

## New Energy Transformation EV & Battery Investment Seminar

4 August 2022

ASX Markets Announcement Office  
Australian Securities Exchange  
Central Park, 152-158 St Georges Terrace  
Perth WA 6000

### BY ELECTRONIC LODGEMENT

#### New Energy Transformation EV & Battery Investment Seminar Presentation

Please find attached for release to the market, Xanadu Mines Ltd's Presentation to the *New Energy Transformation EV & Battery Investment Seminar*, being held today, 4 August 2022.

-ENDS-

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#### **About Xanadu Mines Ltd:**

Xanadu is an ASX and TSX listed Exploration company operating in Mongolia. We give investors exposure to globally significant, large-scale copper-gold discoveries and low-cost inventory growth. Xanadu maintains a portfolio of exploration projects and remains one of the few junior explorers on the ASX or TSX who control a globally significant copper-gold deposit in our flagship Kharmagtai project. For information on Xanadu visit: [www.xanadumines.com](http://www.xanadumines.com).

This Announcement was authorised for release by Xanadu's Executive Chairman and Managing Director.

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XANADU MINES

# Supplying Copper to Market within 5 Years

New Energy Transformation EV & Battery  
Investment Seminar | 4 August 2022

ACB (Australian Chinese Business) News

 **ACBNEWS** 澳华财经在线  
www.acbnews.com.au

ASX:**XAM** | TSX:**XAM**

## Cautionary Statements

The Study has been undertaken to assess viability of developing the Kharmagtai Copper-Gold Project by constructing an open cut mine and processing facility to produce copper concentrate for export. It is a preliminary technical and economic Study of the potential viability of the Kharmagtai Project. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further exploration and evaluation work and appropriate studies are required before Xanadu will be in a position to estimate any ore reserves or to provide any assurance of an economic development case. The Study is based on the material assumptions in this document. These include assumptions about the availability of funding. While Xanadu considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Study will be achieved. To achieve the range of outcomes indicated in the Study, funding of in the order of US\$700 million will likely be required. Investors should note that there is no certainty that Xanadu will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Xanadu's existing shares. It is also possible that Xanadu could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Xanadu proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Study. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised. The Study is based on the December 2021 Mineral Resource Estimate, is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Study will be realised. The Study has been completed to a level of accuracy of +/-35% in line with industry standard accuracy for this stage of development. The Company has reasonable grounds for disclosing a Production Target, given that in the first seven years of production, 100% of the mill feed is scheduled from the Indicated Resource category, which exceeds the economic payback period for the project by 3 years. Approximately 55% of the Life of Mine Production Target is in the Indicated Mineral Resource category, and 45% is in the Inferred Mineral Resource category. There is a lower level of geological confidence associated with Inferred Mineral Resources, and while the Company considers all the material assumptions in this Study to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated will be achieved. The Mineral Resources underpinning the production target in the Study have been prepared by a Competent Person in accordance with the requirements of Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). The Competent Person's Statement is found in the Geology and Resources section of this Study. For full details of the Mineral Resource Estimate, please refer to Xanadu ASX/TSX Announcement dated 25 February 2022. Xanadu confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that Announcement continue to apply and have not materially changed. Note that unless otherwise stated, all currency in this Study is US dollars.

## Forward Looking Statements

Certain statements contained in this Study, including information as to the future financial or operating performance of Xanadu and its projects may also include statements which are 'forward-looking statements' that may include, amongst other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These 'forward-looking statements' are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Xanadu, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements. Xanadu disclaims any intent or obligation to update publicly or release any revisions to any forward-looking statements, whether as a result of new information, future events, circumstances or results or otherwise after the date of this Study or to reflect the occurrence of unanticipated events, other than required by the Corporations Act 2001 (Cth) and the Listing Rules of the Australian Securities Exchange (ASX) and Toronto Stock Exchange (TSX). The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward-looking statements. All 'forward-looking statements' made in this Study are qualified by the foregoing cautionary statements. Investors are cautioned that 'forward-looking statements' are not a guarantee of future performance and accordingly investors are cautioned not to put undue reliance on 'forward-looking statements' due to the inherent uncertainty therein. Xanadu has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this Study. To achieve the range of Kharmagtai Copper-Gold Project outcomes indicated in the 2022 Study, funding of in the order of an approximately US\$700 million will likely be required by the Company. Based on current market conditions and the results of studies undertaken, there are reasonable grounds to believe the Project can be financed via a combination of equity and debt, as has been done for numerous comparable projects in Mongolia and other jurisdictions in Asia in recent years. Debt may be secured from several sources including Australian banks, international banks, the high yield bond market, resource credit funds, and in conjunction with product sales of offtake agreements. It is also possible the Company may pursue alternative funding options, including undertaking a corporate transaction, seeking a joint venture partner or partial asset sale. There is, however, no certainty that Xanadu will be able to source funding as and when required. Whilst no formal funding discussions have concluded, the Company has engaged with several potential financiers of the Kharmagtai Copper-Gold Project and these financial institutions and corporations have expressed an interest in being involved in funding of the Project. This ASX Study has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC modifying factors, on which the production target and forecast financial information are based have been included in this ASX Study.

# Xanadu Mines

Copper/Gold exploration & development, operating in Mongolia

## Discover

**Kharmagtai (76.5%)<sup>4</sup>**  
 Flagship project; development ready & mineralised complex **open in all directions**

**Red Mountain (100%)**  
 Early diamond drill results confirmed prospectivity, **multiple targets to be prioritised for drilling soon**

**New Project Generation**



## Define (Kharmagtai)

**Mineral Resource Estimate<sup>1</sup>**  
 1.1Bt containing **3Mt Cu & 8Moz Au**  
**>100Mt @ 0.8% CuEq** higher grade zone doubled (**open**)

**Scoping Study<sup>2</sup>**  
 Base case: US\$630M NPV (405-850);  
 20% IRR (16-25%); 4-yr payback (4-7).  
 PFS targeting **opex & capex improvements**.



## Develop (Kharmagtai)

**Funded to Construction Decision**  
 Strategic partnership with Zijin Mining delivering US\$43M (**A\$58M**)<sup>3</sup>

**Pre-Feasibility Study (PFS)**  
 Commencing **2H'2022**

**Copper & Gold concentrate production**  
**4Q'2027** target

## XAM (ASX, TSX) Capital Structure

<b>A\$0.022</b> Share Price as at 14/7/2022	<b>1,412M</b> Share on issue as at 14/7/2022
<b>A\$31M</b> Market Cap at A\$0.022/share	<b>A\$7M</b> Cash Balance reported as at 31/3/2022 + funds received from Phase 1 Placement with Zijin Mining <sup>3</sup>
<b>A\$24M</b> Enterprise Value	

## 55% Top 20 Shareholders<sup>5</sup>

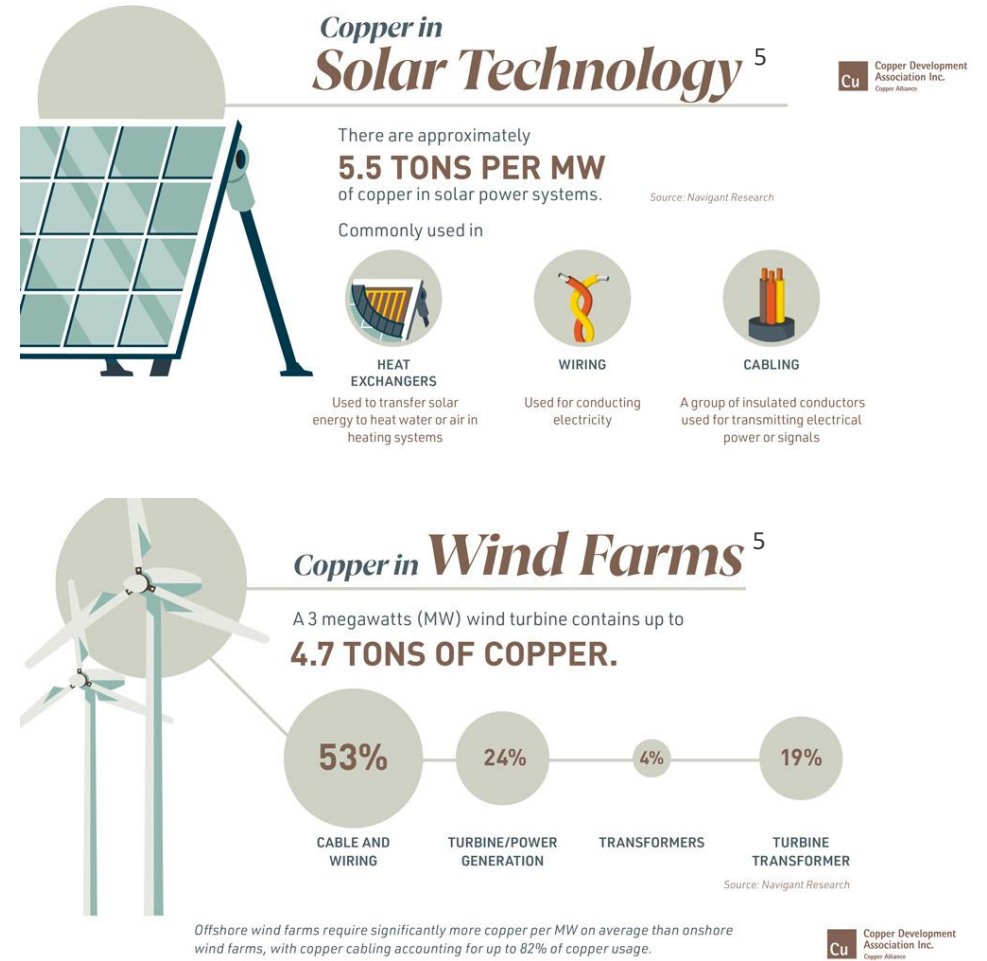
<b>INSTITUTIONAL SHAREHOLDERS</b>	ACA <b>16%</b> Zijin <b>10%</b> Others <b>16%</b>
<b>BOARD AND MANAGEMENT</b>	<b>6%</b> (on a fully diluted basis, includes 37m shares & 47m performance options)

<sup>1</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au  
<sup>2</sup> ASX/TSX Announcement 6 April 2022 – Scoping Study Kharmagtai Copper-Gold Project  
<sup>3</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining  
<sup>4</sup> Will become 38.25% upon completion of 50-50 Joint Venture with Zijin Mining Group  
<sup>5</sup> Shareholder data as at 30 June 2022

# Renewable Power Needs More Copper

Renewables & electrification drive decarbonisation

- Wind & Solar between **3x** and **7x** more **copper intensive** than conventional electricity<sup>1</sup>; Wind requires up to **8,000 kg copper** per MW<sup>1</sup>
- Wind & Solar **carbon footprints** over the asset's lifespan are **1 to 4%** of coal-fired power & **3 to 9%** of natural gas, respectively<sup>2</sup>
- US requires **630GW wind & 450GW solar energy investment** to achieve 100% clean electricity by 2035<sup>3</sup>.
- US\$100bn **electrical grid upgrades required** to support US clean electricity targets, including construction of higher voltage DC transmission lines – all copper intensive<sup>4</sup>.



