold grade is 3.7 g/t. The LOM stripping ratio is 9.1:1. The production schedule will provide process plant feed at a nominal rate of 600 Kt/year.

Mining will be undertaken using conventional open pit drill/blast and load/haul using trucks and excavators in backhoe configuration. Bench height for the ultimate pit has been set to a 10 m height based on 5 m benches stacked in a double bench configuration. Two-lane mine roads will be a minimum of 21 m and single roads at the bottom of the pit will be 10 m wide. All ore will be transported to a primary crusher in 55 t rear-dump haul trucks and waste will be transported using the same class haul trucks. Primary ore loading will be by 36 tonne weight class diesel hydraulic excavators in backhoe configuration, primary waste loading by two 75 tonne weight class diesel hydraulic excavators in backhoe configuration.

A total of 409 Koz is expected to be mined over the life of mine.

The processing plant has been designed with a conventional cyanide leaching and CIP recovery circuit. The mine will provide ore to the process plant at a nominal rate of 600 Kt/year. The processing plant will use a crusher / SAG / Ball mill configuration. Two crushers in a duty/standby configuration were shown to result in a lower CAPEX than a single crusher plus stockpile and recovery system. The final circuit has an expected utilization of 92% and will provide a constant feed size to the leach circuit.

The leach circuit has been designed for a 36-hour residence time, with four tanks in series to optimize between enough tanks to minimize short circuiting and a manageable operational height for the building. A conventional six-tank CIP

circuit was chosen and a conventional pressure Zadra circuit is designed in the gold room. The processing plant has been designed within buildings to provide year-round accessibility by maintenance and operational personnel.

The tailings requirement of co-disposal has been implemented using ceramic disc filters in parallel. This is based on the more effective drying and water recovery from the ceramic disk filters and that it operates on a continuous basis, rather than the batch operation of the alternative of pressure filtration, resulting in smaller tanks and lower pressure pumps in this area.

Mining (waste rock) and processing waste (tailings) will be contained within an IWF as a single above ground structure. The IWF will consist of cells of dry cake tailings and waste rock encapsulated with an environmentally benign and durable erosion-resistant cover system.

#### **1.15.5 Environmental, Social and Mine Closure**

At the time of this FS Report, the Project had in place all necessary environmental permits for its operations. Environmental permitting for the purposes of mine construction and operation remained ongoing.

The independent Environmental and Social Impact Assessment of the Project provides detailed baseline information, impact assessment for key domains, and management plan commitments. Management plans in the ESIA detail the Company's commitment to build, operate, and close the Project in accordance with applicable regulation and Project standards. Considering the outcomes of the ESIA, the independent Mongolian statutory DEIA has been prepared for consultations and submission for approval to the relevant Mongolian government authority.

Based on the geochemical properties of BK and its surrounding environment as well as industry best practices, Erdene selected its preferred approach of integrated mineral waste management – whereby detoxified, filtered tailings are placed as a dry cake within layers of waste rock in a single landform (IWF).

The overall vision of closure for the BK site is to have all evidence of the operation removed, except for the final void and the IWF landform. The remainder of the areas impacted by the operation will be returned to their pre-operation form and revegetated, where appropriate given the sparsely vegetated pre-operation landscape.

#### **1.15.6 Capital and Operating Costs**

The capital and operating cost estimates for the Bayan Khundii project are considered AACE Class 2 estimates. The base currency of the estimates is US dollars (US\$).

The capital cost estimate for mining is based on contract mining and thus no capital cost was allocated for mining equipment and ancillary mining equipment. Power is proposed to be provided by an Independent Power Provider (IPP) and therefore no capital allowance has been included in the capital estimate. The capital cost includes the cost for essential mining infrastructure, balance of utilities including, water and heating, and haul roads. The total estimated initial capital costs for BK are US\$59.2M including contingency.

Sustaining capital cost estimates for the processing plant and associated facilities are calculated as 1.5% of the total initial capital costs from years two through five of the life of mine and includes provision for replacement or repair of major processing equipment components, site service and utility repair and replacement and process-related mobile equipment repair and replacement.

The LOM average operating cost for Bayan Khundii is estimated at US\$ 70.64/t milled at the processing rate of 600 Kt/year.

#### **1.15.7 Opportunities**

##### **Additional Resources at Bayan Khundii**

There are multiple areas with the potential to add further resources at Bayan Khundii, including, but not limited, to the following:

- The Bayan Khundii Resource includes Measured and Indicated Resources of 521,000 ounces at an average grade of 3.16 g/t gold, and Inferred Resources of 103,000 ounces of gold at a grade of 3.68 g/t gold inclusive of the reported Proven and Probable Reserves. The remaining resources could potentially be added to open pit reserves through both additional drilling and rising gold prices.
- Recent drilling at the Midfield SE and Striker SW zones of the Project area intersected exceptionally high-grade gold, including one meter of 582 g/t gold within an intersection of 5.5 meters grading 126 g/t at

Midfield SE, in areas of the resource currently classified as waste or sub-grade material. The areas have to potential to provide additional high-grade feed in the early phases of development.

- Additionally, very high gold grades observed in drilling in the Striker West portion of the deposit have the potential to provide additional high-grade resources should closer spaced drilling improve continuity.
- The reported resource is pit constrained and based on multiple parameters (Table 0-2, note 1) including a US\$1,350 gold price. Multiple high-grade intersections outside the pit provide expansion targets requiring additional drilling in a rising gold price environment.

### **Exploration on the Khundii License**

The Bayan Khundii deposit is situated in a highly prospective region that has received minimal historical exploration. On the Bayan Khundii property, multiple high-grade targets have been established through limited shallow drilling and surface sampling within 4 km of the deposit, including the Khar Mori (Dark Horse) prospect identified in late 2019.

Erdene recently trenched new gold zones at Dark Horse, with assays returning 6 meters grading 8.8 g/t gold, including 1 meter of 50.8 g/t gold, and 4 meters of 14 g/t gold, including 1 meter of 45.3 g/t gold. As a large untested prospect, Dark Horse provides significant discovery potential along strike with a well-defined and continuous gold-in-soil anomaly along a NE trending structure for 1.3 km. In addition, there are several isolated but intense gold-in-soil anomalies at or near NE-NW structural intersections. Drilling is planned for Q3 2020.

### **Underground Mining Potential**

Further underground mining potential has been identified in conceptual studies for North Midfield and Striker West which, if proven economical through further studies, could lead to a further increase in the economic reserve of the Bayan Khundii Project.

### **Processing Plant Expansion Potential**

With the existing plant, there is a capacity to increase throughput by up to 20%, without compromise on the recovery, although this would likely compromise recovery during maintenance periods on tanks, due to the reduced residence time in these circumstances. If this was the case the throughput would be best reduced to the nameplate capacity during these times. Constraints on capacity increase beyond this point related to the grinding circuit, leach feed thickening, leach capacity, elution capacity, tail thickening and filtration capacity.

The plant could be modified to include an additional ball mill, addressing the grinding area, and an additional leach tank for the leach capacity. At a higher throughput, the thickener density control would become critical to ensure sufficient residence time. Replacing the 20 m diameter leach feed thickener, with a 24 m diameter thickener would resolve this. The elution circuit could be upgraded by the replacement of the columns with larger units and increases to the electrowinning capacity. For the tails thickening and disposal, it would be difficult to include a larger tails thickener within the current layout, and the easier path to increasing the capacity would be to increase the detoxification circuit capacity to retain sufficient residence time at a lower percent solids. The filtration area would require one additional filtration unit, and structural modifications to incorporate this into the design.

### **Additional Resources at Alan Nar**

Erdene's Altan Nar deposit, located approximately 16 km north of Bayan Khundii, has an established Indicated Resource of 5.0 Mt grading 2.0 g/t gold (318,000 ounces of contained gold) and an Inferred Resource of 3.4 Mt grading 1.7 g/t gold (186,000 ounces of contained gold). Approximately 250,000 ounces of the current Altan Nar resource could potentially be processed by the Bayan Khundii Project processing facility, however, a number of development options for Altan Nar are under consideration.



### 1.15.8 Risks

#### General

The mining assets are subject to certain inherent risks, which applies to some degree to all participants of the international mining industry. These risks are summarized as follows:

- **Fluctuations in gold price** – Risk of pricing regression of gold and/or US\$ will increase the potential impact on the project profitability. Sensitivity analysis conducted during the economic analysis of the project confirmed that the NPV and IRR of the project are both most sensitive to changes in the gold price.
- **Logistics** - The Project is remotely located, and the control of the logistics and their cost implications will be fundamental in maintaining reasonable operating costs. Especially the import of essential commodities such as project equipment, diesel fuel, explosives materials, plant reagents and consumables.
- **Capital Expenditure** - Capital expenditure predictions are based on budget quotes. CAPEX has been shown to be less sensitive than other issues with respect to project economics.
- **Operating Expenditure** - Operating expenditure predictions are based on budget quotes. Although thoroughly pre-determined using up-to-date assessment techniques, sensitivities on OPEX indicate that the project economics will remain robust even with a 10 % change.

#### Mining

Mineral Reserve figures are estimates and there can be no assurance that they will be recovered or that they can be brought to profitable production. The volume and grade of Reserves mined and processed, and the recovery rates may not be the same as currently anticipated, and a decline in the market price of gold may render Mineral Reserves containing relatively lower grades of mineralization uneconomic and may in certain circumstances ultimately lead to a restatement of reserves.

Definition of the final excavated slope angles has been assessed with consideration of in-situ groundwater conditions. This FS has been developed under the design that all the working faces within the operating pit can be de-watered prior to mining, thus enabling the slope angles presented in this FS.

#### Infrastructure

Infrastructure design for this FS report have been prepared in accordance with Mongolian requirements and applicable international standards. However, detailed designs remain subject to final Mongolian regulatory approval, which may lead to changes that could impact cost and/or schedule.

The development of infrastructure for the Project as envisioned in this FS Report will require the import of certain equipment and materials to Mongolia. To date, Project operations have not been materially affected by COVID-19. However, the timely flow of goods and services internationally may be impacted by COVID-19.

#### Processing

The process plant has been designed based on the results of the testwork performed to date. Cyanide leach is the predominant method of gold recovery for non-refractive ores for ore bodies all over the world. The outstanding processing risks are therefore:

- **Variability** – If the final ore body varies significantly from the current testwork, the plant's ability to process the ore and recover the gold is expected to change. Some variability testing has been performed. The ore is also expected to be blended on the ROM to minimize short term fluctuations.
- **Grind size** – The accuracy of the mill parameters will significantly affect the risk of the comminution circuits ability to deliver the required grind size. The spare capacity of the mills will reduce this risk significantly.

#### Environmental, Social and Mine Closure

Environmental and social studies have been carried out in accordance with Mongolian legislation as well as leading industry practices. However, the ability of the Project to secure the necessary environmental permits, including for its statutory environmental assessment and hazardous material permit, and social license to operate remain a risk.

Environmental and social studies have been carried out in accordance with Mongolian legislation as well as leading industry practices. However, the ability of the Project to secure the necessary environmental permits, including for its statutory environmental assessment, hazardous material permit, and mine closure plan, social license to operate remain a risk.

