

# ERDENE INTERSECTS HIGH-GRADE GOLD AT BAYAN KHUNDII STARTER PITS

# Highlights:

- Intercepted high-grade, near-surface gold in multiple holes in areas that are expected to provide initial ore feed for the Bayan Khundii Gold Project
  - 29.6 g/t gold over 4m, within 16m of 8 g/t gold (BKD-358)
  - 68.0 g/t gold over 2m, within 10m of 14.4 g/t gold (BKD-361)
  - 32.6 g/t gold over 2m, within 20m of 10.4 g/t gold (BKD-369)
  - o 67.5 g/t gold over 1m, within 7m of 11.8 g/t gold (BKD-354)
  - o 39.6 g/t gold over 1m, within 10m of 5.7 g/t gold (BKD-356)

Press Release Halifax, Nova Scotia 2022.10.25

Erdene Resource Development Corporation (TSX: ERD | MSE: ERDN) ("Erdene" or the "Company") is pleased to announce results from Q3 2022 drilling in areas of high-grade near-surface mineralization at the 100% owned Bayan Khundii Gold Deposit within the Khundii Gold District (the "District") in southwest Mongolia.

#### Quotes from the Company

"These results demonstrate the exceptionally high gold grades present in the areas targeted for the first phase of the Bayan Khundii development," said Peter Akerley, Erdene's President, and CEO. "This drill program confirmed and locally extended the near surface, high gold grades identified at the Midfield Southeast and Striker South zones since the delivery of the economic pit design for the feasibility study. The program also collected ore for gravity processing test work. Preliminary studies concluded that gravity processing compliments the Bayan Khundii CIP plant, bringing forward cash flow and reducing operating costs."

"Our team is also completing exploration and processing test work at the recent Dark Horse and Ulaan discoveries, with further drill results anticipated by mid Q4," continued Mr. Akerley. "We continue to progress the Bayan Khundii Gold Project towards development while searching for new discoveries across the Khundii Minerals District."

## **Starter Pit Definition Drill Summary**

The Q3 2022 Bayan Khundii drill program was designed to increase confidence in the near surface high-grade gold mineralized zones targeted for initial development at the Bayan Khundii Gold Project ("Project"). Drilling was also designed to gather ore to test



amenability for gravity processing as an addition to the Project's Carbon in Pulp (CIP) plant.

In Q3 2022, Erdene completed a near surface drill program comprised of 25 PQ diamond core holes, totaling 612 metres (averaging 17 metres vertical depth) in three target areas within or near the planned Bayan Khundii economic pit. The objectives of this program were to establish higher confidence in continuity of grade and geometry of the shallow, very high-grade potential starter pit areas located at the Midfield Southeast, Striker South and Striker zones of the Bayan Khundii deposit and to collect material for gravity processing metallurgical test work.

The drilling program intersected multiple high-grade intervals, confirming the continuity of near-surface high-grade gold mineralization at Midfield SE, Striker, and Striker South. Multiple holes returned assays greater than 10 g/t gold as summarized in Table 1, below. These results will be incorporated into updated models and used for start-up mine planning purposes. Drill core from these holes will also be used for variability metallurgical testing to confirm the viability of gravity recoverable gold in addition to the currently planned CIP ore processing plant.

Hole ID	From (m)	To (m)	Interval <sup>(1)</sup>	Au g/t
BKD-352	6.5	26	19.5	2.51
Incl	18	23	5	6.20
Incl	19	20	1	15.06
BKD-354	0	7	7	11.79
Incl	5	6	1	67.54
BKD-356	6	25.6 <sup>(2)</sup>	19.6	3.10
Incl	7	17	10	5.72
Incl	15	16	1	39.60
BKD-358	10.3	26 <sup>(2)</sup>	15.7	8.03
Incl	12	16	4	29.60
Incl	14	15	1	100.46
BKD-361	5	15	10	14.36
Incl	10	12	2	67.95
BKD-363	12	18	6	1.97
Incl	17	18	1	10.05
BKD-366	23	29.5 <sup>(2)</sup>	6.5	3.78
Incl	25	26	1	11.27
BKD-368	1	26 <sup>(2)</sup>	25	1.00
Incl	2	3	1	16.96
BKD-369	0	20 <sup>(2)</sup>	20	10.44
Incl	0	1	1	17.88