<sup>1</sup> <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary>

<sup>2</sup> <https://www.cnbc.com/2022/04/13/green-energy-the-race-to-roll-out-super-sized-wind-turbines-is-on.html>

<sup>3</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/research/national-clean-energy-standard-could-require-1000-gw-of-new-wind-solar-by-2035>

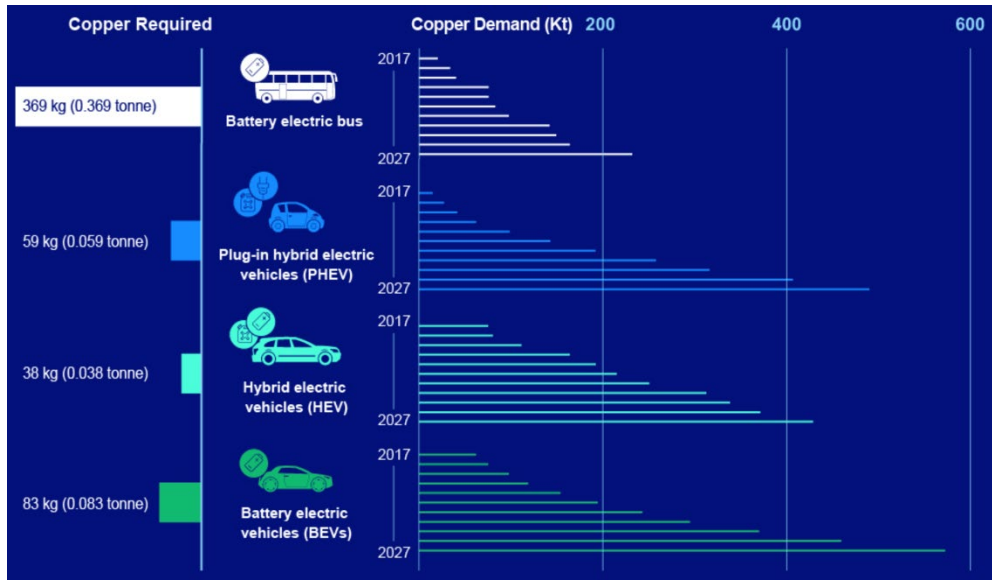
<sup>4</sup> <https://aheadoftheherd.com/the-us-has-a-metals-problem/>; <https://www.energy.gov/sites/default/files/2022-02/Electric%20Grid%20Supply%20Chain%20Report%20-%20Final.pdf>

<sup>5</sup> <https://www.copper.org/environment/sustainable-energy/renewables/>

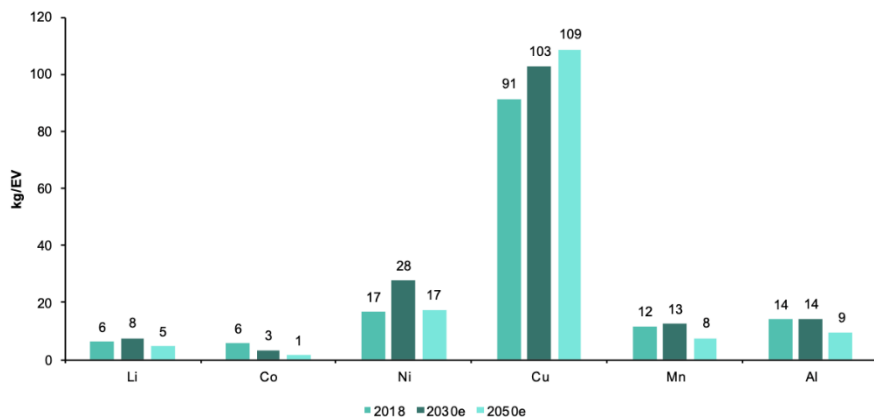
# Copper Anchors the EV Ecosystem

EV production could be limited by copper availability

Copper Drives Bigger, Longer Range EVs (2017 to 2027e)<sup>1</sup>



Copper Demand Per EV Continues Growing (2018 to 2030e to 2050e)<sup>2</sup>



- Copper used in **more than just the battery**, also the motor, inverter/converter, cabling & internal charging requirements
- **EV infrastructure** associated with ultra fast charging of EVs, as well as grid investment all heavily reliant on copper
- Unlike other EV metals, **copper metal use per EV rises**, even after expected battery chemistry transition reduces metal requirements out to 2030 – 2050<sup>2</sup>
- If EV growth pursued aggressively, **copper demand for EVs could exceed renewable power**
- Tesla, GM, BMW & Toyota have direct mining/refining relationships for Li, Co & Ni, but not for Cu (yet)
- As supply pressure builds, automakers expected to pursue similar **direct sourcing strategy for Cu**

<sup>1</sup> <https://www.visualcapitalist.com/visualizing-coppers-role-in-a-low-carbon-economy/>

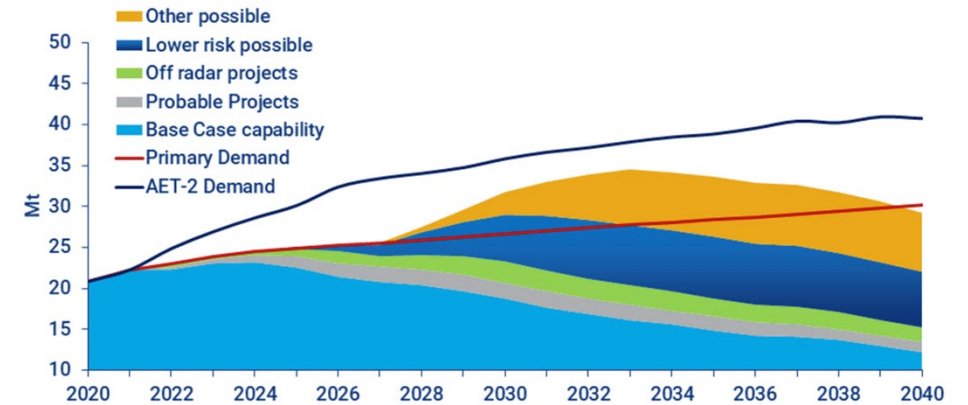
<sup>2</sup> <https://cdn-ceo-ca.s3.amazonaws.com/1g9df18-Global-Metals-Mining-King-Copper-once-and-future-14-September-2020-Bernstein.pdf>

# Approaching a Copper Supply Cliff

Lower Grade, Fewer New Discoveries & Elevating ESG Headwinds

- Relative to consumption, **copper over-utilised**
- Global reserve **grades falling** since 1990's; Halved to ~0.5% Cu<sup>1</sup>
- New copper **discoveries insufficient** to replace production; discoveries in 2020s expected to be poorest since 1990<sup>2</sup>
- Increasing ESG requirements impacting project lead time & risks; currently **>10yr from Cu discovery to production**<sup>3</sup>
- Copper supply deficits inevitable:
  - ✓ Wood Mac est. **6.5Mt deficit by 2027** for AET-2 Demand<sup>4</sup>
  - ✓ BMO est. **9Mt deficit by 2030**; with 4Mt new supply growth (capex >\$75bn) as max. practical limit irrespective of Cu price<sup>5</sup>
  - ✓ Equivalent to **8x new Escondida mines over next 8 yrs**<sup>6</sup>

Copper Supply vs Primary & Accelerated Energy Transition (AET-2) Demand<sup>4</sup>



Copper amongst most over-utilised relative to geological endowment<sup>7</sup>



XAM's Kharmagtai positioned to add 1.5Mt Cu production between 2028 to 2057

<sup>1</sup> <http://info.gorozen.com/2021-q1-market-commentary-problems-with-copper>

<sup>2</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/research/copper-discoveries-declining-trend-continues>

<sup>3</sup> <https://www.angloamerican.com/~media/Files/A/Anglo-American-Group/PLC/media/presentations/2022pres/bank-of-america-duncan-wanblad-presentation-2022.pdf>

<sup>4</sup> <https://www.woodmac.com/news/opinion/will-a-lack-of-supply-growth-come-back-to-bite-the-copper-industry/>

<sup>5</sup> <https://www.ft.com/content/975b92c0-8f70-48c2-8e50-f615db68228d>

<sup>6</sup> <https://aheadoftheherd.com/8-escondidas-needed-over-the-next-eight-years/>

<sup>7</sup> <https://cdn-ceo-ca.s3.amazonaws.com/1g9df18-Global-Metals-Mining-King-Copper-once-and-future-14-September-2020-Bernstein.pdf>

# Kharmagtai Positioned for Development

Funded to construction decision & reinvigorate exploration

Moving forward in 2022/3:

- Kharmagtai PFS starts in 2022; **Maiden Ore Reserve & Decision to Mine** in 2023
- Explore Kharmagtai **high-grade extension & new discovery**
- Explore Red Mountain following up recent **shallow, high-grade bornite** intercepts up to **16% Cu**.
- **7 rigs** parked up with drilling teams ready to commence

Objectives delivered in 2021/2:

1. **Resource expanded** to 1.1Bt containing 3Mt Cu & 8Moz Au, including >100Mt **higher-grade zone doubled**
2. **Scoping Study**<sup>1</sup> delivers 30-yr mine life; US\$630M NPV; 4-yr payback & 20% IRR, producing **30-50ktpa Cu & 100-115kozpa Au**
3. **Funded** via strategic partnership with Zijin Mining Group<sup>2</sup> delivering US\$43M (A\$58M<sup>3</sup>)

Kharmagtai Project Camp



<sup>1</sup> ASX/TSX Announcement 6 April 2022 – Scoping Study – Kharmagtai Copper-Gold Project; includes appropriate economic ranges

<sup>2</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining

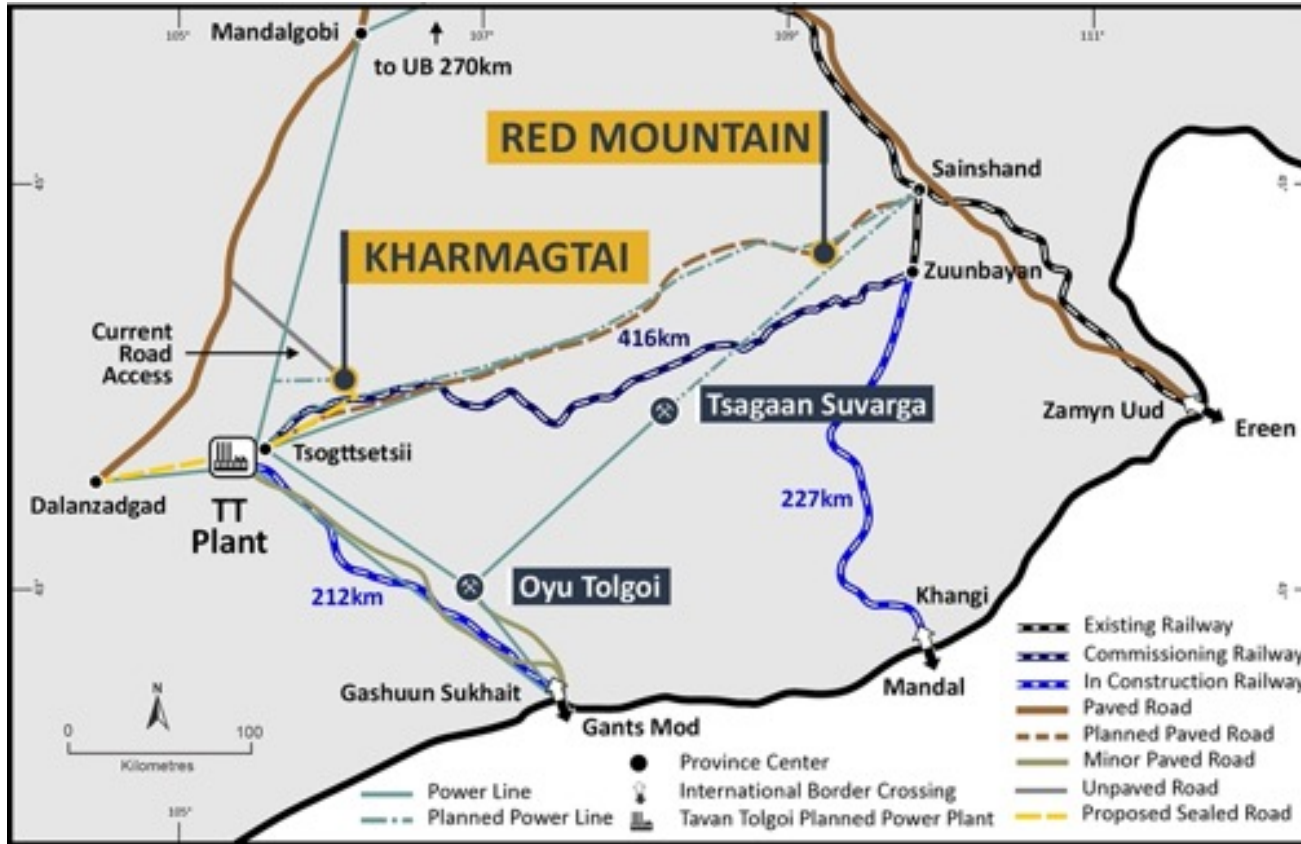
<sup>3</sup> Conversion based on AUD:USD = 0.7387 as at 19 Apr 2022 close (transaction announcement date)



# New Regional Infrastructure Links to Consumers

Mongolia investing to encourage mining in the South Gobi

## South Gobi Regional Infrastructure



### Rail & Road Infrastructure

- New rail line being commissioned between Sainshand & Tsogttsetsii, linking to trans-Mongolia railway. New sealed road follows rail line.
- Further rail under construction south to China from Zuunbayan & Tsogttsetsii.