### **Project Delivery Schedule**

The Project Delivery Schedule provided in Section 18 is based on all available information and reasonable estimates for completion of all financing, engineering, permitting, procurement, construction and commissioning activities foreseen and further detailed in this FS. However, like all mining projects of this nature, there are certain risks to construction schedule realisation further summarised below:

- **Permitting** – the project still requires a number of permits to be issued by Mongolian regulatory bodies before the project can be commissioned for operations including approval of the Detailed Environmental Impact Assessment, regulatory approval of detailed construction drawings, the issuance of construction permits for the mine infrastructure, and state commissioning and permission to store and use cyanide. Delays in achieving these permits according to the schedule may result in further delays in the expected timeline for commissioning the project.
- **Delivery of equipment and materials required for construction and commissioning** – Given the remote location, potential impacts of the COVID-19 pandemic and seasonal weather patterns in Mongolia, there are timeframe risks around importation of key project items. Delays in the delivery of key items to the site will result in extensions of the time required to build and commission the project.
- **Availability of sufficient construction resources** – Mongolia is a relatively small country with limited resources dedicated to the construction and development sector, particularly with mining project experience. Whilst the outcomes of the study have identified suitable quantities of resources to deliver the project delivery schedule as presented, firm commitments of suitable quantities of these resources will only be realised once contracts are finalised with vendors and service providers.
- **Project financing** – The proposed project delivery schedule is based on the owners expected program and timeline to secure project financing. Any delays in the availability of project financing sufficient to meet required cash outflows may result in extensions in time to deliver certain elements of the project delivery schedule.

## **1.16 Recommendations**

### **1.16.1 Geology and Mineral Resource**

To potentially expand the current resource base at Bayan Khundii, additional drilling can be undertaken with a specific focus on expanding and infilling the mineralization at Striker West, along with infill drilling at Striker, Midfield, and North Midfield in order to gain further confidence in the high-grade mineralization present. Further exploration style drilling could also be undertaken in the north-east and south-west of the currently modeled gold mineralization, along with step out style extensional drilling to the east of Bayan Khundii. As infill drilling is conducted, drill hole assay and lithology results should be compared against the geological and resource model in order to quantify any variation in expected and realized geology and gold grades which were intersected.

As drilling continues, and the project continues to progress towards the mining phase, ongoing detailed studies can continue which will allow the monitoring of the variability of gold grades. The twinning of 3-5 holes should be considered to test the short-range variation in gold grades. This twinning will further test the confidence and continuity of the narrower high-grade gold zones which are currently modeled. Plotting of fire assay vs screen metallics gold assay results should be continuously conducted. This will help to determine not only the scale of variability in gold grades but also, if applicable, at what grades the variability effect is most prevalent.

It is further recommended that Erdene insert both a higher-grade gold standard and lower grade gold standard into their data QA/QC protocols in order to better reflect the gold grades encountered at Bayan Khundii. A more suitable low gold standard of approximately 0.5 g/t Au would be beneficial, along with the insertion of the occasional higher-grade standard of approximately 50 g/t Au should also be considered.

Upon the conclusion of drilling, the 3D geological and resource model should be updated in order to incorporate this data.

### **1.16.2 Geotechnical**

While the overall pit slope design adopted for the mining plan is suitable for the purpose of the FS, due to a lack of data from certain sectors, and as a result of the kinematic and limit equilibrium analyses of the currently available data, certain areas require further geotechnical study:

- As mining progresses, from the south (Striker) to the north (Midfield to North Midfield), exposed rock cuts will provide structural information for a continuous and on-going geotechnical appraisal. The on-going assessment of the geotechnical characteristics of the rock cut faces will facilitate immediate operational design adjustments;
- Collection of additional geotechnical data in the near surface Basalt units in the Northeast, East and Southeast sectors and the Jurassic units in the East sector;
- Also, additional geotechnical investigations will need to precede mining operations at Midfield and North Midfield to improve the understanding of the ground conditions and fine-tune the pit design as mining progresses northwards;
- Review pit face rock discontinuity structures during initial pushback and mining operations;
- Rock scaling of potentially problematic Basalt areas at slope crest; and
- Ensure no undermining if toppling instability occurs.

### **1.16.3 Pit Hydrology**

While it may be possible to manage pit dewatering with blasting alone, some fracture sets will contribute more than others. It is recommended during the drill and blasting process, water strikes are recorded and subsequently correlated with the geological structural mapping to provide insight for sump planning.

Stability of bench slopes may be sensitive and subsequently react to pore pressure. It is recommended that piezometers be installed to assess pit slope pore pressures as they will most likely be the most significant groundwater monitoring requirement. The piezometer location and type will be guided by slope design requirements and may not be required from the outset of mining i.e., piezometer can be installed later in the mine life when/if pore pressure is an issue.

### **1.16.4 Mining and Reserves**

While sufficient definition is provided to define waste and ore quantities by type and volume in the mine plan included in the FS, a higher resolution of grade/sub-grade/waste boundaries is required before the commencement of waste stripping and ore production.

Preliminary grade control drilling is recommended in order to more confidently define the grade zones within the orebody and the ore/sub-grade/waste boundaries. Pre-stripping is planned in the pre-production schedule to generate sufficient waste material to build the ROM and the IWF initial structures. Appropriate grade control definition will be required in advance of the pre-stripping activities to ensure no ore loss occurs.

Grade control drilling is planned and costed in the mining operating cost throughout the mine life to ensure sufficient definition of ore and waste is available for mine planning to achieve consistent ore delivery to the process plant. By undertaking additional infill drilling and grade control during operations, inferred material, which for the purposes of this FS is classified as waste, may be re-classified as ore, resulting in an increase in the reserve and an extension of the mine life.

Additional drilling outside the current pit limits may identify additional ore which could be included in the mineable reserves. If this additional ore with sufficient grade is defined within close proximity to the resource currently excluded from the mineable reserve, a further optimization study could be undertaken resulting in an increase in the mineable reserve resulting in an extension to the mine life.

The equipment selected for the mining operation is adequate to achieve the planned production as set out in the FS and was selected based on reasonable commercial principles and processes. However, given the competitive market for mobile equipment suitable for mining operations, further investigation of excavator and truck configurations as well as ancillary and support equipment performance may result in further optimization of fleet performance and cost efficiency.

### **1.16.5 Mineral Processing and Metallurgical Testing**

Based on the work conducted to date, additional testwork may be useful in fine tuning controls in the plant during operations, recommendations include:

- Evaluate additional variability samples throughout the deposit to gain additional understanding of potential variability in gold recoveries and reagent consumptions; and
- Conduct additional testwork to further optimize leach conditions including cyanide addition rates and primary grind size.

### **1.16.6 Plant and Facilities Design**

Additional field investigations may enhance final plant foundation design. The existing process plant and facilities design is based on pedestal footings for the enclosed structure and standard foundations and ring beams for the equipment within the enclosure. Drilling complemented by Standard Penetration Tests (“SPT”) and cone penetration tests (“CPT”) is recommended to confirm foundation conditions for final design. The additional field work should consist of 20 to 30 holes with SPT logging and, where appropriate, CPT probes located within the foundation footprint. Each process plant enclosure footing should be assessed by a competent Geotechnical professional to verify the bearing capacity, and to determine the actions for identified soft spots within the foundation bearing zone.

### **1.16.7 Integrated Waste Facility**

The current design was based on Erdene’s and ATC Williams understanding of the disposal permitting process including:

- The final design should address any further Mongolian permitting requirements in the course of detailed design;
- Additional field investigations should be performed in the IWF footprint areas, including supplementary characterization of the foundation conditions, dry cake tailings material, and potential borrow areas (i.e. at a detailed engineering level);
- Based on the above, an updated risk assessment for the IWF should be completed to confirm the final design scope and design parameters;
- A monitoring program, including piezometers, survey monuments and groundwater monitoring wells should be established as part of detailed design. The program should also include annual reviews and independent audit plans to be developed as part of the final design;
- The closure design should be reviewed, and if necessary, updated during the detailed design, taking into consideration any regulatory requirements; and
- An operations, maintenance and surveillance (“OMS”) manual, which guides the operation of the IWF, should be developed as part of detailed design, and include such items as:
  - A detailed Project construction schedule should be developed that considers the contractor equipment, earthwork quantities (including wastage) and summer/winter seasons;
  - The use of an observational approach to provide an understanding of the actual performance of the facility should be implemented during operations. The periodic review of the performance of the facility should be accomplished considering field observations to provide guidance for future operations. Operations personnel should closely monitor any observed seepage, pore pressures, and phreatic surface; and
  - Refinements and modifications to the design and operational procedures should be made based on observed conditions and monitoring data, as appropriate.

### **1.16.8 Bore Field Hydrology and Hydrogeology**

Both production and monitoring wells should be commissioned prior to any long-term use. This entails the redevelopment of the well by airlifting or pumping, or a combination of both, that will increase the effective porosity and permeability improving flow between the bore casing and surrounding host material.

Four groundwater monitoring wells should be installed prior to any production pumping to enhance the groundwater monitoring network and better understand the aquifer.

During the construction phase, stress testing (pumping), followed by analyses of drawdown using diagnostic plots, is required to further understand the aquifer and the spatial interaction of the fracture hosted aquifer systems. Staging

the well testing so that the higher yielding boreholes are tested first will provide early insight into the system and facilitate pragmatic modification of the testing plan while providing water for construction.

It is anticipated that ongoing replacement of wells will be required indicatively commencing in Year 2 of the operation and informed by the stress testing described above. A detailed structural analysis to understand the structural setting and determine water bearing structures is recommended. Erdene has already made significant progress regarding this methodology (refer Okhi-Us, 2019 and 2017). However, given that the primary aquifers are structurally controlled, additional analysis will be an ongoing requirement. A detailed structural mapping assessment should be carried out prior to locating any new wells.

Due to the nature of fracture rock aquifers, in addition to ongoing monitoring, contingency plans need to be considered for development of additional wellfields and bores to ensure longevity of the water supply. Detailed structural mapping combined with geophysical methods, such as resistivity mapping, should be undertaken prior to the development of any potential wellfield to enhance the groundwater strike rate. Four prospective wellfields have been recently identified through a combination of local knowledge and international experience, all within 5 km of the processing plant.

#### **1.16.9 Environmental, Social and Mine Closure**

Ongoing monitoring of key environmental parameters at the Project site, including but not limited to ambient dust levels, water quantity, and flora/fauna, are recommended in the course of the Project's development in order to enable robust comparison with baseline conditions and ensure that the Project's management plans and procedures are fit-for-purpose.

Modelling of the hydrological conditions of the final void post-mining based on monitoring data collected during operations are recommended to be undertaken to determine whether a pit lake may form, and if so, the likely water quality.

### **SUBSEQUENT EVENTS**

#### **Updated Bayan Khundii Mineral Resource Estimate**

Subsequent to the completion of the Bayan Khundii Feasibility Study the Company reported an updated Mineral Resource Estimate ("Updated BK Mineral Resource"), prepared by Tetra Tech, Inc. ("Tetra Tech") incorporating 2020 drilling at Striker West, Striker, Midfield and Midfield North, and reflecting current gold prices.