Table 1: Bayan Khundii Drilling Highlights (Drill holes reporting interval(s) exceeding 10 g/t gold)



Incl	4	7	3	27.04
Incl	9	11	2	32.57
Incl	15	16	1	10.18
BKD-370	2.5	20 <sup>(2)</sup>	17.5	4.78
Incl	2.5	9	6.5	10.64
Incl	6	7	1	30.51
Incl	8	9	1	10.89
BKD-371	0	5	5	9.27
Incl	1	3	2	21.45
BKD-372	0	5	5	1.13
And	18	22	4	5.69
Incl	19	20	1	12.02

1. Reported intervals in this release are downhole apparent widths. Continued exploration is required to confirm anisotropy of mineralization and true thicknesses

2. End of hole

# Midfield Southeast Zone

Drilling within the Midfield Southeast ("MFSE") zone consisted of nine infill holes targeting high-grade gold mineralization within 25 metres of surface. Previous drill results from MFSE include some of the highest-grade, shallow gold mineralization within the Bayan Khundii deposit including 581.6 g/t gold over 1 metre, within 125.9 g/t gold over 5.5 metres, beginning 11.5 metres down hole (BKD-288) and 25.6 g/t gold over 15.1 metres, including 5 metres averaging 74.34 g/t gold, beginning 15 metres downhole (BKD-274). Gold mineralization at MFSE is related to southwest dipping quartz-hematite epithermal veins which cross-cut the tuffaceous host unit of the Bayan Khundii deposit. Gold grades at MFSE appear to be further enhanced by supergene enrichment, particularly in zones where the primary gold bearing epithermal veins intersect along a sub north-south trending structural plane representing a fault or shear. Gold enrichment along this plane is typically contained within pervasive hematite altered and brecciated core with gold grades locally greater than 100 g/t.

## Striker and Striker South Zone

Drilling within the Striker and Striker South zones consisted of six and ten holes, respectively. Drilling focused on further definition of previously reported near-surface, high-grade gold mineralization within these potential starter pit locations including 14 g/t gold over 8.3 metres, including 1 metre of 93 g/t gold, beginning 0.7 metres downhole (BKD-44), 29 g/t gold over 15.1 metres, beginning 0.9 metres downhole (BKD-292), and 10 g/t gold over 7 metres, beginning 8 metres down hole (BKD-46). Gold mineralization in both Striker and Striker South are related to southwest dipping quartz-adularia  $\pm$  hematite epithermal veins which cross-cut the tuffaceous host unit of the Bayan Khundii deposit. Localized gold grades in the Striker South Zone exhibit very high grades (up to 353 g/t gold in hole BKD-292) within the contact aureole of a monzodiorite plug which intrudes the tuffaceous host. Current interpretation of the gold grade enrichment around



the intrusive body may be related to remobilization and subsequent redeposition of gold associated with structural and hydrothermal processes during the monzodiorite emplacement.

#### Metallurgical Test Work

The consideration of gravity as part of the process design circuit for the Bayan Khundii ores has been studied since the earliest assessment. However, the discovery of high-grade gold at surface at Dark Horse, combined with the exceptionally high-grade gold intersections at MFSE and Striker South in 2020, prompted Erdene's technical team to complete further gravity oriented metallurgical test work in mid-2022. The results of that work are summarized below.

A single composite sample was selected from drill core from holes at MFSE and Striker South. This composite consists of quarter core from 21 one-metre intervals from 13 drill holes with a calculated head grade of 15.1 g/t gold. The composite sample was analyzed by Blue Coast Research from Parksville, BC, who have carried out the majority of the metallurgical test work for the Bayan Khundii project. The test work consisted of a single Extended Gravity Recoverable Gold (EGRG) test to evaluate the gravity recoverable gold content of the composite sample. The test work included three stages of progressively finer grind size (850 micron, 250 micron and 75 micron) with each stage passing through a Knelson MD-3 concentrator to produce a concentrate. The tests resulted show 74.6% of the gold was captured in the gravity concentrates.