### Power Infrastructure

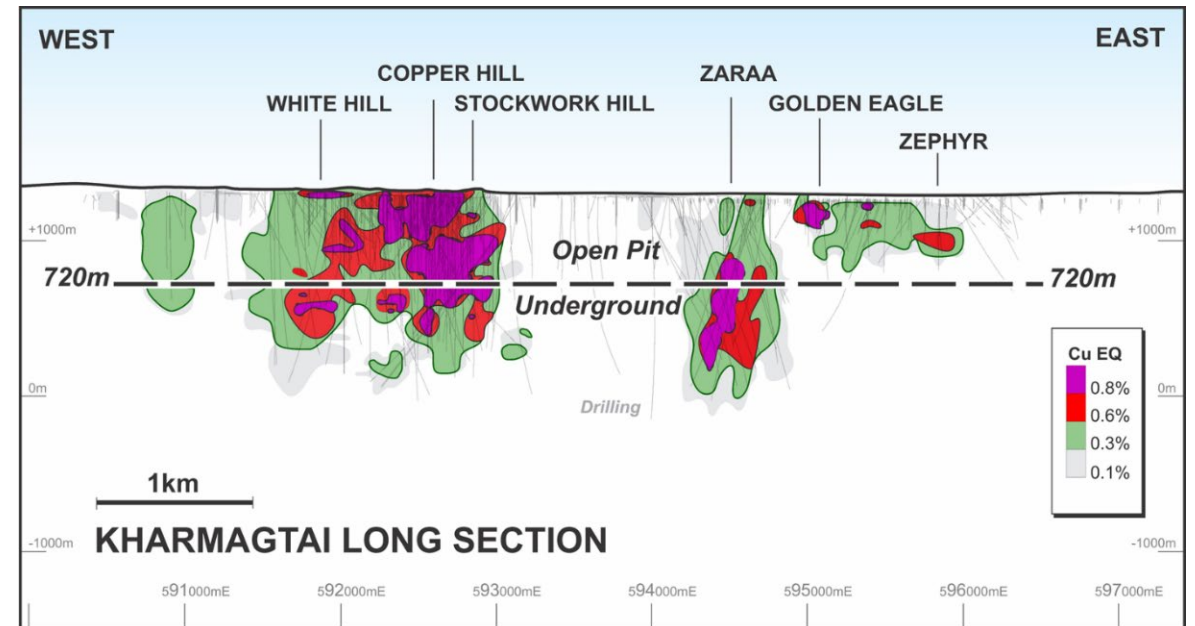
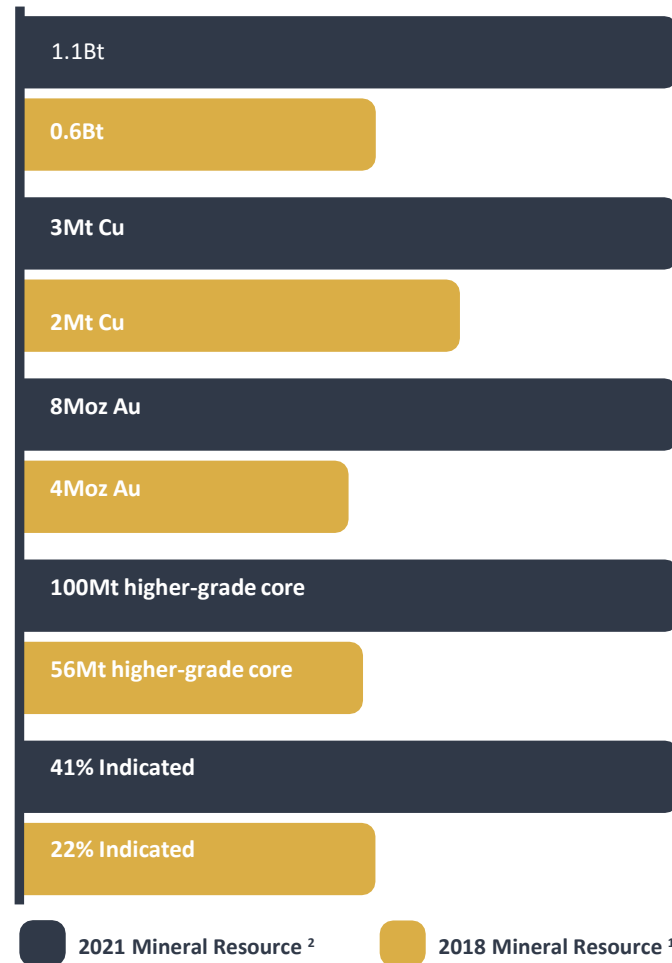
- New Tavan Tolgoi power plant being constructed
- Additional power lines linking region to Tavan Tolgoi



Train using South Gobi railway

# Resource continues to be Upgraded

Doubled higher-grade zones with **strong potential for continued growth**



## 2022-2023 Drilling

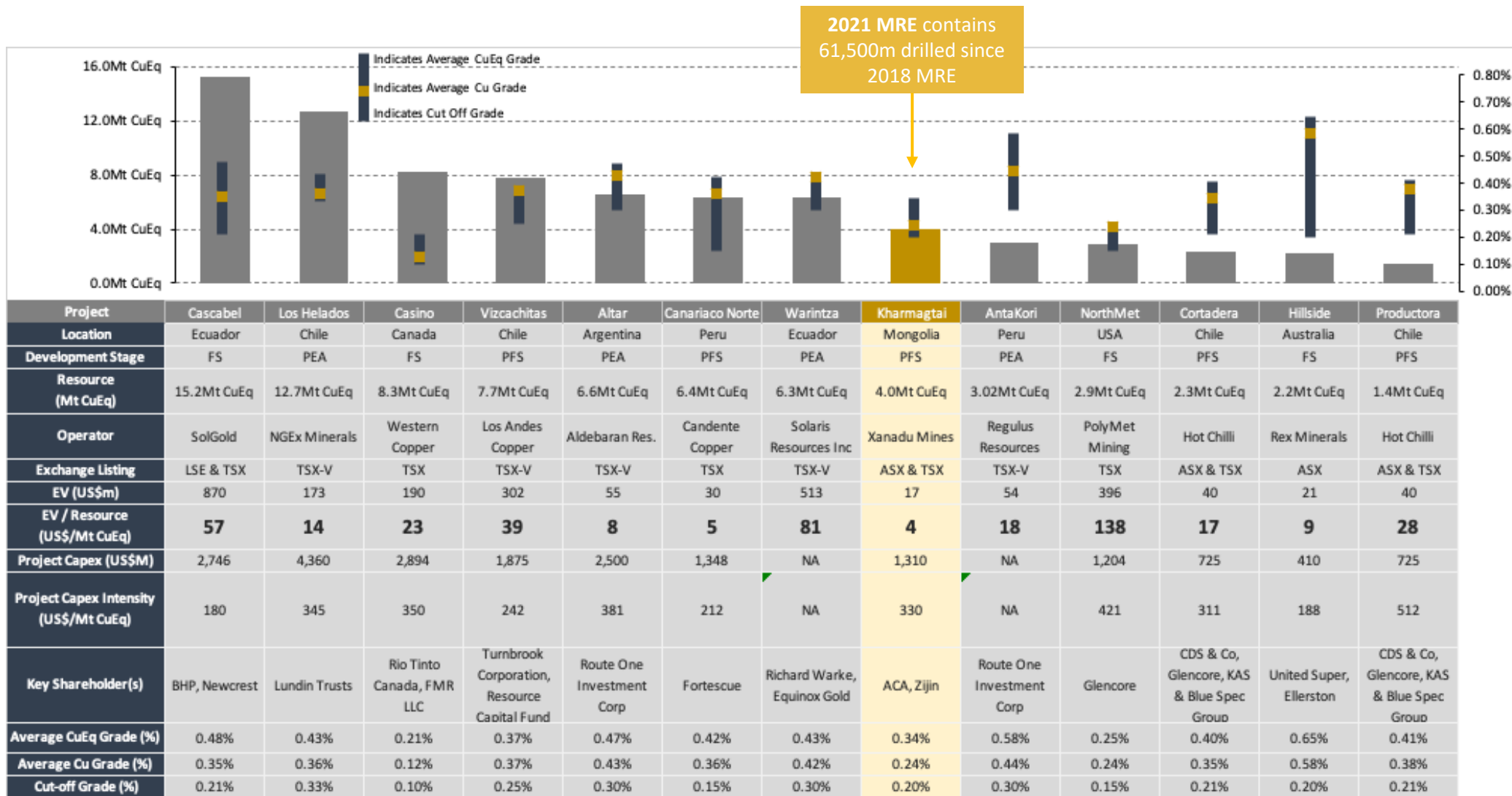
- ~30,000 metres infill drilling targeted during PFS
- Reinvigorated **discovery exploration & high grade-focussed extension** drilling program being planned, with rigs ready to go

<sup>1</sup> ASX/TSX Announcement 18 December 2018 – Technical Report to support Kharmagtai Mineral Resource

<sup>2</sup> ASX/TSX Announcement 28 February 2022 – Kharmagtai Technical Report and ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1 Billion Tonnes

# Kharmagtai Ascends the Global Ranks

One of the largest undeveloped Cu-Au resources controlled by a junior

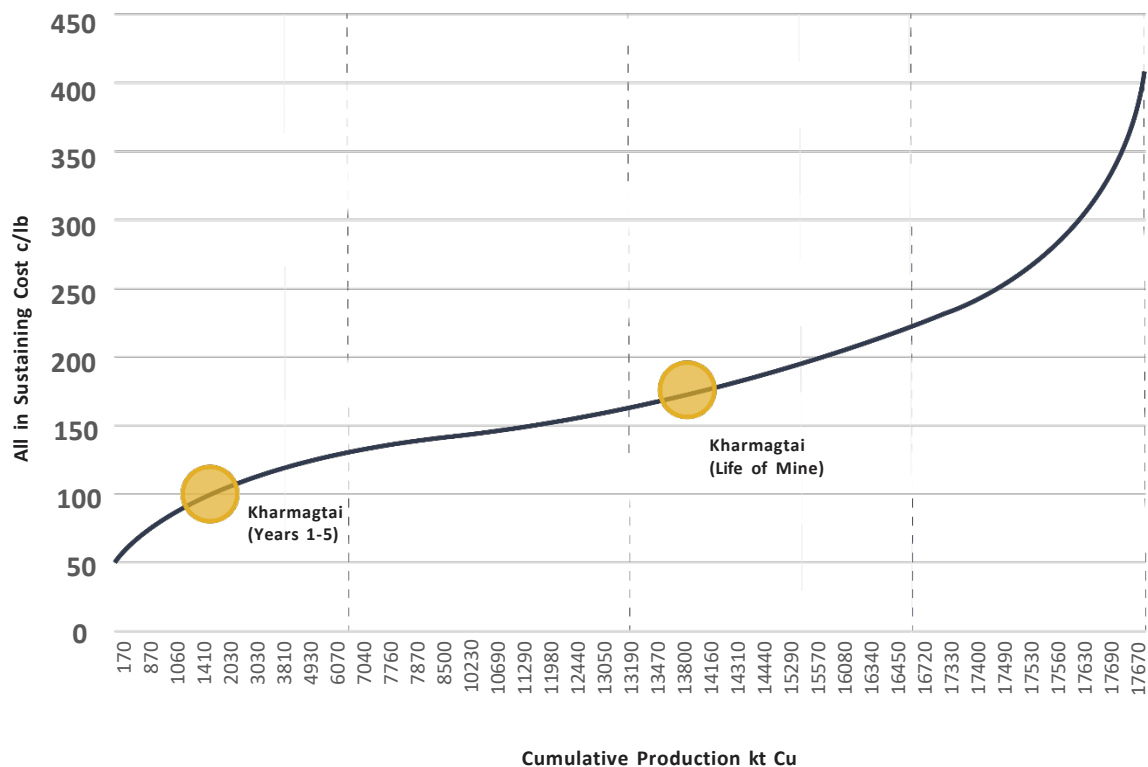


Source: Company Disclosure, EV in USD as at 14/7/2022  
 CuEq calculations and benchmarking data in Appendix, slide 19  
 Capex Intensity calculated as Project Capex / Mineral Resource