The Updated BK Mineral Resource for the Bayan Khundii deposit incorporates 95 additional drill holes totaling 12,889 metres and an updated structural interpretation study completed by Erdene at Bayan Khundii since the previous October 1, 2019, mineral resource estimate was announced. The total number of drill holes included in the Updated BK Mineral Resource is 350, totaling 55,791 metres of drilling, along with 1,075 metres of trenching from 23 trenches. The focus of the 2020 drilling program was to:

- Investigate the extent of the mineralization at Striker West;
- Test and further define high grade domains identified and modeled during the 2019 resource work;
- Improve the understanding of the mineralization at Striker, Midfield, and Midfield North Zones;
- Build upon the previous geological interpretation; and
- Improve drill spacing to show continuity of mineralization and increase overall confidence in the deposit.

The Updated BK Mineral Resource conforms to NI 43-101 and CIM Definition Standards for Mineral Resources and Mineral Reserves. The Updated BK Mineral Resource was prepared by Tetra Tech and has an effective date of June 17, 2021. The reported Updated BK Mineral Resource is based on information provided to Tetra Tech by Erdene and verified where possible by Tetra Tech. Data verification and statistical analyses were carried out by Tetra Tech in support of the Updated BK Mineral Resource. The Updated BK Mineral Resource did not change materially from the previously reported mineral resource. The details of the parameters used in preparing the updated Mineral Resource, including data verification, sample preparation, analysis and security, are included in the Company's Q2 2021 MD&A dated August 12, 2021, available on the Company's website or SEDAR.

The qualified person responsible for the resource estimate, Cam Norton P. Geo, visited the property from May 6 to May 12, 2019, and a subsequent site visit for the purposes of the Updated BK Mineral Resource was not deemed necessary.

Ordinary Kriging (OK) restricted to a mineralized domain was used to interpolate gold grades (g/t) into a block model. Measured, Indicated and Inferred mineral resources are reported at various cut-off grades in the summary tables below. The mineral estimate takes into consideration that the Striker, Midfield, and Midfield North zones will be mined by open pit mining methods.

The resource reported as of June 17, 2021, has been tabulated in terms of a gold cut-off grade and has been rounded to the nearest thousand tonnes due to the nature of the precision of the block model.

The mineral resource has been constrained to a preliminary pit shell developed using the Lerchs Grossman algorithm in Whittle™ using parameters outlined below to constrain blocks which are considered reasonable prospects for eventual economic extraction. The following table presents the mineral resource at various cut-off grades for the purposed of comparison. Tetra Tech recommends a reporting cut-off grade is 0.4 g/t gold.

#### Mineral Resource Estimate for Bayan Khundii, Effective June 17, 2021

Cut-off Grade <sup>(1)</sup>	Resource Classification	Quantity (tonnes)	Grade (Au g/t)	Gold (oz)
<b>0.4 Recommended</b>	Measured	3,031,000	2.39	232,700
	Indicated	5,269,000	2.08	352,400
	<b>Measured &amp; Indicated</b>	<b>8,301,000</b>	<b>2.19</b>	<b>585,100</b>
	Inferred	512,000	2.18	35,900
0.55	Measured	2,221,000	3.08	220,200
	Indicated	3,885,000	2.65	331,100
	<b>Measured &amp; Indicated</b>	<b>6,105,000</b>	<b>2.81</b>	<b>551,400</b>
	Inferred	375,000	2.80	33,800
1	Measured	727,000	7.96	186,100
	Indicated	1,454,000	5.91	276,100
	<b>Measured &amp; Indicated</b>	<b>2,181,000</b>	<b>6.59</b>	<b>462,200</b>
	Inferred	133,000	6.68	28,500
1.4	Measured	628,000	9.04	182,600
	Indicated	1,282,000	6.55	269,900
	<b>Measured &amp; Indicated</b>	<b>1,910,000</b>	<b>7.37</b>	<b>452,500</b>
	Inferred	121,000	7.22	28,100

(1) Cut-off grades have been calculated using a gold price of \$1,600 /ounce, milling and G&A costs of \$16.0 / tonne, and mining costs of \$3.0 / tonne, and an assumed gold recovery of 95%.

(2) Bulk density of 2.66 for mineralized domains.

(3) Numbers may not add exactly due to rounding.

(4) Conforms to NI 43-101, Companion Policy 43-101CP, and the CIM Definition Standards for Mineral Resources and Mineral Reserves.

(5) Mineral Resources which are not mineral reserves do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate.

### ***Altan Nar Gold-Polymetallic Project***

Except as otherwise stated herein, the following disclosure relating to the Altan Nar Project is extracted from the Altan Nar Technical Report prepared by the Corporation with an effective date of December 31, 2020 and a report date of March 29, 2021 and was prepared in accordance with NI 43-101. The author of the resource estimate and related sections, and the Metallurgical Testing section of the Altan Nar Technical Report are independent of Erdene. The balance of the technical report is authored by a former Erdene geologist who is not independent. All authors are “Qualified Persons” (as defined by NI 43-101). See in this AIF, “Interests of Experts”.

Readers are directed to and encouraged to review the Altan Nar Technical Report in its entirety, which is available under the Corporation’s profile on SEDAR at [www.sedar.com](http://www.sedar.com) and which qualifies the following disclosure. The executive summary section of the Altan Nar Technical Report, reproduced below, is not exhaustive. The Altan Nar Technical Report is intended to be read as a whole, and sections should not be read or relied upon out of context. The Altan Nar Technical Report contains the expression of the professional opinion of the Qualified Persons based upon information available at the time of preparation of the Altan Nar Technical Report. The following disclosure, which is derived from the Altan Nar Technical Report, is subject to the assumptions and qualifications contained in such report. All capitalized terms used in the summary below that are not otherwise defined shall have the meanings ascribed thereto in the Altan Nar Technical Report.

#### **EXECUTIVE SUMMARY**

##### **1.1 Introduction**

Erdene Resource Development Corporation (“Erdene”, or the “Company”) has prepared a National Instrument 43-101 (NI 43-101) Technical Report (“Technical Report”) for their 100% owned Altan Nar gold-polymetallic project (the “Project”) located in the Bayankhongor Aimag, or province, of southwestern Mongolia. The Technical Report includes an update of the current state of the Project and a restated Altan Nar Mineral Resource statement prepared by RPM Global Ltd. with effective date of May 7, 2018. The Technical Report is prepared in support of the Company’s 2020 Annual Information Form.

Erdene is a Canadian-based resource company focused on the acquisition, exploration, and development of precious and base metals in underexplored and highly prospective Mongolia. Erdene’s deposits are located in southwestern Mongolia’s Edren Terrane, within the Central Asian Orogenic Belt, host to some of the world’s largest gold and copper-gold deposits. The Company has been the leader in exploration in the region since 2005 and is responsible for the discovery of the Khundii Gold District with interests in three mining licenses and two exploration licenses hosting multiple high-grade gold and gold/base metal prospects, including the 100%-owned Bayan Khundii and Altan Nar gold deposits. Erdene Resource Development Corp. is listed on the Toronto and the Mongolian stock exchanges.

The Technical Report is prepared by following Qualified Persons (“QPs”); Mike MacDonald, PGeo (NS) (“Report Author”), is responsible for all sections except those related to the Mineral Resource estimate which were prepared by Jeremy Clark, MAIG, consulting geologist for RPM Global Asia Limited (“RPM”) and the metallurgical section, which was prepared by Andrew Kelly, P.Eng., Senior Metallurgist with Blue Coast Research. Mr. MacDonald is not independent of the Company while Messrs. Clark and Kelly are independent of the Company.

In December 2019, the Company released a report “Khundii Gold Project NI 43-101 Technical Report” prepared by Tetra Tech which included a prefeasibility study for the Company’s Bayan Khundii gold project and a Preliminary Economic Assessment for the Altan Nar project. The two projects are located ~20 km apart. In that report, it was envisioned that the two projects would use the same infrastructure for processing ore from each deposit. Since that report was released, a feasibility study has been completed for the Bayan Khundii gold deposit. The current base case for Altan Nar is that additional work is required to determine the optimal recovery of metals from the deposit, which may mean that Altan Nar ore will be mined and processed separately from Bayan Khundii, based mostly on the fact that the ore mineralogy of the two deposits is very different, Bayan Khundii being a simple gold-silver ore while Altan Nar is a more complex gold-polymetallic ore (with silver, lead and zinc sulphides). While portions of the Altan Nar deposit are suitable for processing at Bayan Khundii, the Bayan Khundii processing facility would only recover a portion of the gold and silver from the Altan Nar deposit and none of the base metals. To maximize the value of the Altan Nar resource, it has been decided that additional resource delineation drilling is required at Altan Nar to maximize the size of the mineral resource and to undertake additional metallurgical testing designed to optimize the metal recovery from the Altan Nar deposit. While the Company is currently focused on the development of the Bayan

Khundii gold deposit, it is anticipated that additional resource delineation drilling and metallurgical test work will be carried out at Altan Nar in 2021.

## 1.2 Property Description and Location

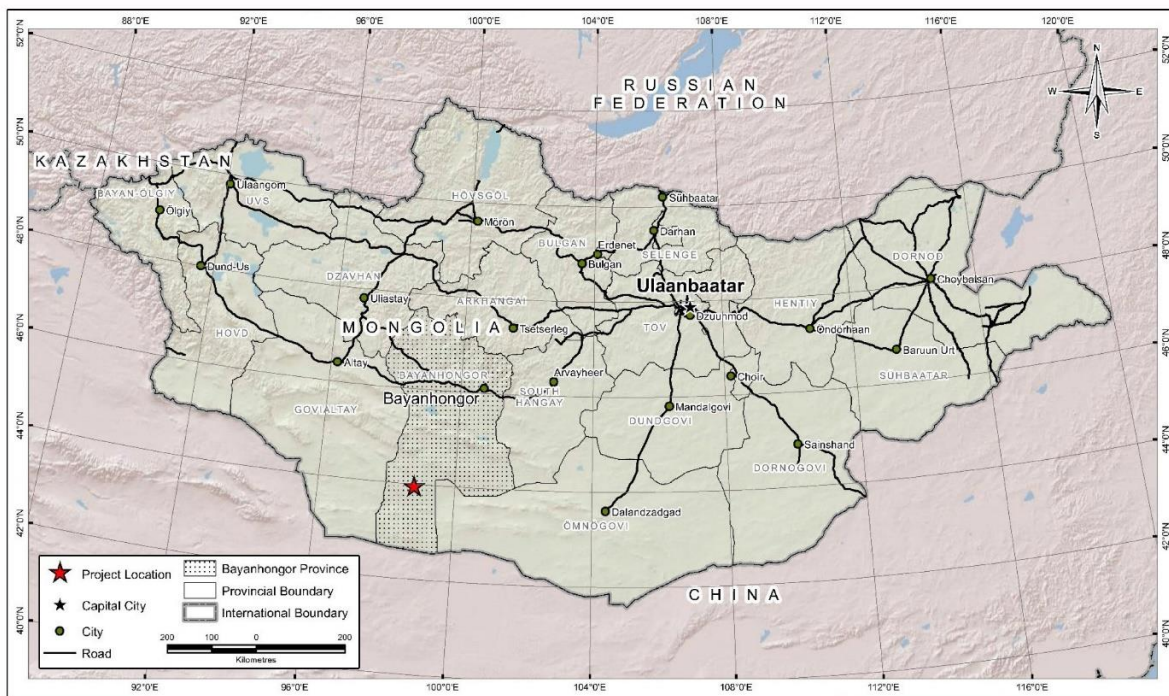
The Project is in southwestern Mongolia and located on the Altan Nar Mining License which is 100% held by Erdene Mongol LLC, a wholly owned subsidiary of Erdene. The Project is located approximately 980 km southwest of the Mongolian capital Ulaanbaatar (population 1,372,000) and 300 km south of the provincial capital, Bayankhongor City (population 30,900) (**Error! Reference source not found.**). The nearest towns (soum centres) are Shinejinst and Bayan Undur, located 70 km northeast and 80 km north, respectively. The Project area is sparsely populated with nomadic pastoral activity being the main industry.