The data from the EGRG test work was sent to FLSmidth Knelson for review and analysis. Modelling conducted by FLSmidth was undertaken to predict gravity recovery using a variety of different circuit configurations and anticipated plant design and throughput parameters. Modelling showed that gold recovery could be achieved using concentrators and shaker tables (50%) or concentrators and intense leach reactor (60%).

Based on the results of the work in mid-2022, six additional composites will be tested. Sample material for these composites will be taken from the recently completed PQ drilling reported herein.

The additional test work will include a series of six variability samples, representing different area and grades, that will undergo EGRG testing and well as shaker table recovery testing. These data will assist in determining the most effective gravity recovery circuit for the Bayan Khundii ore and is expected to provide support for the inclusion of a gravity circuit at the front end of the CIP plant.

Erdene's work to date suggests that a gravity plant may be brought online prior to commissioning of a full CIP circuit, pulling forward cash flow, and rapidly repaying the initial capital outlay. Furthermore, a gravity plant can be integrated into the CIP circuit, increasing throughput by reducing load on elution circuit downstream. Gravity circuits are readily available from a number of Chinese manufacturers, in a modular format, and can be quickly and cost-effectively constructed.



# **Projects Overview**

Erdene's deposits are in the Trans Altai 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 southwest Mongolia over the past decade and is responsible for the discovery of the Khundii Gold District comprised of multiple high-grade gold and base metal prospects, one of which is currently being developed, the 100%-owned Bayan Khundii Gold Project, and another which is being considered for development, the 100%-owned Altan Nar Project. The Khundii District is currently defined based on three gold and base metal systems related to shallow subduction Paleozoic intrusive events within a 40 kilometre by 20 kilometre area in the Trans Altai Terrane (formerly known as the Erden Terrane). Erdene's 2022 exploration program is focused on the two gold-dominant systems:

# Bayan Khundii (Rich Valley):

Low sulfidation epithermal gold deposits and prospects (BK Deposit, Dark Horse, Ulaan and Altan Arrow) overprinted on a high temperature, intrusive related alteration zone, located along a 12-kilometres trend related to deep seated northeast trending structures along a regional dilation zone and strike slip fault system. Current Resources<sup>1</sup> for the BK gold deposit include 585,100 ounces of 2.19 g/t gold Measured and Indicated ("M&I")<sup>2</sup> and 35,900 ounces of Inferred resources at 2.18 g/t gold. Resources have not yet been established for the Dark Horse, Ulaan or Altan Arrow discoveries at Bayan Khundii.

An overview of the recent Dark Horse Mane and Ulaan discoveries at Bayan Khundii are included below.

## Dark Horse Mane

Dark Horse Mane is a 1.5-kilometre trend of alteration and gold mineralization discovered in 2021. Located 2.4 kilometres north of the BK deposit, this zone begins at surface, hosting supergene enriched gold zones including an exceptionally high-grade gold bearing zone in the southern portion with values up to 195 g/t gold over 1 metre (AAD-178) 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. Limited deeper drilling has intersected wide zones of gold mineralization (e.g., AAD-57, 48 metres of 1.18 g/t gold from 194 metres down hole) associated with epithermal veins, white mica, and sulfide alteration up to 230 metres vertical depth and remaining open.

The Company conducted data compilation, interpretation and drill hole targeting for the broader Dark Horse prospect area in late 2021 and early 2022. This work focused on gold anomalism, identifying feeder structures, shallow oxide gold mineralization, and areas with similar characteristics to Dark Horse Mane, as well as the potential for deeper zones of gold mineralization. This work has defined numerous drill targets for testing.