# Two Stage Operation, Low Quartile Cost Producer

Low quartile production enabled by **low strip** & **gold by-product credits**

### Xanadu's Position on the Cost Curve



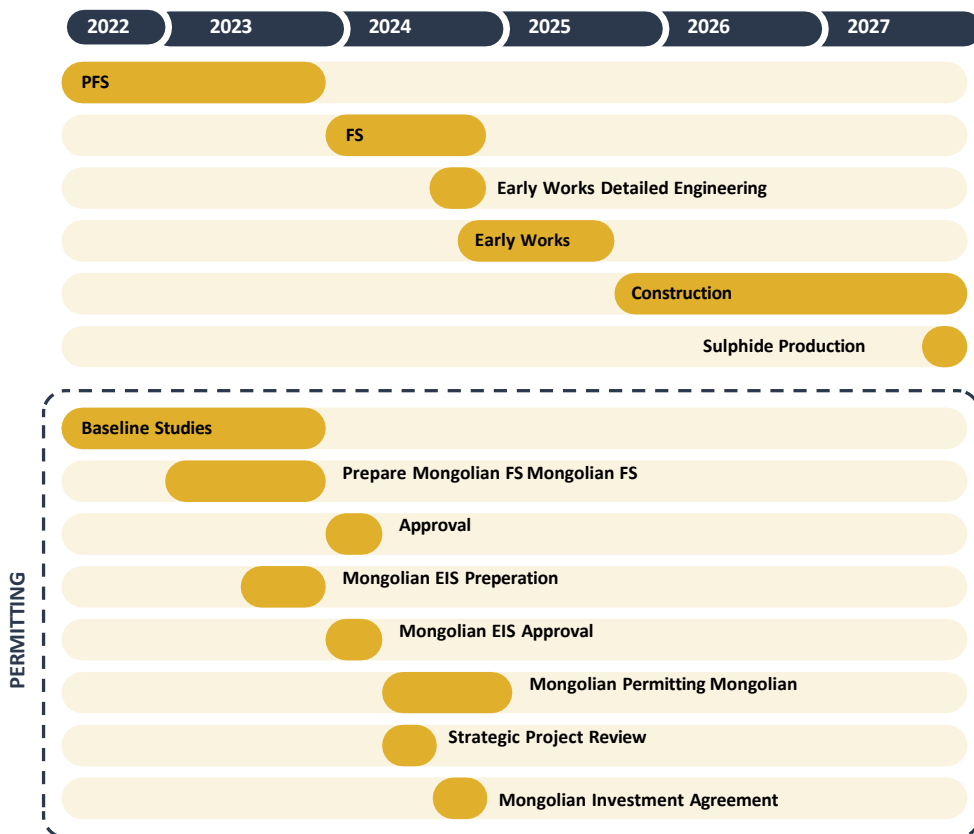
Area	Measure	Unit	Stage 1 Initial	Stage 2 Expansion	LOM
Production	Period Years		5	25	30
	Ore process rate.	Mtpa	15	30	15-30
	Feed from Indicated Resource	%	100%	50%	55%
	Ore processed	Mt	70	690	760
	Average copper grade	%	0.29	0.21	0.21
	Average gold grade	g/t	0.30	0.16	0.18
	Copper produced	Mt	0.2	1.3	1.5
	Gold produced	Moz	0.5	2.8	3.3
Capital	Project Capital	US\$M	690	620	1,310
	Sustaining Capital	US\$M	40	530	570
Operating Cost	All In Sustaining Costs	US\$/lb	1.02	1.99	1.87
Economic Assumptions	Copper Price	US\$/lb	4.00	4.00	4.00
	Gold Price	US\$/oz	1,700	1,700	1,700
Financials (after tax)	Net Present Value (NPV) @ 8%	US\$M			630
	Internal Rate of Return (IRR)	% (real)			20
	Capital Payback	Years	4	1	4
	Free Cash Flow (after tax)	US\$M (real)	155	3,260	3,420

# Clear Pathway to Production

Gated to Pre-Feasibility following robust Scoping Study<sup>1</sup>

## Project Timeline

An indicative summary of key expected milestones is summarised as follows



**Short time to production** achieved by 4Q'2027, targeting **opex & capex improvements**

**Clear permitting pathway**, mapped out by experienced Mongolian development team

## Scoping Study Results



<sup>1</sup> ASX/TSX Announcement 6 April 2022 – Scoping Study Kharmagtai Copper-Gold Project

# Multiple Upside Opportunities

Leverage technology & reignite exploration

## Process Oxidised Material at Surface

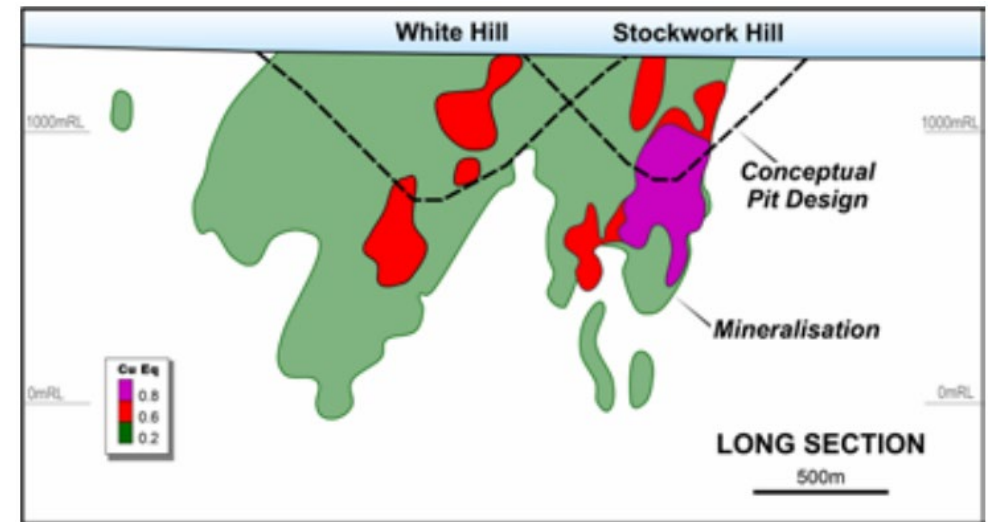
- Scoping Study based on mining & processing sulphide resource
- Upper 30m partially oxidised mineralisation above sulphide resource
- Processing could lift projects economics; **generating additional cash flow & offset pre-strip cost**

## Technology to Reduce Cost & Expand Footprint

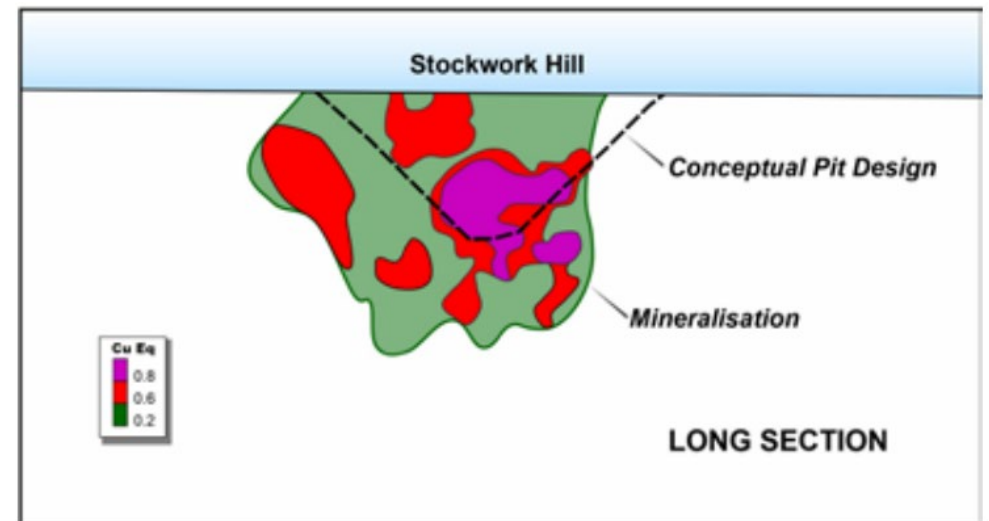
- Scoping Study based on low risk, conventional technology
- Potential beneficiation, coarse particle separation, and ore sorting to **optimise mill feed grade & recovery** and **reduce milling cost**
- Potential to use in pit crush and convey to optimize & **deepen pits**, and electrified mining equipment to **reduce haulage cost**

## Exploration Upside

- Resource **open in all directions**, representing ~30% of 8km long Kharmagtai mineralised complex.
- Higher-grade bornite mineralisation continues below current pit, confirmed by Stockwork Hill deeper drilling, representing **upside to existing Resource**
- Several **near surface targets** across tenement warrant follow-up drill testing
- **>20 exploration targets** identified across the 66.5km<sup>2</sup> lease been ranked & will be **drill tested over coming 12 months**



Kharmagtai Resource within Open Pit in Long Section

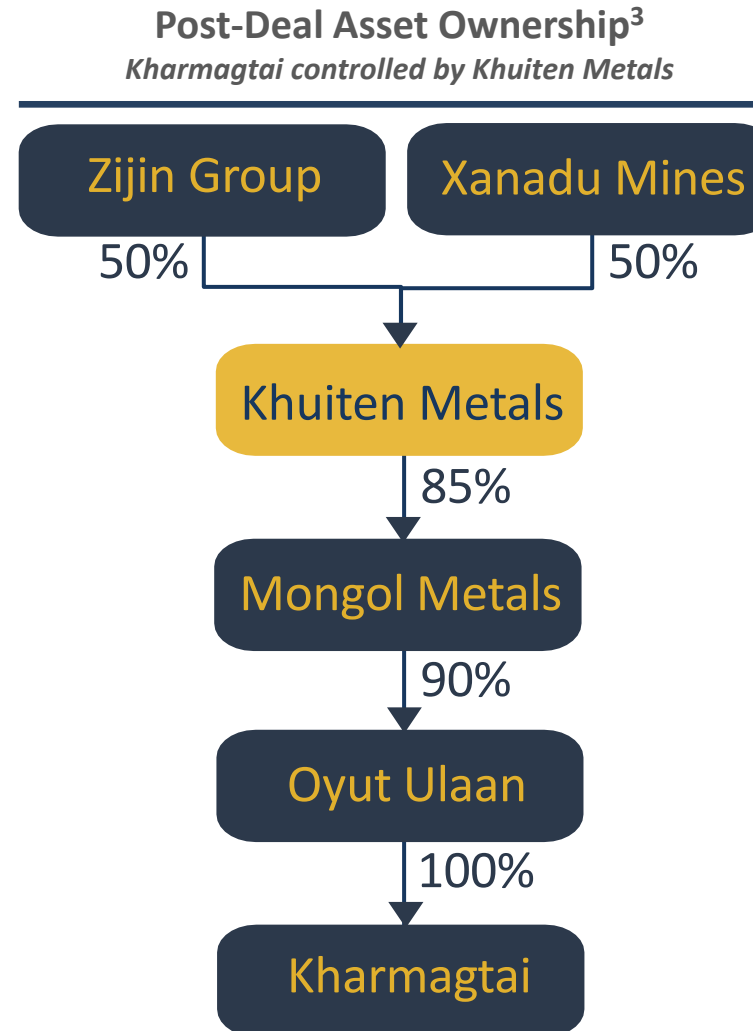


Stockwork Hill Long Section showing current resource, proposed open pit and high-grade blocks below pit outline open along strike and at depth.

# Funded via Strategic Partnership with Zijin Mining

Three phases of investment<sup>1</sup> totalling US\$43M<sup>2</sup> (A\$58M<sup>2</sup>)

- Phase 1 (completed) **A\$5.6M cash @ 4cps** representing **38% premium** for a 9.9% minority stake in XAM
- Phase 2 **A\$5.7M cash** increasing to 19.99% XAM
- Phase 3 **US\$35M cash** into Khuiten Metals, forming **50-50 JV** in Kharmagtai controlling entity:
  - US\$20M ringfenced to **fully fund PFS**, including infill drilling
  - US\$15M to **fund high impact exploration** at Kharmagtai
- Phases 2-3 subject to regulatory & shareholder approvals



**Post-Deal XAM Shareholders**  
*Top 20 hold 50%*

15%	Top 20 (ex Zijin & ACA)
20%	Zijin
15%	ACA
5%	Management & Board
45%	Other Holders

<sup>1</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining

<sup>2</sup> Currency conversion based on AUD:USD = 0.7387 as at 19 Apr 2022 close (transaction announcement date)

<sup>3</sup> Effective ownership of Kharmagtai by each of Xanadu and Zijin is 38.25% (= 50% \* 85% \* 90%)

# Reasons to Invest in Xanadu

Exposure to Funded Copper Gold Development + Future Discoveries

## Quality Projects

### MAJOR COPPER GOLD RESOURCE

Kharmagtai maiden Ore Reserve in 2023.  
 Kharmagtai MRE: 1.1Bt containing 3Mt Cu & 8Moz Au, incl. 100Mt @ >0.8% CuEq.<sup>1</sup>

### FAST TRACKING DEVELOPMENT

PFS fully-funded; targeting FID in 2023.  
 First production in 2027 from processing sulphides; additional cashflow potential from partially oxidised material processing.