The Altan Nar deposit, located on the Altan Nar mining licence, is located 20 km (via unsealed road) from the Company's Bayan Khundii Gold Project, located on the Khundii Mining Licence. Field work is currently carried out from an exploration camp located at the Bayan Khundii site.

The Altan Nar mining license was first acquired as an exploration license in December of 2009 and in 2020 was converted to a mining license. Mining licenses in Mongolia are issued for an initial term of 30 years with an option to renew for two 20-year terms, for a maximum of 70 years.

The Altan Nar mining license is subject to a 1% Net Smelter Return royalty agreement with Sandstorm Gold Ltd. The Report Author is not aware of any environmental liabilities to which the property is subject.

Figure 1-1 Altan Nar Project Location Map

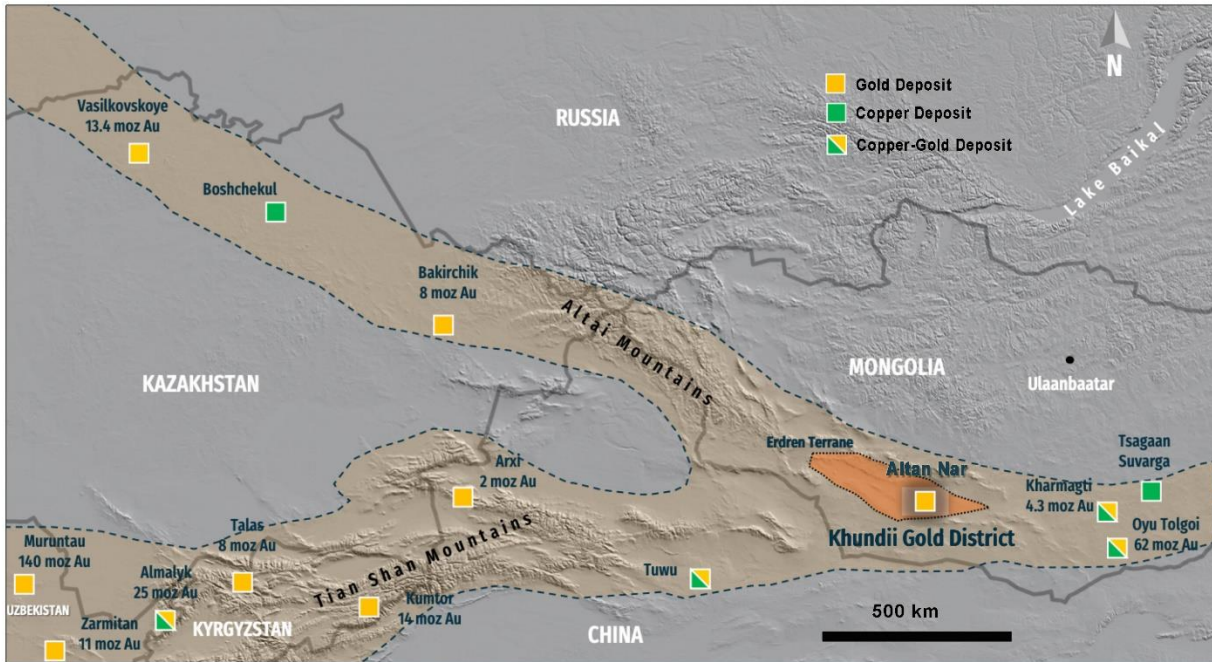


## 1.3 Geology

The Project is located within the Edren island arc terrane which is part of the larger composite Trans Altai Terrane (“TAT”). The TAT forms part of the western end of the large, composite, arcuate-shaped Paleozoic New Kazakh-Mongol Arc terrane (“NKMA”). The NKMA is part of the Central Asian Orogenic Belt and extends along the southern margin of Mongolia, including the border region with China, and is host to some of the world’s largest gold and copper-gold deposits including the Oyu Tolgoi copper-gold porphyry mine in south central Mongolia approximately 670 km to the east (Figure 1-2).



Figure 1-2 Gold Deposits of the Eastern Portion of the Central Asian Orogenic Belt



The geology of the Altan Nar license consists of a package of predominantly andesite-basalt flows (referred to as ‘Sequence A’ - Aguit Formation, lower member) dominate the eastern part of the license area. These volcanic rocks have pronounced NW-SE trending linear features that are evident on satellite images. These rocks are interpreted to be a steeply dipping volcanic sequence that was intruded by Sumankhairkhan intrusive massive, and was also intruded by sub-parallel, NW-trending alkali granite porphyry and fine-grained granite intrusions interpreted to be dykes, or sills. Widespread development of hornfels textures was noted in the andesite-basalt rocks, presumably resulting from contact metamorphism related to the first phase monzodiorite of the Sumankhairkhan Intrusive complex.

The geology of the central and western portion of the Altan Nar license area consists mostly of a sequence of volcanic flows and tuffaceous rocks of andesite composition (referred to as ‘Sequence B’), with subordinate rhyolite, rhyodacite, andesite tuff, and green-coloured andesite (upper member of Ulziitkhar Formation). Bedding orientations for the Sequence B volcanic rocks, obtained from 2017 oriented core drilling, indicate these volcanic units strike to the northwest and dip at approximately 20-30 degrees to the northeast.

The Altan Nar deposit is hosted in the Sequence B volcanic units (upper member of Ulziitkhar Formation) and consists of gold, silver, zinc, and lead within sub-vertical epithermal quartz veins. The Altan Nar deposit consists of eighteen separate deposits and prospects including the main Discovery Zone (“DZ”) deposit and smaller Union North (“UN”) deposit located 1.3 km northwest of the DZ.

#### 1.4 Mineralization

Within the Discovery Zone, gold mineralization appears to be structurally controlled within NNE to NE trending sub-parallel fault/breccia zones that are steeply dipping to sub-vertical. Gold-bearing zones are associated with multi-phase gold-silver-lead-zinc mineralization related to epithermal quartz and quartz-chalcedony veins and breccias in a northeast-southwest trending, steeply northwest dipping, fault / breccia zone. Preliminary evidence suggests that andesite units, particularly near the contact with more competent silicified volcanic breccia units, act as a favourable host for mineralization.

There are multiple phases of quartz veins / breccia (+/- mineralization) within the structurally controlled mineralized zones at Altan Nar. Only preliminary work has been completed to date regarding the paragenetic sequence for these phases. Accordingly, no definitive sequence is provided for the following mineralizing phases, based on petrographic

observations, coupled with other field and mineralogical data, the following preliminary paragenetic sequence is proposed for Altan Nar:

- Early-stage massive quartz veining and brecciation.
- Brecciation, silicification and comb quartz veining and associated white mica alteration (sericite-pyrite-quartz) and deposition of galena-sphalerite-chalcopyrite-gold  $\pm$  arsenopyrite (low-arsenopyrite gold mineralization).
- Localized arsenopyrite-pyrite-gold overprint on above sequences, with some associated chalcedony veining and silicification (high-arsenopyrite gold mineralization).
- Mn-Ca carbonate veining (rhodochrosite, calcite, etc.) – late hypogene
- Late-stage (supergene) oxidation – limonite, Mn oxides, malachite.

Zones of high-arsenic gold mineralization were initially reported and tested. However, additional drilling and trenching across the Altan Nar property has shown that this type of mineralization is localized when compared to the dominant low-arsenic style gold-silver-lead-zinc mineralization.

### **1.5      Deposit Type**

Altan Nar is an intermediate-sulphidation (IS) epithermal deposit. IS deposits result from a combination of magmatic and meteoric fluid influence and form at depths ranging from 0.3 to 1.0 km beneath the surface, at temperatures which also vary between 150°C and 300°C.

Intermediate sulphidation deposits typically contain manganese-, calcium- and iron-carbonate gangue minerals along with sulphide minerals including pyrite, chalcopyrite, sphalerite, galena, tetrahedrite, and tenantite. Based on this mineralogy, IS deposits represent important targets and sources for gold, silver, lead, and zinc mineralization.

This style of gold mineralization represents the most prolific style of gold mineralization in the southeast Asia region and includes Kelian, Porgera and Anatok, and elsewhere in the world, Fruta del Norte, Cripple Creek & Montana Tunnels and Rosia Montana and in Mexico five of the world's top silver producers including Penasquito. They are commonly associated with breccia pipes (diatremes) and can extend vertically for greater than 1 kilometre. The Kelian open pit, for example, is 500 metres deep.

### **1.6      Exploration**

Erdene has carried out phased, progressively more detailed, exploration across the Altan Nar mining license since acquiring the license in 2010. This exploration work has consisted of geological mapping, geochemical sampling (rock and soil), geophysical surveys (ground magnetics, induced polarization surveys, including dipole-dipole lines and a gradient array grid, and a ground gravity survey), trenching and drilling.

To date exploration has focused on the Altan Nar target area, a 5.6 by 1.5 km area in the central portion of the Altan Nar mining license, specifically the Discovery Zone and Union North, the two prospects with defined Indicated and Inferred resources. An additional 16 prospects have been identified by the combination of geology, geochemistry and geophysical anomalies across the Altan Nar target area. These additional prospects have had limited or no exploration and scout drilling to date. Inferred resource have been defined for seven of these prospects, though based on limited drill data.

Two other prospects have been identified outside of the Altan Nar target area, Nomin Tal to the east and Oyut Khundii to the west. Both prospects have had limited exploration work carried out to date and require follow-up exploration to be carried out.

### **Geochemistry**

The soil sampling program on the Altan Nar mining license has proven to be an effective exploration tool and has resulted in the identification of numerous mineralized zones. Positive IP gradient array chargeability anomalies frequently correlate with soil geochemical anomalies. Data from rock chip samples indicate similar results to soil geochemistry. Mineralization associated with each of the three projects identified to date on the mining license, including Altan Nar, Nomin Tal and Oyut Khundii, each have unique geochemical signatures. For example, Nomin Tal has high Cu-Ag-Au values while Altan Nar has high Au-Ag-Pb-Zn ( $\pm$ As-Mo) but low Cu and Oyut Khundii has high Cu and As values. These differences are likely related to either different mineralization styles, or perhaps

different modes of emplacement of the mineralization, and may represent metal zonation within a large overall mineralized system.

### **Geophysics**

A regional magnetic survey (100 m line spacing) was completed over a 41 km<sup>2</sup> area covering most of the Altan Nar mining license (2010-2012). In addition, two areas have been surveyed in more detail at closer line spacing. Nomin Tal (1.4 km<sup>2</sup> area) and Altan Nar (14.5 km<sup>2</sup> area) prospects was surveyed at 25m line spacing in 2011. In 2017, the high-resolution ground magnetic survey was carried out over Altan Nar area, using 10 metre line spacing, with a total of 1,000 survey line kilometres.