#### Ulaan

The Ulaan gold target is a blind top discovery identified in Q3 of 2021. The discovery is characterized by hundreds of metres of gold mineralization (up to 354 metres) over an area 200 metres by 250 metres. Gold mineralization begins approximately 80 metres from surface and remains open along strike to the west/northwest and at depth. Intervals include 152 metres of 1.7 g/t gold in UDH-22 (from 85 metres) and 77 metres of 3.2 g/t gold in UDH-21 (from 115 metres). Similar to the BK gold deposit, located 300 metres to the east, the mineralizing event is characterized by exceptionally high-grade guartz ± hematite and adularia veins and stockwork zones enveloped by the same gold bearing, silicified, white mica altered lapilli tuff sequence. Stockwork zones identified in the northern portion of the Ulaan discovery were the target of the initial Q2 2022 drilling and helped to better define the orientation and extent of these exceptionally high-grade zones where intervals of 5 metres of 20 g/t gold (UDH-14) to 1 metre to 156 g/t gold (UDH-21) have been returned within broad high grade zones including 27 metres of 8.74 g/t gold (UDH-21) and 34 metres of 5.43 g/t gold (UDH-14). In addition, the 2022 exploration program included the extension of a series of existing drill holes to test for continuity at depth. Expansion drilling at Ulaan Southeast is ongoing.

The southern portion of the Ulaan license has areas of anomalous gold-in-soil over an area 3.5 kilometres by 1 kilometre. The underlying geology and alteration appear to be analogous to the gold mineralization at Ulaan Southeast and Bayan Khundii, namely tuffaceous units with white mica and silica alteration.

**Altan Nar (Golden Sun):** Intermediate sulfidation, carbonate base metal gold deposits and prospects located along a 5.6-kilometre long alteration zone located within a regional north-northeast trending structural corridor within which structural intersections or zones of dilation provide the setting for the emplacement of broader zones of mineralization. Current Resource for Altan Nar includes an Indicated gold-only resource of 317,700 ounces at a grade of 2.0 g/t gold and an Inferred gold-only resource of 185,700 ounces at a grade of 1.7 g/t gold.

## About Erdene

Erdene Resource Development Corp. is a Canada-based resource company focused on the acquisition, exploration, and development of precious and base metals in underexplored and highly prospective Mongolia. The Company has interests in three mining licenses and an exploration license in Southwest Mongolia, where exploration success has led to the discovery and definition of the Khundii Gold District. Erdene Resource Development Corp. is listed on the Toronto and the Mongolian stock exchanges. Further information is available at <u>www.erdene.com</u>. Important information may be disseminated exclusively via the website; investors should consult the site to access this information.



# **Qualified Person and Sample Protocol**

Peter Dalton, P.Geo. (Nova Scotia), Senior Geologist for Erdene, is the Qualified Person as that term is defined in National Instrument 43-101 and has reviewed and approved the technical information contained in this news release. All samples have been assayed at SGS Laboratory in Ulaanbaatar, Mongolia. In addition to internal checks by SGS Laboratory, the Company incorporates a QA/QC sample protocol utilizing prepared standards and blanks. All samples undergo standard fire assay analysis for gold and ICP-OES (Inductively Coupled Plasma Optical Emission Spectroscopy) analysis for 33 additional elements. For samples that initially return a grade greater than 5 g/t gold, additional screen-metallic gold analysis is carried out which provides a weighted average gold grade from fire assay analysis of the entire +75 micron fraction and three 30-gram samples of the -75 micron fraction from a 500 gram sample.

Erdene's drill core sampling protocol consisted of collection of samples over 1 or 2 metre intervals (depending on the lithology and style of mineralization) over the entire length of the drill hole, excluding minor post-mineral lithologies and un-mineralized granitoids. Sample intervals were based on meterage, not geological controls, or mineralization. All drill core was cut in half with a diamond saw, with half of the core placed in sample bags and the remaining half securely retained in core boxes at Erdene's Bayan Khundii exploration camp. All samples were organized into batches of 30 including a commercially prepared standard, blank and either a field duplicate, consisting of two quarter-core intervals, or a laboratory duplicate. Sample batches were periodically shipped directly to SGS in Ulaanbaatar via Erdene's logistical contractor, Monrud Co. Ltd.