### FUNDED & WELL POSITIONED

Zijin strategic investment<sup>2</sup>: A\$11M in XAM & US\$35M in Kharmagtai.  
 Strengthens funding, technical capability.  
 De-risks concentrate marketing & logistics.

### MONGOLIA STRONG-POINTS

Stable, well-educated democracy.  
 Mining-driven economy with low ESG risk & established infrastructure.  
 Seeking to encourage foreign investment.

## Measured Approach

### EXCELLENT LEADERSHIP

Management & Board track record of discovery, development and M&A.  
 Supported by World-class Advisory Team.

### AMBITIOUS EXPLORATION

Funded for future high impact discoveries at both Kharmagtai (untested depth & lateral potential) & Red Mountain (up to 16% Cu).

### GROWTH POTENTIAL

Kharmagtai open in all directions, with strong depth potential.  
 Highly prospective Red Mountain  
 New project generation.

### ESG FOCUS

Operating to highest ESG standards, with strong community engagement.  
 Sustainability Report available on website<sup>3</sup>

<sup>1</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

<sup>2</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining

<sup>3</sup> ASX/TSX Announcement 1 November 2021 – Sustainability Report 2020



# Thank you

**Colin Moorhead**  
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# APPENDIX

XANADU MINES

# Competent Person's Statement

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code 2012') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The Information contained in this announcement has been presented in accordance with the JORC Code 2012.

**Mineral Resources:** The information in this announcement that relates to Mineral Resources is based on information compiled by Mr. Robert Spiers who is responsible for the Mineral Resource estimate. Mr Spiers is a full-time Principal Geologist employed by Spiers Geological Consultants (SGC) and is a Member of the Australian Institute of Geoscientists with sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as the "Qualified Person" as defined in the CIM Guidelines and National Instrument 43-101. Mr Spiers consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

**Exploration Results:** The information in this announcement that relates to Exploration Results is based on information compiled by Dr Andrew Stewart who is responsible for the exploration data, comments on exploration target sizes, QA/QC and geological interpretation and information. Dr Stewart, who is an employee of Xanadu and is a Member of the Australasian Institute of Geoscientists, has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as the "Competent Person" as defined in the 2012 Edition of the "Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves" and the National Instrument 43-101. Dr Stewart consents to the inclusion in the report of the matters based on this information in the form and context in which it appears

# Copper equivalent benchmarking

Global Project	Resource Date	Resource Mt				Au g/t			Cu %			Au Moz			Cu Mt			CuEq	
		Meas	Ind	Inf	Total	Meas	Ind	Inf	Meas	Ind	Inf	Meas	Ind	Inf	Meas	Ind	Inf	%	Mt
Altar	22/03/21	622	576	189	1,387	0.10	0.08	0.06	0.44%	0.42%	0.42%	2.0	1.5	0.4	2.7	2.4	0.8	0.47%	6.6
AntaKori	31/01/19	0	250	267	517	0.00	0.29	0.26	0.00%	0.48%	0.41%	0.0	2.3	2.2	0.0	1.2	1.1	0.58%	3.0
Canariaco Norte	28/02/22	424	671	411	1,505	0.07	0.05	0.04	0.48%	0.39%	0.32%	0.9	1.1	0.5	2.0	2.6	1.3	0.42%	6.4
Cascabel	20/04/22	1,192	1,470	544	3,206	0.39	0.14	0.24	0.48%	0.28%	0.24%	14.9	6.6	4.2	5.7	4.1	1.3	0.48%	15.2
Casino	29/04/22	188	2,303	1,413	3,903	0.40	0.17	0.14	0.24%	0.13%	0.10%	2.4	12.5	6.3	0.5	3.0	1.4	0.21%	8.3
Cortadera	31/03/22	0	471	108	579	0.00	0.12	0.08	0.00%	0.36%	0.28%	0.0	1.8	0.3	0.0	1.7	0.3	0.40%	2.3
Hillside	May 2015	72	151	114	337	0.16	0.13	0.10	0.55%	0.59%	0.60%	0.4	0.6	0.4	0.4	0.9	0.7	0.65%	2.2
Kharmagtai	8/12/21	0	487	664	1,151	0.00	0.20	0.20	0.00%	0.30%	0.20%	0.0	3.1	4.2	0.0	1.5	1.3	0.34%	4.0
Warintza	1/04/22	0	579	887	1,466	0.00	0.03	0.01	0.00%	0.47%	0.37%	0.0	0.6	0.3	0.0	2.7	3.3	0.42%	6.1
Los Helados	26/04/19	0	2,099	827	2,926	0.00	0.15	0.10	0.00%	0.38%	0.32%	0.0	10.1	2.6	0.0	8.0	2.6	0.43%	12.7
NorthMet	19/11/19	319	403	415	1,137	0.03	0.03	0.03	0.24%	0.23%	0.24%	0.3	0.4	0.4	0.8	0.9	1.0	0.25%	2.9
Productora	31/03/22	0	253	90	343	0.00	0.08	0.03	0.00%	0.41%	0.29%	0.0	0.6	0.1	0.0	1.0	0.3	0.41%	1.4
Vizcachitas	10/05/19	254	1,030	789	2,073	0.00	0.00	0.00	0.44%	0.39%	0.34%	0.0	0.0	0.0	1.1	4.0	2.7	0.37%	7.7

Mineral Resource used in benchmarking include Inferred, Indicated, and Measured classifications. Resource tonnes and grades are as reported by each company.

Copper equivalent grades were calculated by Xanadu Mines using the formula:

$$\text{CuEq} = \text{Cu} + \text{Au} * 0.60049 * 0.86667$$

Where :

- Cu = copper grade (%)
- Au = gold grade (grams per tonne (g/t))
- 0.60049 = conversion factor (Au to Cu); and
- 0.86667 = relative recovery of Au to Cu (86.67%)

These equivalent formulas were based on the following parameters (prices in USD):

- Cu price = 3.4 \$/lb
- Au price = 1,400 \$/oz
- Cu recovery = 90%
- Au recovery = 78%; and
- Relative recovery of Au to Cu = 78%/90% = 86.67%

Metals prices, Au-Cu conversion factor, and Au-Cu relative recovery factors are as defined in the 2021 Xanadu Mineral Resource Upgrade<sup>1</sup>

# Led by Highly Experienced Directors & Management

XANADU MINES

Track record of discovering & developing successful porphyry copper-gold mines

## BOARD



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LKHAGVASUREN**  
COUNTRY MANAGER & EXECUTIVE DIRECTOR



**COLIN  
MOORHEAD**  
EXECUTIVE CHAIRMAN &  
MANAGING DIRECTOR



**MICHELE  
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**TONY  
PEARSON**  
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DAMBIINYAM**  
CHIEF OPERATING OFFICER



**ANDREW  
STEWART**  
VICE PRESIDENT EXPLORATION



**MAT  
BROWN**  
CHIEF GEOLOGIST



**SPENCER  
COLE**  
CHIEF DEVELOPMENT OFFICER  
CHIEF FINANCIAL OFFICER

MONGOLIA EXPERTISE

DEEP EXPLORATION SKILLS

COMMERCIAL CAPABILITY

# Positioning as the Cadia Hill of Mongolia

Kharmagtai stacks up well on **strip ratio**, **scale** & **copper grade**

## First 5yrs of production<sup>2</sup>:

		Kharmagtai (KH) Scoping Study	Cadia Hill (CH) Actuals
Material Mined	Mt	210	298
Ore Mined <sup>1</sup>	Mt	110	79
Ore Processed	Mt	70	79
Strip Ratio		0.9	2.8
Ore Processing rate	Mtpa	15	16
<b>Avg Milled Grade:</b>			
Copper	%	0.29	0.19
Gold	g/t	0.30	0.77
<b>Avg Metal Recovery:</b>			
Copper	%	90	81
Gold	%	78	74
<b>Metal Produced:</b>			
Avg Copper	ktpa	37	24
Avg Gold	kozpa	110	288
Copper	Mt	0.20	0.12
Gold	Moz	0.50	1.44



Cadia Hill



Kharmagtai

<sup>1</sup> Cadia Hill ore mined not reported, assumed ore mined = ore processed

<sup>2</sup> Sources: Kharmagtai Copper-Gold project Scoping Study; Cadia Valley Operations Technical Report, 2 Mar 2012

# Kharmagtai Resource 2021 vs 2018

Larger, more tightly domained, and significantly more gold

Resource	Cutoff (% CuEq)	Classification	Tonnes (Mt)	Grades			Contained Metal			
				CuEq (%)	Cu (%)	Au (g/t)	CuEq (Mlbs)	CuEq (kt)	Cu (kt)	Au (koz)
2021 <sup>1</sup>	0.2(OC) 0.3(UG)	Indicated	455	0.4	0.3	0.2	4,078	1,850	1,250	3,700
		Inferred	664	0.3	0.2	0.2	5,140	2,330	1,680	4,100
2018 <sup>2</sup>	0.3(OC) 0.5(UG)	Indicated	131	0.5	0.4	0.4	1,570	710	480	1,500
		Inferred	477	0.4	0.3	0.2	4,350	1,970	1,500	2,930

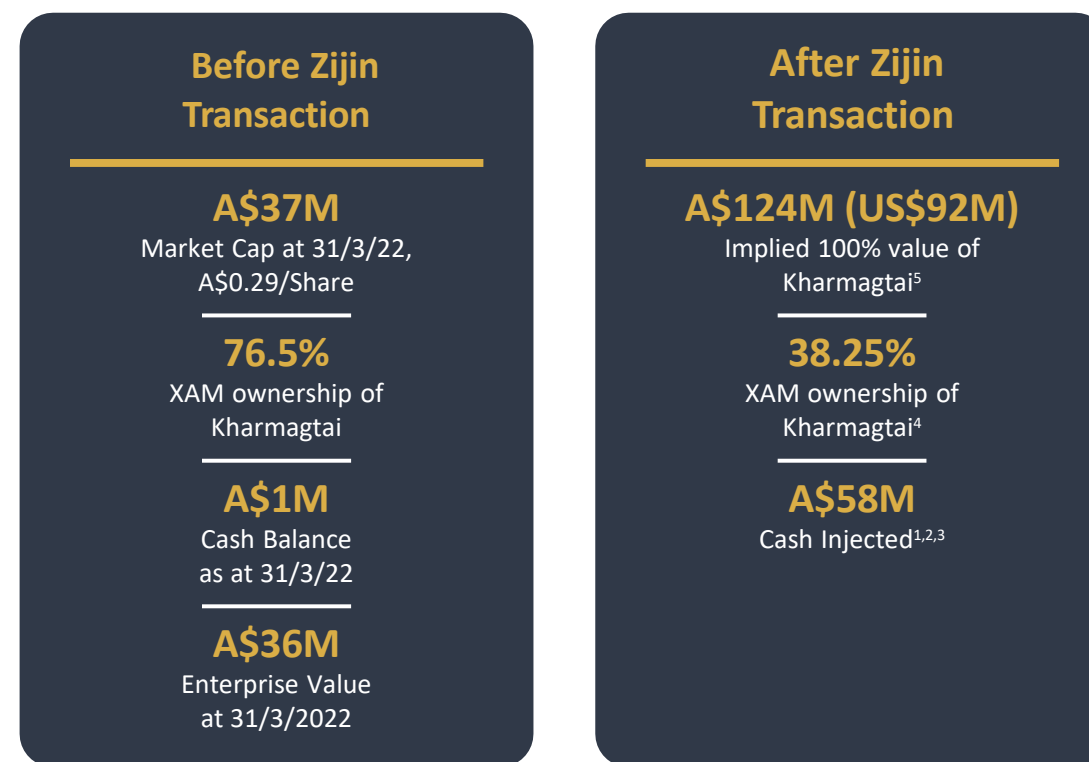
<sup>1</sup> ASX/TSX Announcement 28 February 2022 – Kharmagtai Technical Report, ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

<sup>2</sup> ASX/TSX Announcement 18 December 2018 – Technical Report to Support Kharmagtai Mineral Resource Upgrade