Both IP dipole-dipole (“Dp-Dp”) and IP gradient array surveys have been completed on the Altan Nar property over, and in the vicinity of, the Nomin Tal and Altan Nar areas and in 2018 an IP dipole-dipole survey was carried out over the Oyut Khundii area.

At Altan Nar, high chargeability anomalism has been an important guide, in conjunction with rock and soil geochemical anomalies and magnetic data to identify drill targets.

In 2018 a ground gravity survey was completed over the Altan Nar mining license using a 200 m x 200m grid spacing for data points. Interpretation of gravity data indicates several potential granitoid (porphyry?) intrusions throughout the license area.

### **Trenching**

Erdene has completed a series of trenching programs across the Altan Nar Project area that included 42 trenches, totalling 3,151 m and ranging in length from 14 m to 202 m. The principal objectives of the trenching programs were to further define the near-surface mineralization identified to date, improve the understanding of the gold mineralized system, and prioritize areas for the next phase of delineation drilling.

## **1.7 Drilling**

A staged exploration and resource delineation drilling program was carried out across the Altan Nar prospect between 2011 and 2019. Drilling at Altan Nar has average hole length of 155 m (average vertical depth 116 m) and extends in a couple of holes to a maximum vertical depth of approximately 390 m. Drill hole spacing over the Discovery Zone and Union North deposit areas is on an approximate 50 m by 50 m grid with closer spaced drilling in select areas (~25 m by ~25 m spaced holes).

Since the discovery of mineralized epithermal quartz veins on surface and widespread soil geochemical anomalism across the Altan Nar Area in August 2011, there have been seven rounds of drilling over a nine-year period for a total of 20,158 m. Resource delineation drilling has taken place over the Discovery Zone and Union North deposits while exploration and scout drilling has taken place across 12 of the 16 other identified prospects. Inferred resource have been calculated for seven of these prospects, namely, Central Valley, Maggie, Riverside, UN East, Union South, True North and Northfield. Additional drilling is required to further the define and delineate the mineralization in these prospects.

In late Q4-2019, post the release of the May 2018 Altan Nar resource estimate, the Company drilled five holes (TND-134 to TND-138) totaling 667 metres in the Discovery Zone (“DZ”). The Q4-2019 program successfully tested a concept of a preferred high-grade gold-mineralized horizon believed to potentially represent an epithermal boiling zone. Four holes tested the high-grade core area of the Discovery Zone, over a 130-metre strike length, 70 metres of which remains untested by drilling (“Gap Zone”). The fifth hole tested the southern extension of the DZ deposit. Follow-up drilling is required to further delineate the high-grade boiling zone model.

## **1.8 Mineral Processing and Metallurgical Testing**

Metallurgical testwork for the Altan Nar study is based on six test programs conducted between 2012 and 2019 at ALS Ammetc (Perth, Western Australia), Actlabs Asia LLC. (Mongolia), and Blue Coast Research Ltd. (Parksville, BC) and SGS Canada Inc. (Burnaby, BC). Metallurgical tests to date include:

- Gold deportment study conducted in 2012 by ALS Ammetc on one sample from Discovery Zone South.

- Cyanidation tests conducted in 2013 and 2015 by Actlabs Asia LLC. on samples from Discovery Zone North, Discovery Zone South and Union North areas of the deposit. This study found higher gold recoveries in samples with lower arsenic content with maximum gold recovery achieved after 24 hours.
- Heavy liquid separation, gravity testwork, cyanidation, flotation and grindability tests conducted by Blue Coast Research Ltd. In 2015 and 2018. This work focused on the impact of finer grind sizes and higher cyanide concentrations on overall recovery and found that finer primary grinds resulted in limited improvement to overall gold recovery, with flotation and/or oxidative pre-treatment likely necessary to optimize gold recovery from areas of the deposit with higher arsenic content. Gravity testwork concluded that a portion of the gold at Altan Nar is amenable to recovery by gravity methods. The results of the heavy liquid separation testwork found pre-concentration of Discovery Zone North material suffered from high losses in base and precious metals during the process. Flotation from Discovery Zone North produced generally acceptable lead and zinc concentrate grades. However, the flotation response from Discovery Zone South and Union North was suboptimal in testwork to date.
- Grindability testwork completed in 2015 and 2019 by SGS Canada Inc. The results suggested that material from the Altan Nar deposit is moderately hard to hard. In addition, it was found that material from the Discovery Zone was abrasive, while material from Union North was moderately abrasive.

Gold recovery projections are based on a whole ore cyanidation process, with a relationship between arsenic quantity and recovery expected. As arsenic content increases, overall gold recovery decreases. It was found that the high arsenic zone present in the Altan Nar deposit constitutes 11% of the total mineralized material in the orebody. Selective mining to exclude the high arsenic zone is proposed to reduce the arsenic content of processed ore, with gold recovery of material with an arsenic content of less than 0.16% averaging 88%.

## 1.9 Mineral Resource Estimate

The Mineral Resource Estimate for the Altan Nar deposit was stated in 2018 by RPM with an effective date of May 7, 2018 and documented in the report titled “NI 43-101 Technical Report for the Preliminary Economic Assessment of the Khundii Gold Project” dated February 4, 2019 and available on SEDAR under the Company’s profile. Since the effective date six holes have been drilled on the deposit, however, as further detailed in Section 14 these holes are not considered by the Qualified Person to be material to the resource estimate, as such the Qualified Person considers the resource estimate to be current based on the available information.

The results of the Mineral Resource Estimate for the Altan Nar deposit are presented in Table 1-5. RPM has reported the Mineral Resources using a 0.7 g/t AuEq above pit and 1.4 g/t AuEq below the pit shell as a reporting cut-off based on a mining / process and cost parameters for the Project.

**Table 1-1: Altan Nar Deposit Mineral Resource Estimate, May 2018**

Type	Indicated Mineral Resource										
	Quantity	Au	Ag	Zn	Pb	AuEq	Au	Ag	Zn	Pb	AuEq
	Mt	g/t	g/t	%	%	g/t	Koz	Koz	Kt	Kt	Koz
Oxide	0.6	2.0	12.7	0.6	1.0	3.1	39.3	244.3	3.8	6.3	59.6
Fresh	4.4	2.0	15.0	0.6	0.5	2.8	278.4	2,105.4	27.8	22.7	393.4
<b>Total</b>	<b>5.0</b>	<b>2.0</b>	<b>14.8</b>	<b>0.6</b>	<b>0.6</b>	<b>2.8</b>	<b>317.7</b>	<b>2,349.7</b>	<b>31.6</b>	<b>29.0</b>	<b>453.0</b>
Type	Inferred Mineral Resource										
	Quantity	Au	Ag	Zn	Pb	AuEq	Au	Ag	Zn	Pb	AuEq
	Mt	g/t	g/t	%	%	g/t	Koz	Koz	Kt	Kt	Koz
Oxide	0.8	1.8	7.5	0.6	0.9	2.6	43.3	183.7	4.3	6.5	64.2
Fresh	2.7	1.7	8.0	0.7	0.6	2.5	142.4	682.1	19.4	15.8	212.8
<b>Total</b>	<b>3.4</b>	<b>1.7</b>	<b>7.9</b>	<b>0.7</b>	<b>0.7</b>	<b>2.5</b>	<b>185.7</b>	<b>865.8</b>	<b>23.7</b>	<b>22.3</b>	<b>277.1</b>

Note:

1. *The Statement of Estimates of Mineral Resources has been compiled under the supervision of Mr. Jeremy Clark who is a sub-consultant of RPM and a Member of the Australian Institute of Geoscientists. Mr. Clark has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity that he has undertaken to qualify as a Qualified Person as defined in the CIM Standards of Disclosure.*
2. *All Mineral Resources figures reported in the table above represent estimates based on drilling completed up to 7th May 2018. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape, and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.*
3. *\*Au Equivalent (AuEq) calculated using long term 2023 - 2027 "Energy & Metals Consensus Forecasts" March 19, 2018, average of US\$1310/oz for Au, US\$17.91/oz for Ag, US\$1.07/pound for Pb and US\$1.42/pound for Zn. Adjustment has been made for metallurgical recovery and is based company's preliminary testwork results which used flotation to separate concentrates including a pyrite concentrate with credits only for Au and Ag. Based on grades and contained metal for Au, Ag, Pb and Zn, it is assumed that all commodities have reasonable potential to be economically extractable.*
  - a. *The formula used for Au equivalent grade is:  $AuEq\ g/t = Au\ g/t + Ag\ g/t * 0.0124 + Pb\ \% * 0.509 + Zn\ \% * 0.578$  with metallurgical recovery of 88.8% Au, 80.6% Ag, 80.4% Pb and 69.1% Zn.*
  - b. *Au equivalent ounces are calculated by multiplying Mineral Resource tonnage by Au equivalent grade and converting for ounces. The formula used for Au equivalent ounces is:  $AuEq\ Oz = [Tonnage \times AuEq\ grade\ (g/t)] / 31.1035$ .*
4. *Mineral Resources are reported on a dry in-situ basis.*
5. *Reported at a 0.7 g/t AuEq cut-off above pit shell and 1.4g/t AuEq below the pit shell. Cut-off parameters were selected based on an RPM internal cut-off calculator, which indicated that a break-even cut-off grade of 0.7g/t Au Equivalent above pit and 1.4g/t AuEq below pit, assuming a gold price of US\$1310 per ounce, an open mining cost of US\$6 per tonne and a processing cost of US\$20 per tonne milled and processing recovery of 88.8% Au, 80.6% Ag, 80.4% Pb and 69.1% Zn.*
6. *Mineral Resources referred to above, have not been subject to detailed economic analysis and therefore, have not been demonstrated to have actual economic viability.*

### **1.10 Interpretation and Conclusions**

The following interpretations and conclusions have been made on the Altan Nar Gold Project from the findings of the Technical Report:

- The Project represents a promising intermediate sulphidation epithermal gold-silver-polymetallic project and has resources of sufficient quality to warrant additional investigation. No Measured Resources have been classified, however, Indicated Resource of 453,00 ounces ("oz") gold equivalent ("AuEq") averaging 2.0 g/t Au and 2.8 g/t AuEq and Inferred Resource of 277,100 oz AuEq averaging 1.7 g/t Au and 2.5 g/t AuEq, at a 0.7 g/t AuEq cut-off grade, within a total resource of 5.0 million tonnes ("Mt") Indicated and 3.4 Mt Inferred;
- Indicated Resource includes 317,700 oz gold, 31,600 tonnes ("t") zinc, 29,000 t lead, and 2.35 million oz silver, while the Inferred Resource contains 185,700 oz gold, 23,700 t zinc, 22,300 t lead, and 865,900 oz silver;
- Approximately 63% of the Mineral Resource is classified as Indicated and 37% classified as Inferred;
- Approximately 90% of the Mineral Resources are within 150 metres of surface with all zones open along strike and at depth;
- Multiple undrilled and scout-drilled prospects along the 5.6 kilometre Altan Nar trend have the potential for hosting additional gold-polymetallic resources;
- Potential for increasing the Mineral Resources are good, with the DZ and UN areas along strike and down dip, which requires further drilling to investigate potential. In addition, previously undrilled and scout drilled areas have potential which will need drill investigation;
- Metallurgical testwork is at an early stage, but samples tested to date have generally shown a good response to leaching with average gold recoveries of 80% for the low arsenic material. Higher arsenic samples, which appear to make up only a relatively small part of the deposit (11%), would require a more intensive, though nonetheless proven, processing method with potentially high gold recoveries;
- Additional metallurgical testwork should be undertaken to maximize the metal recovery potential for the Altan Nar deposit; and
- The proposed processing circuit has not yet been defined for the Project. This will be completed based on ongoing metallurgical studies.