Reported intervals are apparent thicknesses, i.e., downhole widths. The current Bayan Khundii drill holes (reported in this release) are all dipping from 45 to 60 degrees and oriented to intersect SW dipping WNW trending gold bearing veins. Additional study is required to confirm true widths. Reported grades for intervals are weighted averages based on length of sampling intervals. No top cut has been applied; however, all intervals greater than 10 g/t gold and 100 g/t gold are reported individually for clarity.

## Forward-Looking Statements

Certain information regarding Erdene contained herein may constitute forward-looking statements within the meaning of applicable securities laws. Forward-looking statements may include estimates, plans, expectations, opinions, forecasts, projections, guidance, or other statements that are not statements of fact. Although Erdene believes that the expectations reflected in such forward-looking statements are reasonable, it can give no assurance that such expectations will prove to have been correct. Erdene cautions that actual performance will be affected by a number of factors, most of which are beyond its control, and that future events and results may vary substantially from what Erdene currently foresees. Factors that could cause actual results to differ materially from those in forward-looking statements include the ability to obtain required third party approvals, market prices, exploitation, and exploration results, continued availability of capital and



financing and general economic, market or business conditions. The forward-looking statements are expressly qualified in their entirety by this cautionary statement. The information contained herein is stated as of the current date and is subject to change after that date. The Company does not assume the obligation to revise or update these forward-looking statements, except as may be required under applicable securities laws.

NO REGULATORY AUTHORITY HAS APPROVED OR DISAPPROVED THE CONTENTS OF THIS RELEASE

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Appendix – Drilling Assays Summary - Intervals averaging greater than 0.30 g/t gold

Hole ID	From	То	Interval <sup>(1)</sup>	Au g/t
BKD-351	3.56	9	5.44	1.54
Incl	3.56	7	3.44	2.36
And	19	<b>30</b> <sup>(2)</sup>	11	0.53
BKD-352	6.5	26	19.5	2.51
Incl	10	24	14	3.33
Incl	18	23	5	6.20
Incl	19	20	1	15.06
BKD-353	15	24	9	0.55
BKD-354	0	7	7	11.79
Incl	5	6	1	67.54
BKD-355	10.5	30 <sup>(2)</sup>	19.5	0.58
BKD-356	6	25.6 <sup>(2)</sup>	19.6	3.10
Incl	7	17	10	5.72
Incl	15	16	1	39.60
BKD-357	0	15	15	0.59
And	24	26	2	1.09
BKD-358	10.3	<b>26</b> <sup>(2)</sup>	15.7	8.03
Incl	12	16	4	29.60
Incl	14	15	1	100.46
BKD-359	0	6	6	0.70
BKD-360	7	17	10	1.62
BKD-361	5	15	10	14.36
Incl	10	12	2	67.95
BKD-362	14	18	4	2.84
BKD-363	12	18	6	1.97
Incl	17	18	1	10.05
BKD-364	6	15.5 <sup>(2)</sup>	9.5	1.66
BKD-365	0	7	7	1.07
And	17	23	6	1.37
And	27	28	1	0.62
BKD-366	15	18	3	0.44
And	23	29.5 <sup>(2)</sup>	6.5	3.78
Incl	25	26	1	11.27
BKD-367	9	25	16	0.65
Incl	15	19	4	1.54
BKD-368	1	26 <sup>(2)</sup>	25	1.00
Incl	2	3	1	16.96



BKD-369	0	20 <sup>(2)</sup>	20	10.44
Incl	0	1	1	17.88
Incl	4	7	3	27.04
Incl	9	11	2	32.57
Incl	15	16	1	10.18
BKD-370	2.45	20 <sup>(2)</sup>	17.55	4.78
Incl	2.45	9	6.55	10.64
Incl	6	7	1	30.51
Incl	8	9	1	10.89
BKD-371	0	5	5	9.27
Incl	1	3	2	21.45
And	13	15	2	0.48
BKD-372	0	5	5	1.13
And	8	9	1	0.47
And	18	22	4	5.69
Incl	19	20	1	12.02
BKD-373	0	10	10	0.64
BKD-374	7	20 <sup>(2)</sup>	13	0.87
Incl	7	10	3	2.56
BKD-375	0	9	9	1.42