# Zijin Deal Transforms Xanadu

Funded to develop Kharmagtai while retaining control

- Transaction implies 100% value of Kharmagtai is **US\$92M** (**A\$124M**<sup>1</sup> or A\$29/t CuEq MRE)
- Current XAM share price implies **-\$6M Post Transaction Enterprise Value**<sup>2</sup>
- Xanadu **retains control** of Kharmagtai
  - Khuiten Metals controls Kharmagtai
  - 50-50 JV in Khuiten Metals
  - Xanadu **remains operator** for JV
- Change of control in XAM requires a post-deal offer from Zijin, subject to XAM **shareholder approval**
- Kharmagtai **funded** through PFS (12-18 months); supported by **solid discovery exploration** budget
- Xanadu **well-funded to explore** 100% owned Red Mountain



<sup>1</sup> US\$35M / 38.25% effective ownership = US\$92M

<sup>2</sup> XAM Transaction Enterprise Value = Market Cap (14 July 2022 A\$31M) – Cash (Current A\$7M + Phase 2 A\$6M + 50% of Phase 3 A\$24M)

<sup>3</sup> 50-50 JV in Khuiten Metals which holds 76.5% of Kharmagtai = 38.25%

<sup>4</sup> Cash Injected = (Zijin A\$11M placement) + (Khuiten Metals JV investment of US\$35M for Kharmagtai development)

<sup>5</sup> Conversion based on AUD:USD = 0.7387 as at 19 Apr 2022 close (transaction announcement date)

<sup>6</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining



# Who is Zijin Mining Group?

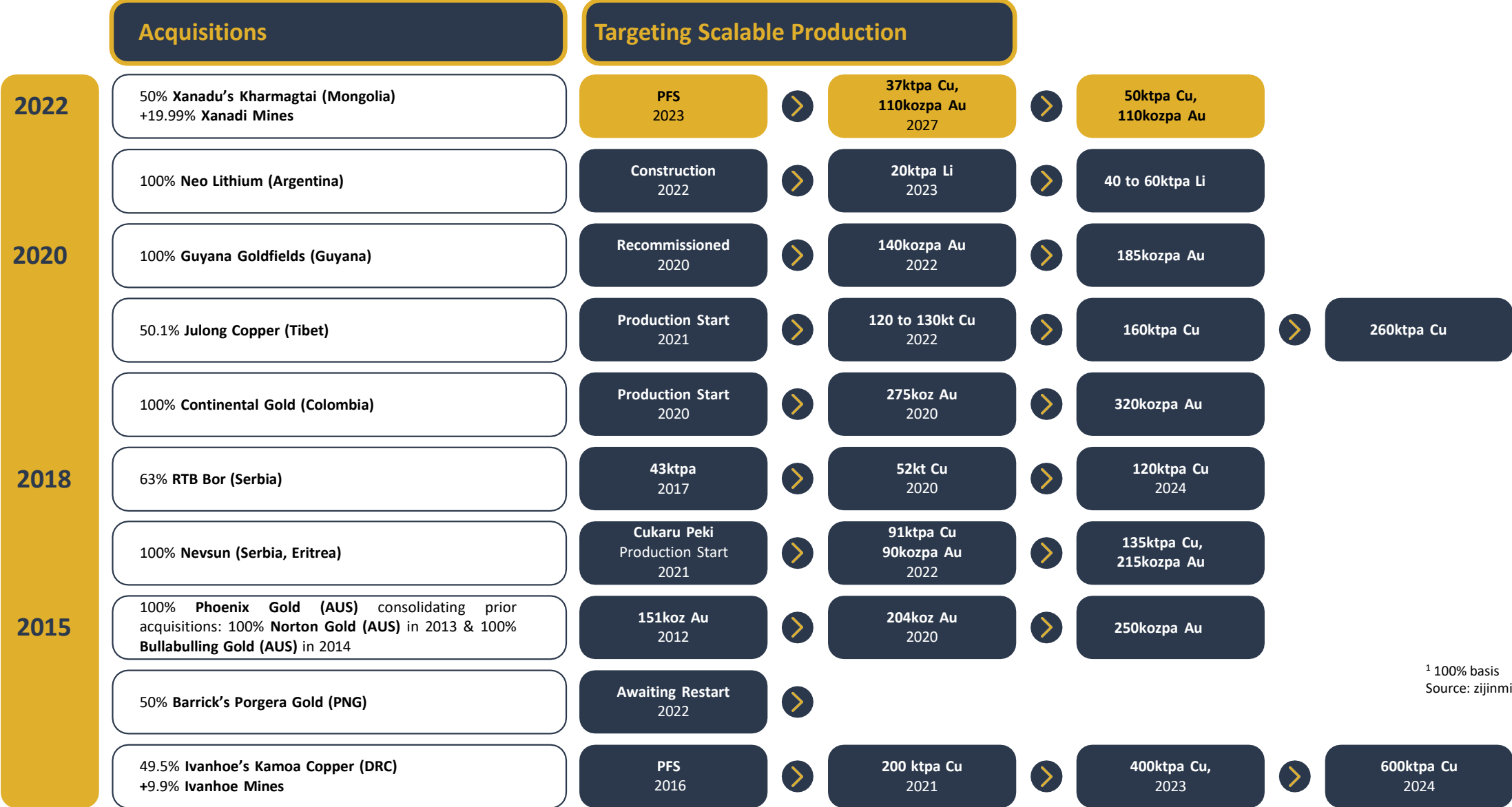
A global copper & gold mining major

- Zijin brings **capability** and **balance sheet** to build a large-scale copper-gold mine like Kharmagtai
- **US\$51 billion** market capitalization, listed on Hong Kong and Shanghai exchanges
- **Global Top 10 copper producer**, 2021 mining production 584kt copper, 1.68 Moz gold and 396kt zinc
- Vertically integrated: **mining, smelting & refining** assets
- Operating assets across **14 countries & 5 continents**
- **Experienced Joint Venture partner**, examples are Kamo-Kakula copper-mine (Ivanhoe) and Porgera gold-silver mine (Barrick)



# Zijin strategy is to acquire, control & scale-up

Aligns to Kharmagtai 2-stage expansion

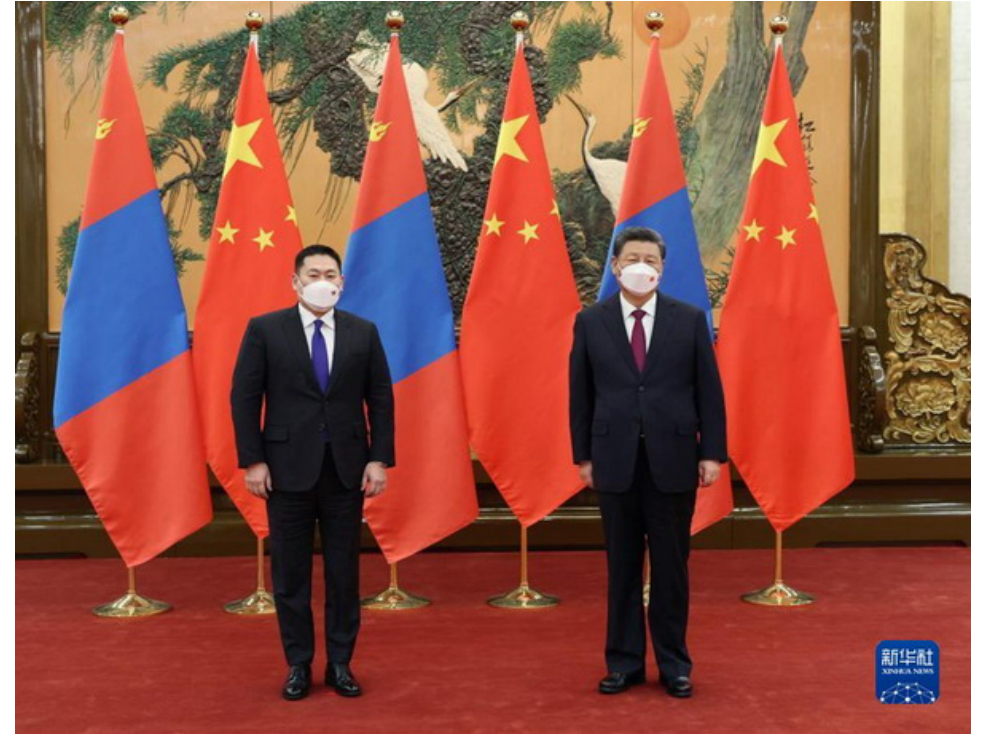


<sup>1</sup> 100% basis  
Source: zijinmining.com

# Mongolia-China Growing Strategic Partnership

Zijin transaction echoes strengthening relationship

- Recent heads of state engagement confirms alignment of Mongolia **New Revival Policy** with **China Belt and Road Initiative** and Five-Year Plan <sup>1</sup>
- Mongolia confirmed this bilateral relationship as the model for other global relationships
- Zijin strategic partnership with Xanadu demonstrates this growing inter-country engagement
- Xanadu transaction **aligns with the Zijin 2022 Strategy**<sup>2</sup>, targeting:
  - ✓ Large projects with best-in-class resources delivering sustainable growth
  - ✓ Responsible, green, high-tech mining
  - ✓ Good upside potential and strong synergies
  - ✓ Merger and acquisition to accelerate growth



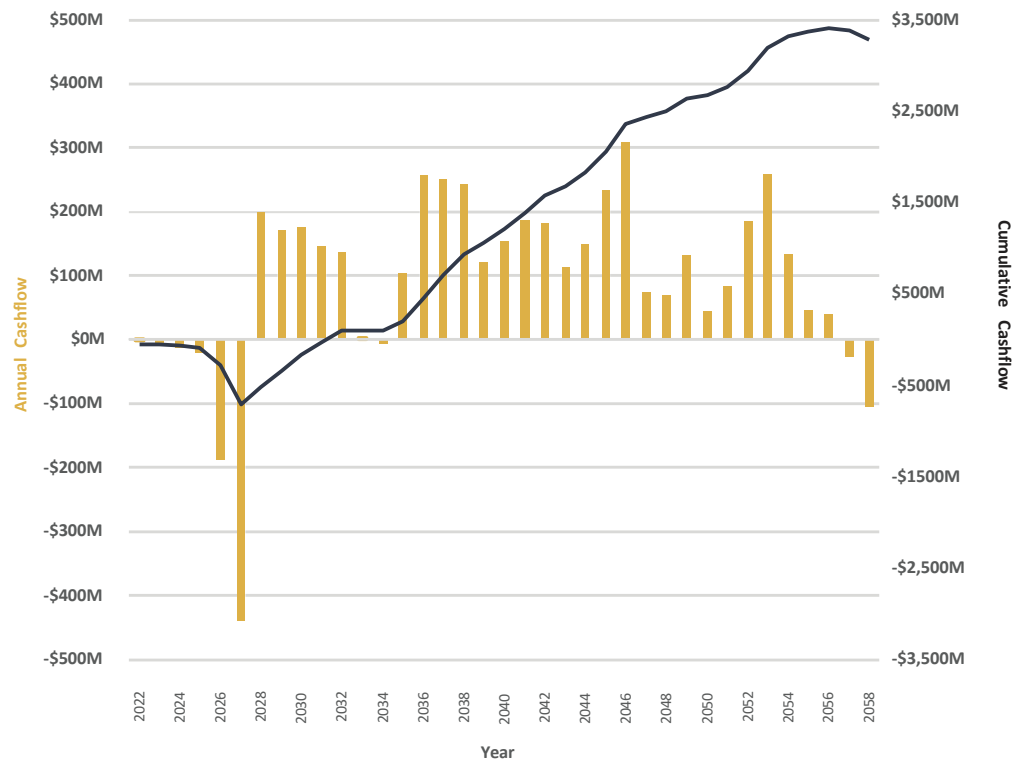
<sup>1</sup> Ministry of Foreign Affairs of the People's Republic of China 6 February 2022 – Xi Jinping Meets with Mongolia Primer Minister Luvsannamsrai Oyun-Erdene; [www.fmprc.gov.cn/mfa\\_eng/zxxx\\_662805/202202/t20220207\\_10639712.html](http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/202202/t20220207_10639712.html)