## **1.11 Recommendations**

### **1.11.1 Drilling and Mineral Resources**

In 2020, Wave Geophysics Ltd, based in Colorado, USA, was contracted to complete a review and completion of all geophysical data collected between 2011 and 2018. A series of maps and 3D models were produced for the following data: ground magnetics, induced polarization and gravity. In conjunction with the geological mapping and geochemical data sets, the newly compiled geophysical data should be used to identify high-priority drill targets across the Altan Nar license area.

The results of the drill program carried out in 2019 in the Discovery Zone successfully tested a concept of a preferred high-grade gold-mineralized horizon believed to potentially represent an epithermal boiling zone. However, an untested area of central Discovery Zone (referred to as the “Gap Zone” remains open for 70 metres between TND-138 in the north and TND-134 to the south. This area should be drilled to confirm continuity of the mineralization in the Gap Zone.

Approximately 37% of the Altan Nar Project has been classified as Inferred Mineral Resource. It is recommended that additional drilling occur to increase confidence in the existing Inferred Mineral Resource, focusing on the highest-grade portions as well as additional extensional exploration drilling in the Discovery Zone and Union North areas of the deposit.

It is recommended that Erdene continue recording bulk density measurements, ensuring that measurements cover a variety of Fe grades to further refine the regression equation. Erdene should undertake a bulk density program using the remaining Altan Nar core. This should include up to 200 samples focusing on a range of grades (low to high) with each sample having a density determination as well as assays for Au, Pb, Zn and S.

### **1.11.2 Metallurgical Testwork**

The following testwork is recommended to be included as part of a prefeasibility study program:

- Additional grindability testing to ensure that future processing of Altan Nar ore is well understood and including the following:
  - JK Drop Weight Test
  - SMC Tests
  - Abrasion Index Tests
  - Variability Bond Ball Work Index Tests
- Optimization of cyanidation conditions for high arsenic zones and lower arsenic zones
- Variability cyanidation tests from samples that include a range of arsenic contents and gold grades
- Further refinement of flotation conditions from high arsenic and low arsenic zones to determine if a flotation process could be implemented to add value through improved metal recovery and generation of additional by- products.
- Evaluation of pre-oxidation processes such as biological oxidation (BIOX), pressure oxidation (POX) or atmospheric oxidation (e.g., Albion Process) as a method to improve gold recovery from refractory zones.

### **1.11.3 Recommended Further Study**

**Table 1-2: Estimated Budget for Recommended Further Study for Altan Nar**

<b>Task</b>	<b>Cost (CAD)</b>
Data Compilation and Targeting	\$30,000
Drilling: In-fill, Exploration – 5,000m	\$1,200,000
Bulk Density Analysis	\$10,000
Update of Geological and Resource Model	\$50,000
AN Metallurgical Testing	\$100,000

## DIVIDENDS

The Corporation has not paid any dividends to date on its common shares (“**Common Shares**”). It is not contemplated that any dividends will be paid on any shares of the Corporation in the immediate future, as it is anticipated that all available funds will be invested to finance the growth of the Corporation's business. Any decision to pay dividends on Common Shares in the future will be made by the board of directors of the Corporation on the basis of the free cash flow, financial requirements and other conditions existing at such time.

## DESCRIPTION OF CAPITAL STRUCTURE

### Common Shares

The Corporation has an unlimited number of authorized Common Shares. As of December 31, 2022, it had 344,300,376 Common Shares issued and outstanding, and as March 22, 2023, it has 344,300,376 Common Shares issued and outstanding. Each Common Share is entitled to one vote at meetings of shareholders, to receive dividends if, as and when declared by the board of directors, and to receive the remaining property upon dissolution, liquidation or winding-up of the Corporation as is distributable to the holders of the Common Shares.

### Shareholder Rights Plan

The board of directors of the Corporation adopted a shareholder rights plan as of March 14, 2008, which was amended and restated by an amended and restated shareholder rights plan agreement dated June 14, 2017, a copy of which is available on SEDAR at [www.sedar.com](http://www.sedar.com). On June 25, 2020, shareholders approved the continuance of the shareholder rights plan. See "Material Contracts".

### Stock Options

As of December 31, 2022, the Corporation had 17,555,000 outstanding stock options issued, and 17,555,000 outstanding stock options issued as of March 22, 2023, under its incentive stock option plan. Currently all options are exercisable for one Common Share of the Corporation.

### Warrants

As of December 31, 2022, the Corporation had 25,264,122 warrants outstanding, and 25,264,122 warrants are outstanding as of March 22, 2023. The number of warrants, exercise price and expiry date, outstanding as of March 22, 2023, is summarized in the table below:

Number of Warrants	Exercise Price	Expiry Date
4,315,297	\$0.45	July 8, 2024
5,819,169	\$0.45	July 15, 2024
2,036,704	\$0.45	July 20, 2024
32,500	\$0.45	August 4, 2024
13,060,452	\$0.40	December 21, 2024

### Deferred Stock Units

The Corporation's board of directors adopted a Deferred Stock Unit Plan (the "DSU Plan"). The DSU Plan was approved by the shareholders at the Corporation's Special Meeting of Shareholders on October 26, 2012, and the DSU Plan received regulatory approval from the TSX on November 7, 2012. The DSU Plan was established to assist the Corporation in attracting and retaining talented employees and directors and to promote a greater alignment of interests between the directors, employees and the Corporation's shareholders. The DSU Plan was amended at the Annual and Special Meeting of Shareholders held on June 4, 2015, increasing the maximum number of Common Shares reserved for issuance under the DSU Plan from 2,500,000 to 5,000,000. The DSU Plan was further amended at the Annual and Special Meeting of Shareholders held on June 20, 2019, such that the DSU Plan was changed to an "evergreen" plan, such that any deferred stock units ("DSUs") that are redeemed, surrendered, forfeited, waived or cancelled are added back to the plan limit of 5,000,000, and will again be available for future grant. The DSU Plan was further amended at the Annual and Special Meeting of Shareholders held on June 25, 2020, increasing the plan limit by 2,500,000 to 7,500,000.



As of December 31, 2022, the Corporation had an aggregate of 7,287,272 DSUs outstanding - that were granted to certain officers, directors and employees of the Corporation. At March 22, 2023, the Corporation had an aggregate of 7,287,272 DSUs outstanding.

## MARKET FOR SECURITIES

The Corporation first traded its Common Shares on the TSX Venture Exchange under the symbol "ERD" on March 16, 2004. On December 14, 2005, the Corporation graduated to the Toronto Stock Exchange. The monthly price ranges and volume of the Common Shares on the TSX for the financial year ended December 31, 2022, are as follows:

	<b>High</b>	<b>Low</b>	<b>Volume</b>
January	0.48	0.39	2,083,315
February	0.46	0.38	2,197,857
March	0.50	0.39	4,292,931
April	0.49	0.41	2,457,994
May	0.47	0.36	1,735,253
June	0.42	0.28	1,910,617
July	0.33	0.25	1,836,183
August	0.36	0.29	974,683
September	0.33	0.26	1,394,181
October	0.31	0.25	724,967
November	0.30	0.27	1,510,644
December	0.30	0.26	2,111,083

## ESCROWED SECURITIES AND SECURITIES SUBJECT TO CONTRACTUAL RESTRICTIONS ON TRANSFER

To the knowledge of the Corporation, no securities are held in escrow or are subject to contractual restrictions on transfer as of March 22, 2023.

## DIRECTORS AND OFFICERS

The management of the Corporation consists of eight directors and two executive officers. All of the directors were elected at the Corporation's annual meeting of shareholders on June 22, 2022. The term of office of each director is until the next annual meeting of shareholders of the Corporation or until the position is otherwise vacated. The table below provides the names and related information concerning each director and executive officer of the Corporation.

<b>Name, Province and Country of Residence</b>	<b>Principal Occupation<sup>(1)</sup></b>	<b>Position(s) with the Corporation</b>	<b>Director/Officer Since</b>
Peter C. Akerley <sup>(2)(6)</sup> Nova Scotia, Canada	President and CEO, Erdene Resource Development Corp.	President, Chief Executive Officer and Director, and Managing Director of Erdene's Subsidiaries	February 25, 2003
Dr. Anna G Biolik <sup>(3)(4)</sup> British Columbia, Canada	Corporate Director	Director	June 14, 2016



<b>Name, Province and Country of Residence</b>	<b>Principal Occupation<sup>(1)</sup></b>	<b>Position(s) with the Corporation</b>	<b>Director/Officer Since</b>
John P. Byrne <sup>(3)(4)</sup> Ontario, Canada	President, Petroleum Corporation of Canada Exploration Ltd. (an oil production company) and President, Petroleum Corporation of Canada Limited (an investment holding company)	Director	August 25, 2004
T. Layton Croft <sup>(3)(4)(5)</sup> North Carolina, USA	President and CEO, Carolina Rush Corp. (A Canadian-based mining company operating in the southeastern U.S.)	Director	July 2, 2015
Robert Jenkins <sup>(2)</sup> Nova Scotia, Canada	Chief Financial Officer, Erdene Resource Development Corp.	Chief Financial Officer	May 1, 2019
Kenneth W. MacDonald <sup>(4)(5)</sup> Nova Scotia, Canada	President and owner of Fisher Transport Limited (a specialty transport company)	Director	February 25, 2003
Cameron McRae <sup>(6)</sup> New South Wales, Australia	Executive Director of Tarva Investment & Advisory (a broad-based consultancy firm)	Director	March 14, 2018
David V. Mosher <sup>(5)</sup> Nova Scotia, Canada	Corporate Director	Director	June 14, 2016
Hedley Widdup <sup>(5)(6)</sup> Melbourne, Australia	Executive Director of Lion Selection (Mining focused investment company)	Director	September 30, 2019

Notes:

- (1) See biographical summaries below for descriptions of the occupations of the above noted individuals within the past five years and for prior periods.
- (2) Member of the Pre-Clearance Committee.
- (3) Member of the Corporate Governance and Disclosure Policy Committee.
- (4) Member of the Audit and Risk Committee.
- (5) Member of the Compensation Committee.
- (6) Member of the Technical Committee.

As of March 22, 2023, all directors and executive officers of the Corporation, as a group, beneficially own, directly or indirectly, or exercise control or direction over 16,232,316 Common Shares of the Corporation, representing 4.7% of the Corporation's outstanding Common Shares.