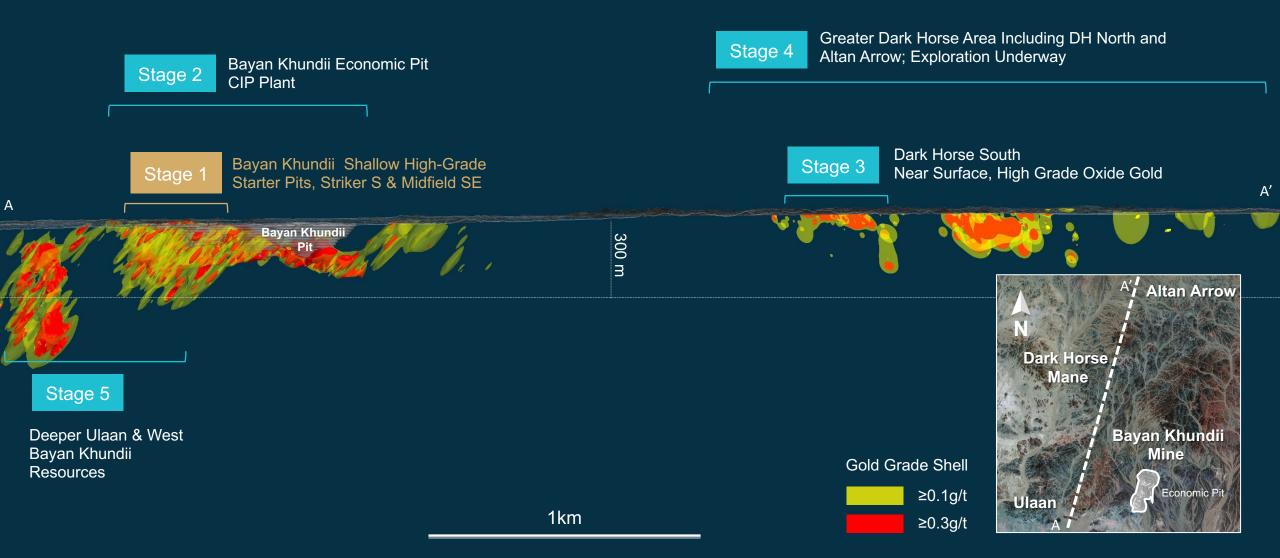
1. Reported intervals in this release are downhole apparent widths. Continued exploration is required to confirm anisotropy of mineralization and true thicknesses

2. End of hole

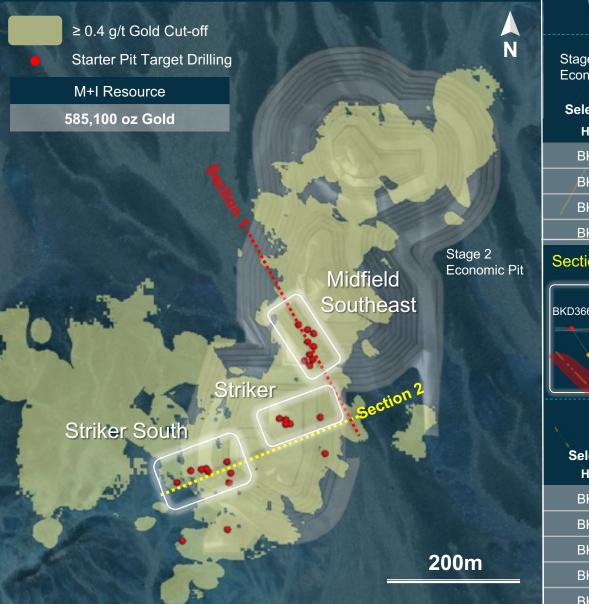
# THE KHUNDII GOLD DISTRICT – STAGES OF DEVELOPMENT

An Expanding Footprint of High-Grade Gold Deposits

Section Looking NW



BAYAN KHUNDII GOLD DEPOSIT PLAN MAP High-Grade Starter Pit Targeting and Definition



# Stage 1: Near Surface, High-Grade Starter Pit Targets