<sup>2</sup> Source: Zijinmining.com

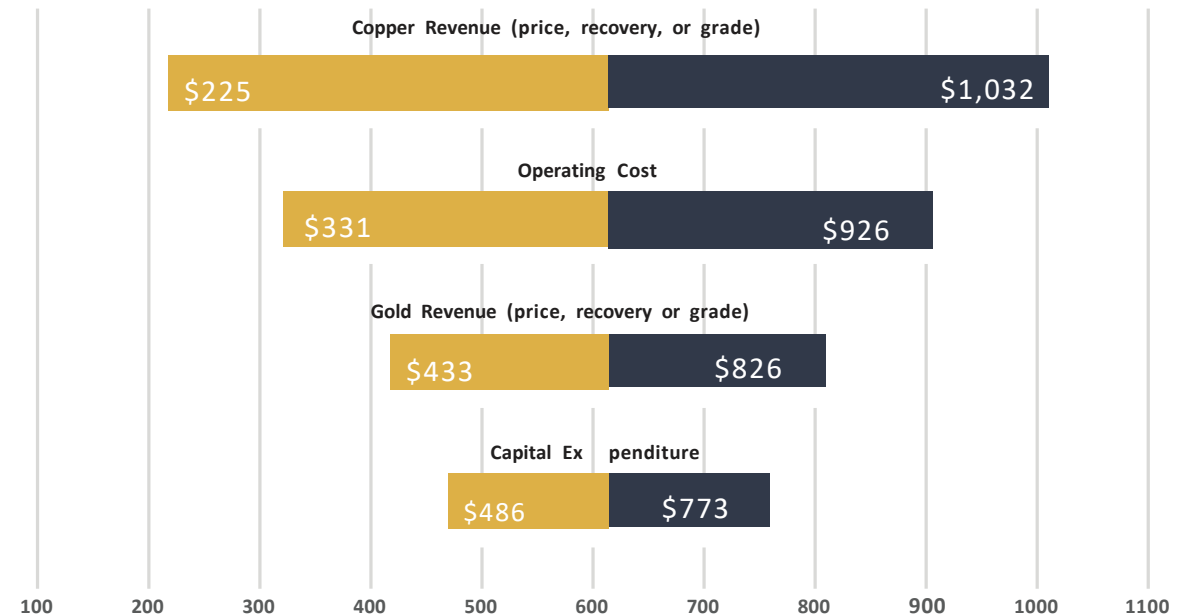
# Robust Cash Flows

Positive cash flow across wide range of scenarios

Annual Cashflow (US\$M)



- Phase 1 cash flows fund the Phase 2 expansion
- Strong earnings across +/- 20% sensitivity analysis range

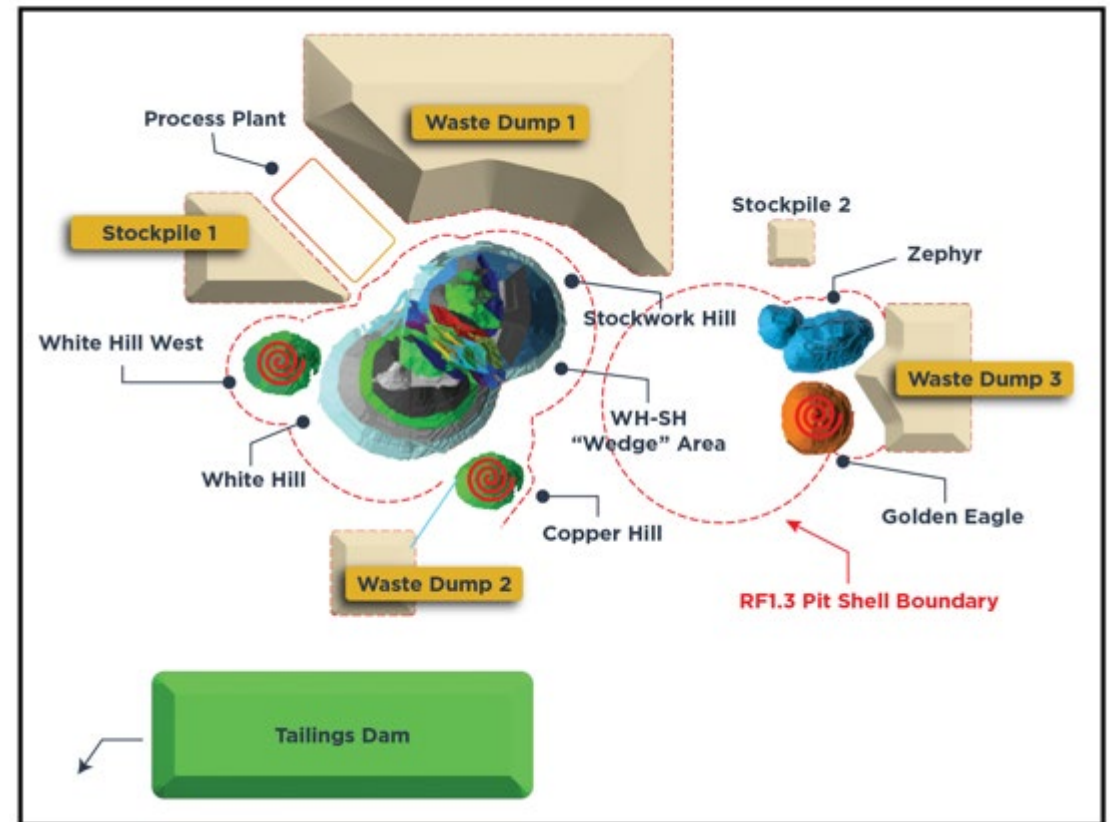


# Simple Site Layout

Plans ahead for future growth

- Low complexity, minimising haul distance
- Tailings dam offsite to south using land features
- Stand off maintained for potential future pit expansion leveraging in pit crush and convey
- To be finalised in PFS

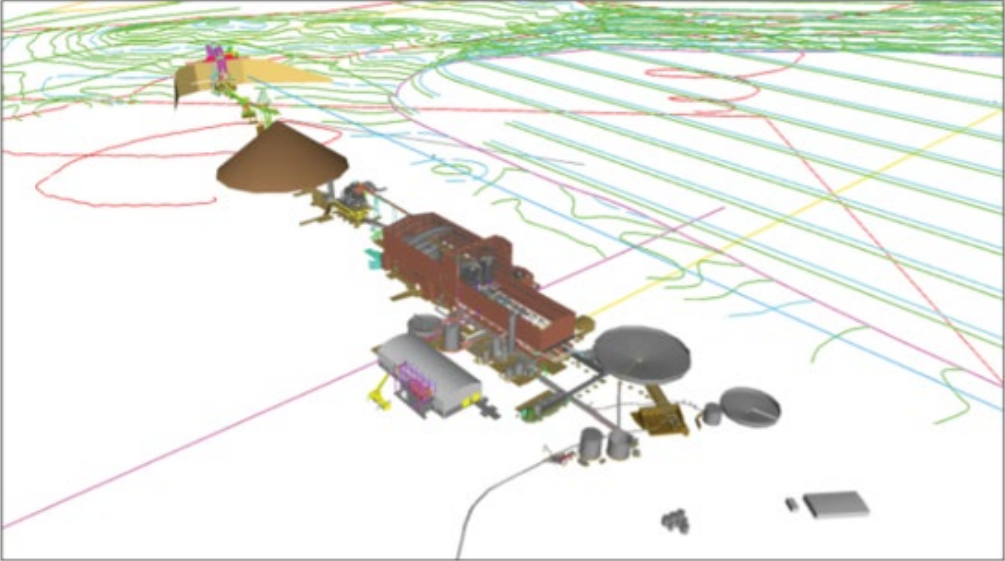
## Project Layout



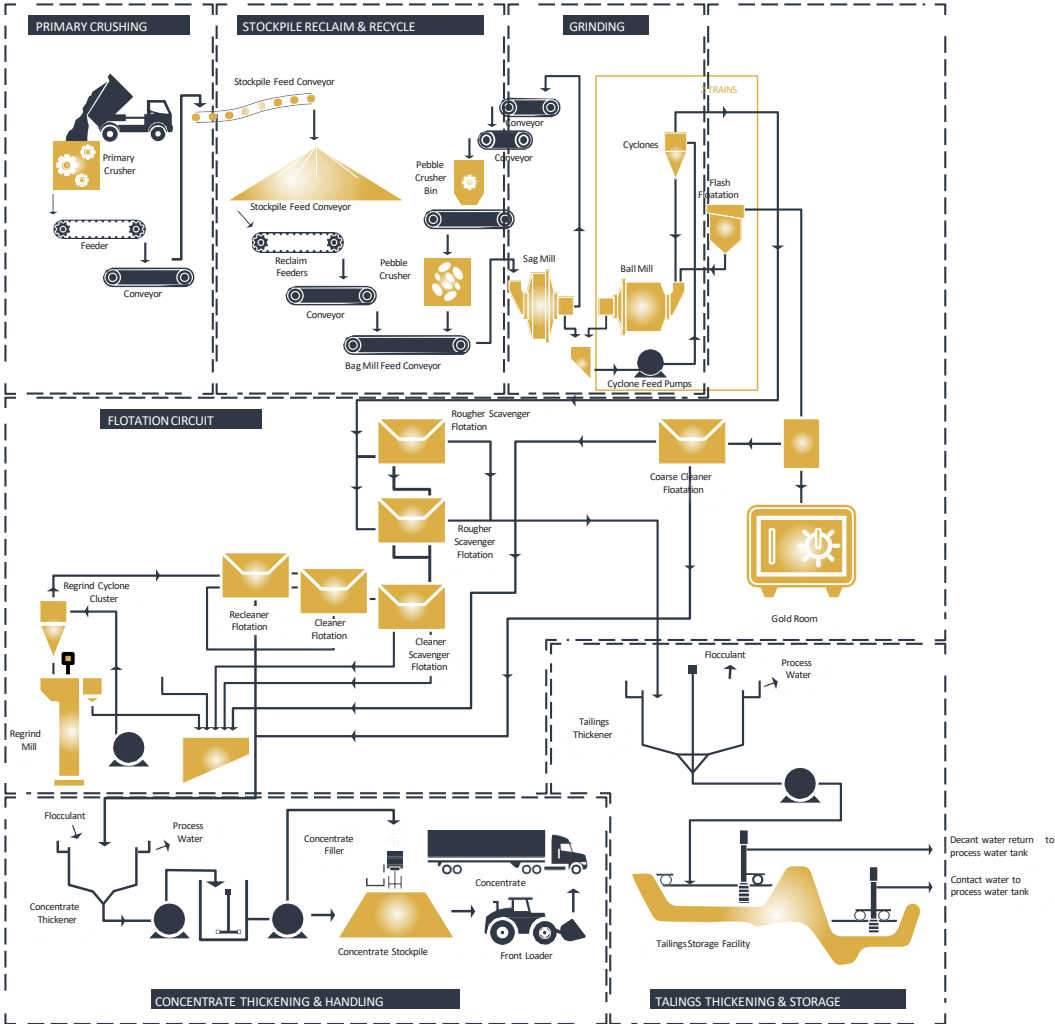
# Sulphide Flotation Process Plant

Conventional, low risk process flow and plant design

Process Plant Layout



Process Flow Diagram



# Favourable ESG Environment

Mongolia is an established and growing mining-driven economy

- ▶ **Pro-mining jurisdiction** - in 2020, mining accounted for 23% of Mongolia’s GDP & 70% of export revenues<sup>1</sup>
- ▶ **Significant mining region** - tops Investment Monitor's 2021 Mining Vulnerability Index<sup>1</sup>, followed by Zambia & Australia
- ▶ **Stable democratic system** – 30-yr history of democratic elections
- ▶ **Social License to Operate** – enables shorter lead times to production
- ▶ **Excellent infrastructure** - leverage rail, power and water for low-capex intensity development
- ▶ **Ideal location** – flat ground, sparse population, proximate to customers

## On the doorstep of the world’s biggest consumer

>60% of Mongolia’s external trade comes from China

China accounts for ~53% refined copper consumption globally in 2020

China consumption of refined copper up 17% yoy to 3.2Mt in Q1 2021



<sup>1</sup><https://investmentmonitor.ai/business-activities/extractive-industries/mongolia-and-australia-among-countries-that-will-suffer-the-most-in-a-mining-downturn>

<sup>2</sup>Turquoise Hill Resources Ltd. Oyu Tolgoi 2020 Technical Report <https://mrdata.usgs.gov/sir20105090z/show-sir20105090z.php?id=456>

<sup>3</sup> ASX/TSX Announcement 31 October 2018 – Major Increase in Kharmagtai Open-Cut Resource to 1.9Mt Cu & 4.3Moz Au