**Peter C. Akerley** – Mr. Akerley has 35 years of experience in mineral exploration, corporate financing, project development and management of publicly listed resource companies. He is one of the founders and principals of Erdene and has held the position of President and Chief Executive Officer of the Corporation since March 2003. Mr. Akerley is a geologist who has worked extensively in foreign jurisdictions throughout his career, predominately in North and South America and Asia, with a focus on Mongolia, where he has led the technical team through the confirmation of a major molybdenum and copper deposit, the discovery and definition of the Altan Nar gold deposit and the discovery of the Bayan Khundii gold project. He has extensive experience in corporate M&A, joint venture arrangements and financings, leading the Corporation through more than 20 such business arrangements since taking the Corporation public in 2004. Mr. Akerley served on the Board and Special Committee of Temex Resources Corp. advising on the sale of the company to Lake Shore Gold Corp. and was previously chairman of the TSX-V listed Morien Resources Corp., where he was involved in the sale of the Donkin Coal and Black Point Aggregate projects, converting those interests into royalties. He also pioneered the company's involvement as the founding and lead sponsor of the very successful Catapult leadership program in Nova Scotia. Mr. Akerley has a BSc (1988) from Saint Mary's University in Halifax, specializing in geology, and completed the Institute of Corporate Directors Audit Committee Effectiveness course in December 2012.

**Dr. Anna G. Biolik** – Dr. Biolik has over 30 years of public and private sector experience and is one of the foremost Canadian experts on Central Asian business and diplomacy. From 2010 to 2012, Dr. Biolik occupied the position of Regional Director, Pacific Region, Foreign Affairs and International Trade Canada. In 2012, Dr. Biolik retired from the federal public service. From 2014 to 2020, she worked as independent consultant and Vice-President and Chief Executive Advisor of Allam Advisory Group, a global business strategy and commercial diplomacy consulting firm. She was Canada's first resident Ambassador in Mongolia where she opened a full-fledged Canadian Embassy in 2008. Dr. Biolik previously served as Ambassador of Canada to Kazakhstan, Kyrgyzstan and Tajikistan as well as Consul General of Canada in St. Petersburg, Russian Federation. She also served as Senior Advisor for international relations and parliamentary affairs to the Governor General of Canada, as European Marketing Manager for Canada Post, as Senior Manager at Investment Partnerships Canada and as Director of the International Business Opportunities Centre. Dr. Biolik has extensive expertise in international commerce and has worked closely with Canadian companies in emerging markets. From 2013 to 2019, Dr. Biolik served also as external member of the Program and Research Council at Royal Roads University in Victoria, BC. She holds a Ph.D. from the University of Montreal and is fluent in English, French, Russian and Polish.

**John P. Byrne** – Mr. Byrne has more than 40 years of investment banking and corporate finance experience. He is President of Petroleum Corporation of Canada Exploration Limited ("Petrex"), an oil and gas exploration and development company, and has held that position since 1976. Petrex helped establish and finance Enerplus Energy Services Limited for which Mr. Byrne served as Vice-Chairman (1986-2000). He also served in senior executive roles with Levesque Beaubien Geoffrion Inc. (now National Bank Financial), A.E. Ames & Company Ltd./Dominion Securities Ames Ltd. and The First Boston Corporation. Mr. Byrne graduated from McGill University with a BA and from the University of Toronto Law School with an LLB. He is also a Chartered Financial Analyst. Mr. Byrne is also currently a director of Morien Resources Corp. (TSX-V).

**Thomas Layton Croft** – Mr. Croft is an executive and entrepreneur with 29 years of global experience across increasingly senior roles, from non-profit to mid-tier to mega-cap to micro-cap. He has expertise in building and leading successful enterprises, project delivery, complex stakeholder management, public-private partnership, strategic communications, corporate governance and ESG. His deep Mongolia expertise dates back to 1994, when his three years of service as a U.S. Peace Corps Volunteer included two years living and working in Bayankhongor Province in Southwest Mongolia. He lived and worked full-time in Mongolia for a total 15 years, and he also lived and worked in South Korea, Indonesia, Hong Kong, and Singapore. He has held executive and advisory roles with Oyu Tolgoi LLC, Ivanhoe Mines, Rio Tinto, Peabody Energy and Duke Energy. He has been an independent director of Erdene since June 2015, and chairman of the board since June 2019. He is a member of the Erdene board's Audit and Risk Committee and Corporate Governance and Disclosure Policy Committee. Since April 2017, Layton has been President, CEO and Director of Carolina Rush Corp. (formerly Pancontinental Resources Corp.), a Canadian junior mining company (TSXV: RUSH) focused on exploring the Southeast USA, home of North America's first gold rush. Since January 2022, Layton has been an independent director of Voltage Metals Corp., a Canadian junior mining company (CSE: VOLT) exploring for nickel in Ontario. Layton holds a BA from the University of North Carolina at Chapel Hill, an MA from the School for International Training in Vermont, and an MA from the Fletcher School of Law and Diplomacy at Tufts University in Massachusetts. He lives in Charlotte, North Carolina.

**Robert Jenkins** – Mr. Jenkins was appointed Chief Financial Officer on May 1, 2019. He joined Erdene as Vice President Business Strategy in 2018, with responsibility for strategic and financial planning. From 2010 to 2017, Mr. Jenkins held a series of progressive finance and operational roles with Brookfield Asset Management. Mr. Jenkins began his career in the assurance and consulting practices of Deloitte LLP. Mr. Jenkins graduated with a Bachelor of Commerce from St. Mary's University in 2003 and received the Canadian Chartered Professional Accountant designation in 2006.

**Kenneth W. MacDonald** – Mr. MacDonald was appointed director of the Board in June 2019. Until May 2019, Mr. MacDonald served as Executive Vice President of Erdene, a position he held from 2016. Additionally, Mr. MacDonald served as Chief Financial Officer of Erdene from March 2003 to May 2019. From September 1992, Mr. MacDonald has also been the President and owner of Fisher Transport Limited, a specialized transport company. In addition, he was the Vice President of Finance for Kaoclay Resources Inc. from 1996 to June 2006. Prior to 1985, Mr. MacDonald, a chartered professional accountant, was a senior manager with one of Canada's major accounting firms. From 1985 to September 1992, he was vice president finance with public and private corporations in the resource sector. Mr. MacDonald graduated from St. Mary's University in 1977 with a BCom and received the Chartered Accountant designation in 1980.

**Cameron McRae** – Mr. McRae was appointed director of the Board in March 2018. Mr. McRae is a seasoned CEO, having led mining organizations through the full mining development cycle in four countries and across three continents. Cameron served a 28-year career with Rio Tinto, and in Mongolia was President of Oyu Tolgoi LLC and Rio Tinto's country director for Mongolia. In that role he led the construction and start-up of the US\$6 billion Oyu Tolgoi copper-gold mine, ahead of schedule, which at peak of construction had over 15,000 people employed on site. Cameron has led successful greenfield and brownfield construction projects, overarching business transformations and business improvement projects, and at the corporate level has deep commercial/M&A experience. Prior to Oyu Tolgoi, Cameron was CEO of Richards Bay Minerals in South Africa (2008-10), Managing Director of Murowa Diamonds in Zimbabwe (2006-07) and Project Director for the Hail Creek Coking Coal Expansion project in Australia. Prior to 2004, Cameron held commercial and project leadership roles, both at Corporate and Business Unit levels. In 1995, he was a key team member responsible for the A\$29 billion merger of CRA and RTZ into the dual listed Rio Tinto (which was the world's largest merger at the time). Mr. McRae is the co-founder of DTP Partners, a broad-based consultancy firm and is Chairman of Kincora Copper Limited (KCC on the TSX-V and ASX). Cameron is an advisor to the Business Council of Mongolia (previously Vice Chairman), is a trustee of the Arts Council of Mongolia. Cameron was schooled in Australia and Africa and holds a commercial degree and an MBA (Monash Mount Eliza, 1991).

**David V. Mosher** – Mr. Mosher is a mining executive with over thirty-five years of international experience. From 1992 to 2008, David was President and CEO of High River Gold Mines Ltd., a TSX listed company involved in the exploration, development and production of gold in Canada, Africa and Russia. In that role, he negotiated the acquisition of two producing Russian gold mines, completed mining investment agreements with the government of Burkina Faso, raised over \$300 million to support the company's growth, and supervised the development of two open pit gold mines (the Taparko gold mine in Burkina Faso and the Berezitovy gold mine in Russia). He has served on many boards including Cambior Inc. and earlier in his career was project manager for Pancontinental Mining Limited, where he and his team discovered and outlined the largest uranium deposit in the world at that time (the Jabiluka deposits in northern Australia). Over the past decade, Mr. Mosher has been active in the restructuring and refinancing of a number of junior resource companies, both private and public, and currently serves as a director of several mining and exploration companies, including Pancontinental Resources Corporation (TSX-V) and Pelangio Exploration Inc. (TSX-V). Mr. Mosher received his B.Sc. degree in geology from Acadia University.

**Hedley Widdup** – Mr. Widdup is a geologist, with almost 21 years experience in mining, geology and mining investment. Hedley was part of the mine geology teams at the Mt Keith Nickel Mine (WA), Olympic Dam Copper-Uranium Mine (SA), Black Star Open cut zinc project, which is a part of the Mt Isa Mining complex (Qld), and St Ives Gold Mine (WA). He joined the investment team at Lion Selection Group in 2007 and has worked across the investment and investor relations functions. Lion Selection Group is a development-oriented mining fund based in Melbourne, Australia, and has held a shareholding in Erdene for a number of years. Hedley was educated in Australia, receiving a Degree in Geology with first class honours from the University of Melbourne (2000) before completing a Graduate Diploma in Applied Finance (2011). He is a shareholder and executive director of Lion Manager Pty Ltd the entity which provides investment services to Lion Selection Group. Mr. Widdup also serves as a director of Plutonic Limited, an unlisted company located in Australia.

### **CEASE TRADE ORDERS, BANKRUPTCIES, PENALTIES OR SANCTIONS**

No director or executive officer of the Corporation is, as of the date of this AIF or within ten years prior to the date of this AIF has been, a director, chief executive officer or chief financial officer of any company (including the Corporation) that:

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

No director or executive officer of the Corporation, or a shareholder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation:

- (i) is, or within ten years prior to the date of this AIF has been, a director or executive officer of any company (including the Corporation) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or
- (ii) has, within ten years prior to the date hereof, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder.

No director or executive officer of the Corporation, or a shareholder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation, has been subject to (i) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or (ii) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

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

No director, executive officer, or principal shareholder of the Corporation and no associate or affiliate of the foregoing have had a material interest, direct or indirect, in any transaction in which the Corporation has participated within the three most recently completed financial years or during the current financial year, which has materially affected or is reasonably expected to materially affect the Corporation.

### **TRANSFER AGENT AND REGISTRAR**

The transfer agent and registrar for the Common Shares of the Corporation is Computershare Investor Services Inc. at its offices in Montreal, Quebec and Toronto, Ontario.

## MATERIAL CONTRACTS

The only contracts entered into by the Corporation, other than a contract entered into in the ordinary course of business, that is material to the Corporation and that was entered into within the most recently completed financial year, or since January 1, 2002, but is still in effect, are as follows:

1. An amended and restated shareholder rights plan agreement with Computershare Investor Services Inc., as rights agent, dated June 14, 2017 (the "Rights Plan"). The Rights Plan was adopted to ensure the fair treatment of shareholders in connection with any take-over offer for the Corporation and is not intended to prevent take-over bids that treat shareholders fairly. Under the Rights Plan, those bids that meet certain requirements intended to protect the interests of all shareholders are deemed to be "Permitted Bids". In the event a take-over bid does not meet the Permitted Bid requirements of the Rights Plan, the rights will entitle shareholders, other than any shareholder or shareholders making the take-over bid, to purchase additional Common Shares of the Corporation at a substantial discount to the market value at the time. The continued operation of the Rights Plan was most recently approved by the shareholders at the Corporation's Annual and Special Meeting of Shareholders on June 25, 2020. A copy of the Rights Plan has been filed by the Corporation on SEDAR at [www.sedar.com](http://www.sedar.com).

## INTERESTS OF EXPERTS

### **Auditor**

The auditor of the Corporation is KPMG LLP, Chartered Professional Accountants, Halifax, Nova Scotia. The Corporation's annual consolidated financial statements for the year ended December 31, 2022, filed under NI 51-102, contain the auditor's report prepared by KPMG LLP. KPMG LLP has confirmed to the Corporation that it is independent of the Corporation within the meaning of the Rules of Professional Conduct of the Chartered Professional Accountants of Nova Scotia.

### **Other Experts**

The Bayan Khundii Feasibility Study, dated August 31, 2020, was prepared by Benny Cha, FAusIMM, Roma Group Limited; Cameron Norton, P. Geo., Tetra Tech Canada Inc.; Andrew Kelly, P.Eng., Blue Coast Research Ltd.; Anthony Keers, MAusIMM, Auralia Mining Consulting Pty Ltd; Kevin Styles, FIMMM, Fugro (Hong Kong) Limited; Mark Dillion, MIEAust, ATC Williams Pty Ltd.; Jeff Jardine, FAusIMM, O2 Mining Limited; Julien Lawrence, FAusIMM, O2 Mining Limited; Kenny Li, CFA, Roma Appraisals Limited, and; Stanislaus Blanks, MIAH, Pando (Australia) Pty Ltd. Messieurs Cha, Norton, Kelly, Keers, Styles, Dillion, Jardine, Lawrence, Li and Blanks are "qualified persons" as that term is defined in NI 43-101. They are also independent of the Corporation. Messieurs Cha, Norton, Kelly, Keers, Styles, Dillion, Jardine, Lawrence, Li and Blanks did not have any interest, direct or indirect, in any securities or other properties of the Corporation or its associates or affiliates at the time they prepared the December 2019 Khundii Gold Project Technical Report. In addition, no such securities or properties were received or are to be received from the Corporation by Messieurs Cha, Norton, Kelly, Keers, Styles, Dillion, Jardine, Lawrence, Li and Blanks.

The Updated BK Mineral Resource, dated June 17, 2021, was prepared by Mr. Cameron Norton, P.Geo. who is a qualified person under NI 43-101. Mr. Norton is independent of the Corporation and at the time of the resource update was an employee of Tetra Tech, Inc. Mr. Norton did not have any interest, direct or indirect, in any securities or other properties of the Corporation or its associates or affiliates at the time he prepared the Updated BK Mineral Resource. In addition, no such securities or properties were received or are to be received from the Corporation by Mr. Norton.

The Altan Nar Technical Report, dated March 29, 2021, was prepared by Michael MacDonald, P.Geo. (NS), Jeremy Clark, MAIG, RPM Global and Andrew Kelly, P.Eng., Blue Coast Research. Messieurs MacDonald, Clark and Kelly are "qualified persons" as that term is defined in NI 43-101. Mr. Clark was responsible for the resource estimate and related sections while Mr. Kelly is responsible for the metallurgical sections. Both are independent of the Corporation and did not have any interest, direct or indirect, in any securities or other properties of the Corporation or its associates or affiliates at the time they prepared the Altan Nar Technical Report. In addition, no such securities or properties were received or are to be received from the Corporation by Mr. Clark or Mr. Kelly. Mr. MacDonald is not

independent of the Corporation as he is a former employee and shareholder of Erdene, however, Mr. MacDonald holds less than 1% of the outstanding shares of the Corporation. In addition, no additional securities or properties were received or are to be received from the Corporation by Mr. MacDonald.

## **AUDIT & RISK MANAGEMENT COMMITTEE**

### **Audit & Risk Management Committee Charter**

The charter of the Corporation's Audit & Risk Management Committee is attached to this AIF as an Appendix.

### **Composition of Audit & Risk Management Committee & Relevant Education and Experience**

The members of the Audit & Risk Management Committee are John P. Byrne (Chair), Dr. Anna G. Biolik, T. Layton Croft and Kenneth W. MacDonald. Each of the foregoing is independent and financially literate within the meaning of National Instrument 52-110. The education and experience of each Audit & Risk Management Committee member are described in this AIF under the section entitled "*Directors and Officers*".

### **Audit & Risk Management Committee Oversight**

At no time since the commencement of the Corporation's most recently completed financial year have any recommendations by the Audit & Risk Management Committee respecting the appointment and/or compensation of the Corporation's external auditor not been adopted by the Board of Directors.

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

In April 2005, the Audit and Risk Committee adopted the following schedule of pre-approved fees to KPMG LLP for non-audit services:

<u>Fee Amount</u>	<u>Authorization Required</u>
Up to \$7,000	Chief Financial Officer
\$7,001 – 10,000	Chairman of the Audit & Risk Management Committee
\$10,000+	Audit & Risk Management Committee

### **External Auditor Service Fees**

The fees charged to the Corporation by its external auditor in each of the last two financial years are as follows:

	<b>Financial Year 2021</b>	<b>Financial Year 2022</b>
Audit Fees	\$70,880	\$121,070
Audit-Related Fees <sup>(1)</sup>	\$0	\$0
Tax Fees <sup>(2)</sup>	\$8,700	\$5,400
All Other Fees <sup>(3)</sup>	\$0	\$0

Notes:

- (1) Audit-related fees comprise fees for assurance and related services that are reasonably related to the performance of the audit or review and are not reported in Audit Fees.
- (2) Tax fees compromise fees for tax compliance, tax advice and tax planning services.
- (3) All other fees compromise fees for other services not captured elsewhere.

## **ADDITIONAL INFORMATION**

Additional information relating to the Corporation can be found on SEDAR at [www.sedar.com](http://www.sedar.com). In particular, the Corporation's most recent Management Information Circular located on SEDAR contains additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Corporation's securities and securities authorized for issuance under equity compensation plans. Additional financial information is provided in the Corporation's audited consolidated annual financial statements and management's discussion and analysis for the financial year ended December 31, 2022, both of which are also available on SEDAR.

## **APPENDIX**

### **ERDENE RESOURCE DEVELOPMENT CORP. (“Corporation”) AUDIT AND RISK MANAGEMENT COMMITTEE CHARTER**

#### **I. Purpose**

The Audit and Risk Management Committee is a standing committee of the board of directors of the Corporation (“Board”) charged with assisting the Board in fulfilling its responsibility to the shareholders and investment community. Its role is to:

- (a) Serve as an independent and objective party to monitor the Corporation's financial reporting process and internal control system.
- (b) Review and appraise the audit efforts of the Corporation's external auditors.
- (c) Oversee the Corporation’s processes for identifying and managing financial, technical and business risks.
- (d) Provide an open avenue of communication among the external auditors, financial and senior management and the Board.

#### **II. Authority**

The Board authorizes the Audit and Risk Management Committee, within the scope of its responsibilities, to:

- (a) Seek any information it requires from any employee (and all employees are directed to cooperate with any request made by the Audit and Risk Management Committee).
- (b) Engage independent counsel and other advisors as it determines necessary to carry out its duties.
- (c) Set and pay the compensation for any advisors employed by the Audit and Risk Management Committee.
- (d) Communicate directly with the internal and external auditors.

#### **III. Composition**

The Audit and Risk Management Committee will be comprised of at least three directors. Each Audit and Risk Management Committee member will be independent of management and free from any relationship that, in the opinion of the Board, would interfere with the exercise of his or her independent judgment as a member of the Audit and Risk Management Committee. All members shall be financially literate in finance and accounting practices or become financially literate within a reasonable period of time after his or her appointment.

The Audit and Risk Management Committee members shall be elected annually.

#### **IV. Responsibilities**

Responsibilities of the Audit and Risk Management Committee include:

- (a) Review and assess the adequacy of this Charter annually.
- (b) Make recommendations to the Board regarding the selection and compensation of the external auditor to be engaged to prepare or issue an auditor's report or perform other audit, review or attest services for



the Corporation. The external auditor shall be accountable to the Board and the Audit and Risk Management Committee.

- (c) Meet with the external auditor and financial management of the Corporation to review the scope of the proposed audit for the current year and the audit procedures to be used and oversee the work of the external auditor engaged to prepare or issue an auditor's report or perform other audit, review or attest services for the Corporation, including the resolution of any disagreements between management and the external auditor regarding financial reporting.
- (d) Pre-approve all non-audit services to be provided to the Corporation or any of its subsidiaries by the Corporation's external auditor.
- (e) Obtain a written statement from the external auditors annually disclosing all relationships that the auditors have with the Corporation. Discuss with the external auditors any relationships or services disclosed that may impact their objectivity and independence. Recommend that the Board take action, where appropriate, to satisfy itself of the external auditors' independence.
- (f) Review the performance of the external auditors.
- (g) Review with management and the external auditors:
  - (i) The Corporation's audited financial statements and footnotes, MD&A and any annual or interim earnings press releases before the Corporation publicly discloses this information.
  - (ii) Any significant changes required in the external auditors' audit plan and any serious difficulties or disputes with management encountered during the course of the audit.
  - (iii) Other matters related to the conduct of the audit that are to be communicated to the Audit and Risk Management Committee under generally accepted auditing standards.
- (h) Make a recommendation to the Board concerning the inclusion of the audited financial statements in the Corporation's Annual Report.
- (i) Review with the external auditors and management the adequacy and effectiveness of the financial and accounting controls of the Corporation.
- (j) Review with the external auditors and management the quality of the Corporation's accounting principles as applied in its financial reporting process and any proposed changes in accounting principles.
- (k) Make such inquiries as the Audit and Risk Management Committee considers appropriate of management, the external auditors and any third parties concerning significant risks or exposures to the Corporation, including financial, technical and strategic risks or exposures; assess the steps taken by management to address and minimize such risks to the Corporation; and make recommendations to the Board with respect to the Corporation's approach to managing risk.
- (l) Establish procedures for the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls, or auditing matters and for the confidential, anonymous submission by the Corporation's employees of concerns regarding questionable accounting or auditing matters.
- (m) Review and approve the Corporation's hiring policies regarding partners, employees and former partners and employees of the present and former external auditor of the Corporation.

## **V. Meetings**

The Audit and Risk Management Committee will meet regularly at times necessary to perform the duties described above in a timely manner, but not less than once a quarter. Special meetings may be held at any time deemed appropriate by any member of the Audit and Risk Management Committee. A quorum for the transaction of business at any meeting of the Audit and Risk Management Committee shall consist of a majority of the members of the Audit and Risk Management Committee.

These meetings may be with representatives of the external auditors and appropriate officers or members of management, either individually or collectively as may be required by the Chair of the Audit and Risk Management Committee.

The external auditors will have access to the Audit and Risk Management Committee at their own initiative.

The Chair of the Audit and Risk Management Committee will report periodically its findings and recommendations to the Board.

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(Adopted by the Board of Directors of Erdene Resource Development Corporation in 2004 and amended as of April 18, 2005, and June 8, 2020.)