# Exploration Will Continue

Two active projects, seeking a third

## Kharmagtai (76.5%)<sup>1</sup>

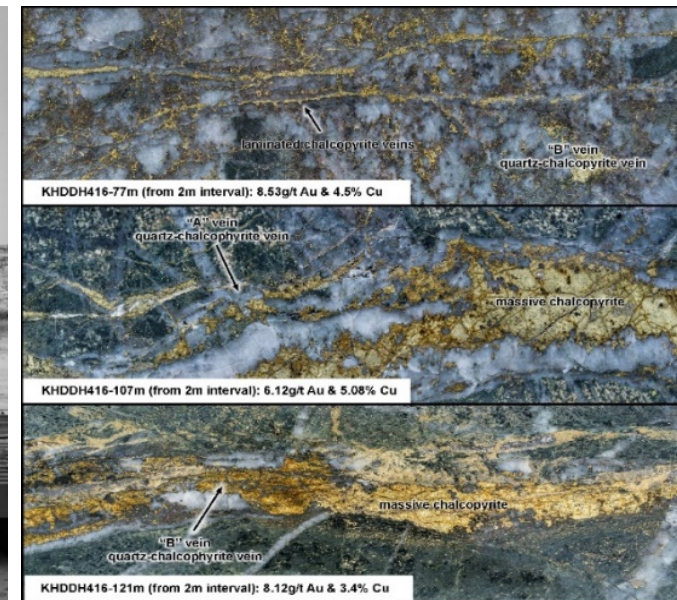
- Porphyry copper-gold
- Open in all directions & across the entire lease
- Bornite zones expanding at depth
- >20 high priority discovery targets identified for testing

## Red Mountain (100%)

- Drill testing near surface copper-silver skarns & epithermal mineralisation
- Follow-up higher grade bornite & massive bornite copper-silver intersected in 2021<sup>2</sup>
- Large-scale porphyry system potential at depth remains

## New Project Generation

- Seeking third project in the South Gobi
- Completed on site investigations to identify potential new projects



<sup>1</sup> Will become 38.25% upon completion of 50-50 Joint Venture with Zijin Mining Group

<sup>2</sup> ASX/TSX Announcement 28 September 2021 – New High-Grade Bornite Intersections at Red Mountain



# Kharmagtai – Our Flagship Project

A significant resource in a world class copper district

Granted mining licence with 30 yrs tenure & option to extend another 40 yrs

### Mineral Resource Estimate

- ▶ 1.1Bt MRE, containing 3Mt Cu & 8Moz Au<sup>1,2</sup>, including higher grade zone 100Mt @ 0.8% CuEq<sup>1</sup>

### Scoping Study

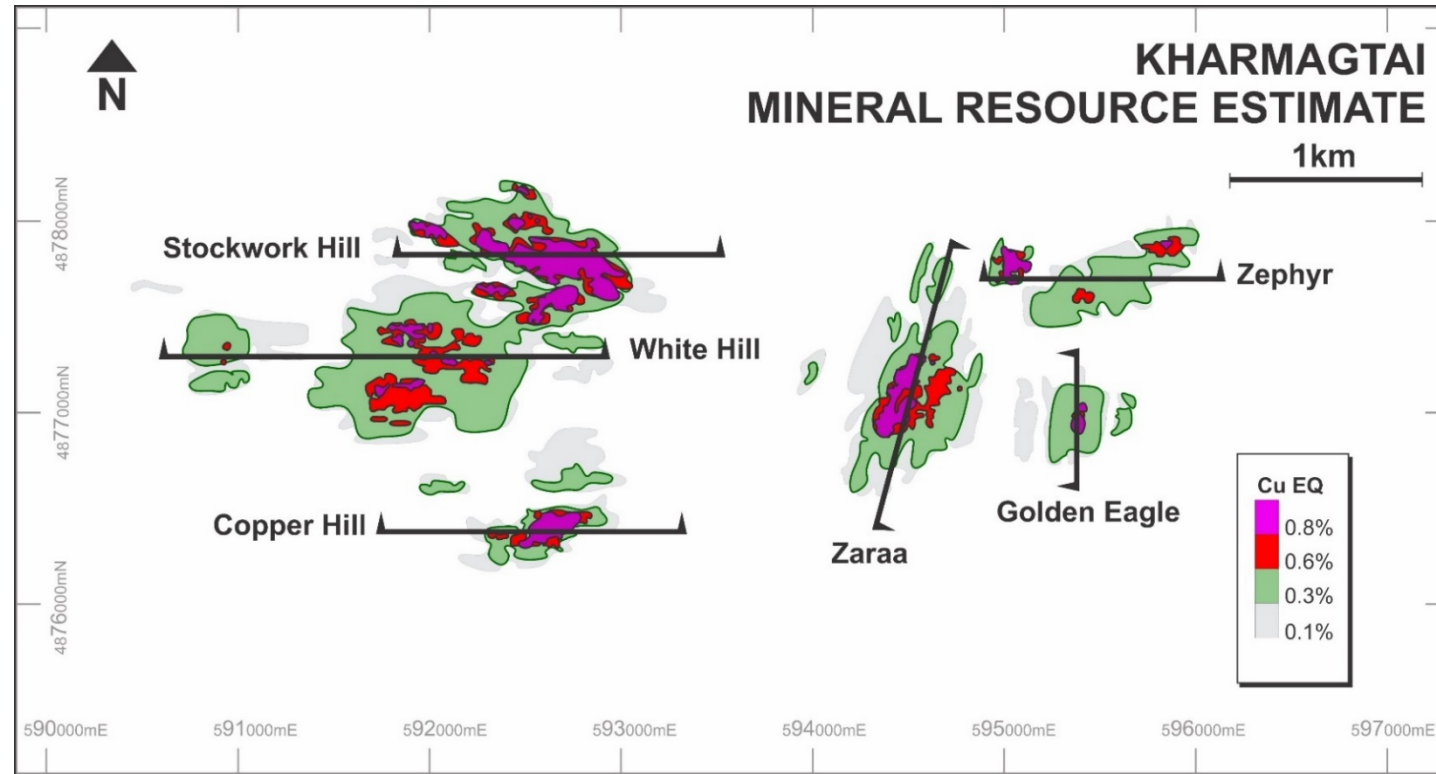
- ▶ 30-year life; producing 30-50ktpa Cu and 100-115kozpa Au; 0.9:1 strip ratio
- ▶ 20% IRR (16-25%); US\$630M NPV (405-850); and 4-year payback (4-7)

### Pre-Feasibility Study

- ▶ Fully funded by Zijin strategic partnership

### Future Exploration Potential

- ▶ Limited drilling below 400m is untapped opportunity
- ▶ Potential to link porphyry deposits at depth



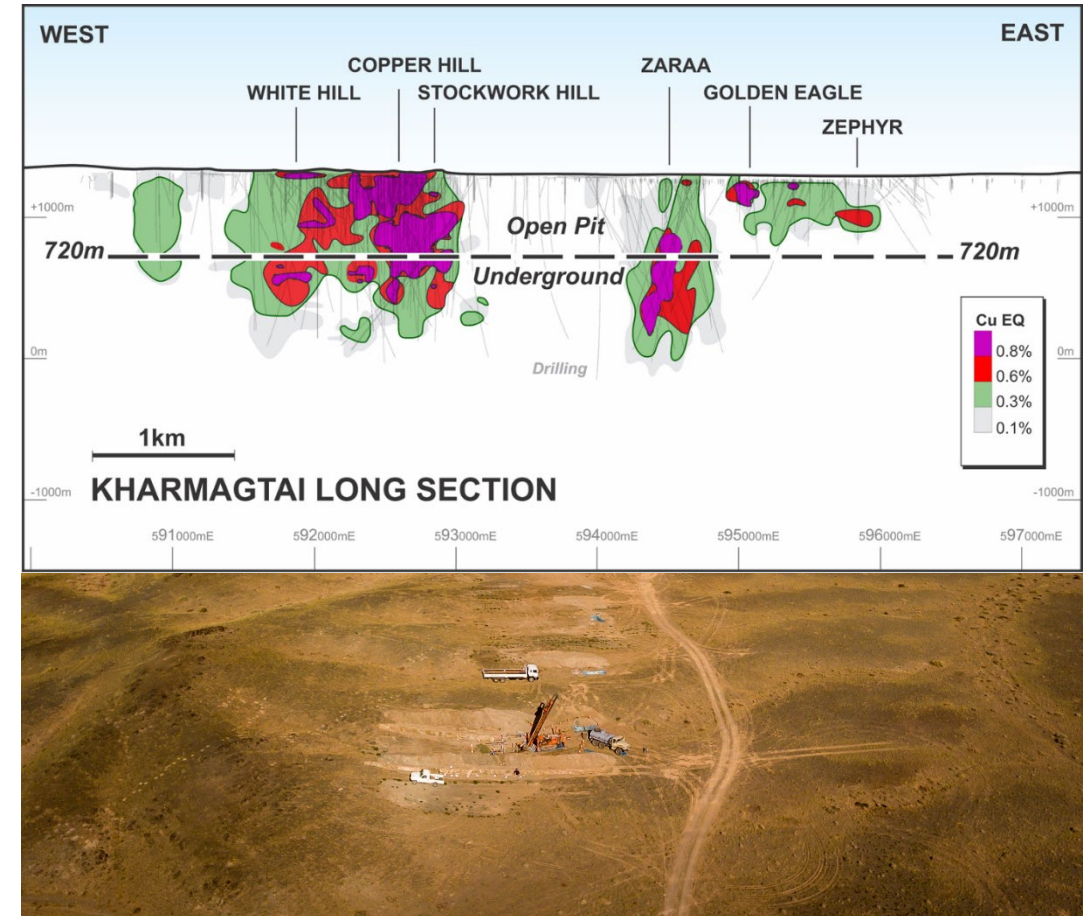
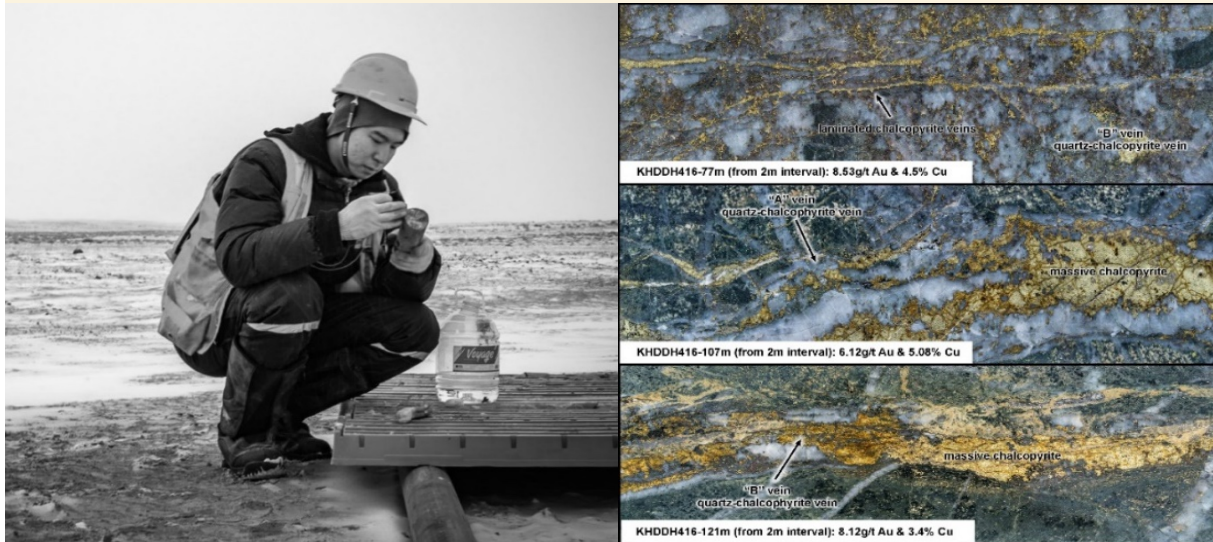
<sup>1</sup> ASX/TSX Announcement 28 February 2022 – Kharmagtai Technical Report, ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

<sup>2</sup> Global Resource is 42% Indicated and 58% Inferred by tonnes, see Appendix 1 – Kharmagtai Resource

# Continued Exploration Targets High-Grade Growth

## Strong Growth Upside Beneath Current Bornite Zones

- ▶ Mineralised intrusive indicates still in shallow levels of system
- ▶ Deposits open in all directions, with significant upside at depth<sup>1</sup>
- ▶ Bornite zones starting to be uncovered
- ▶ Stockwork Hill – significant expansion upside along edges with high grade blocks still open
- ▶ Zephyr – along strike potential with highest-grade blocks positioned at either end still open



<sup>1</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

# Kharmagtai Prospective for New Discovery

New systems continue to be unlocked

## EXPLORATION SCORECARD

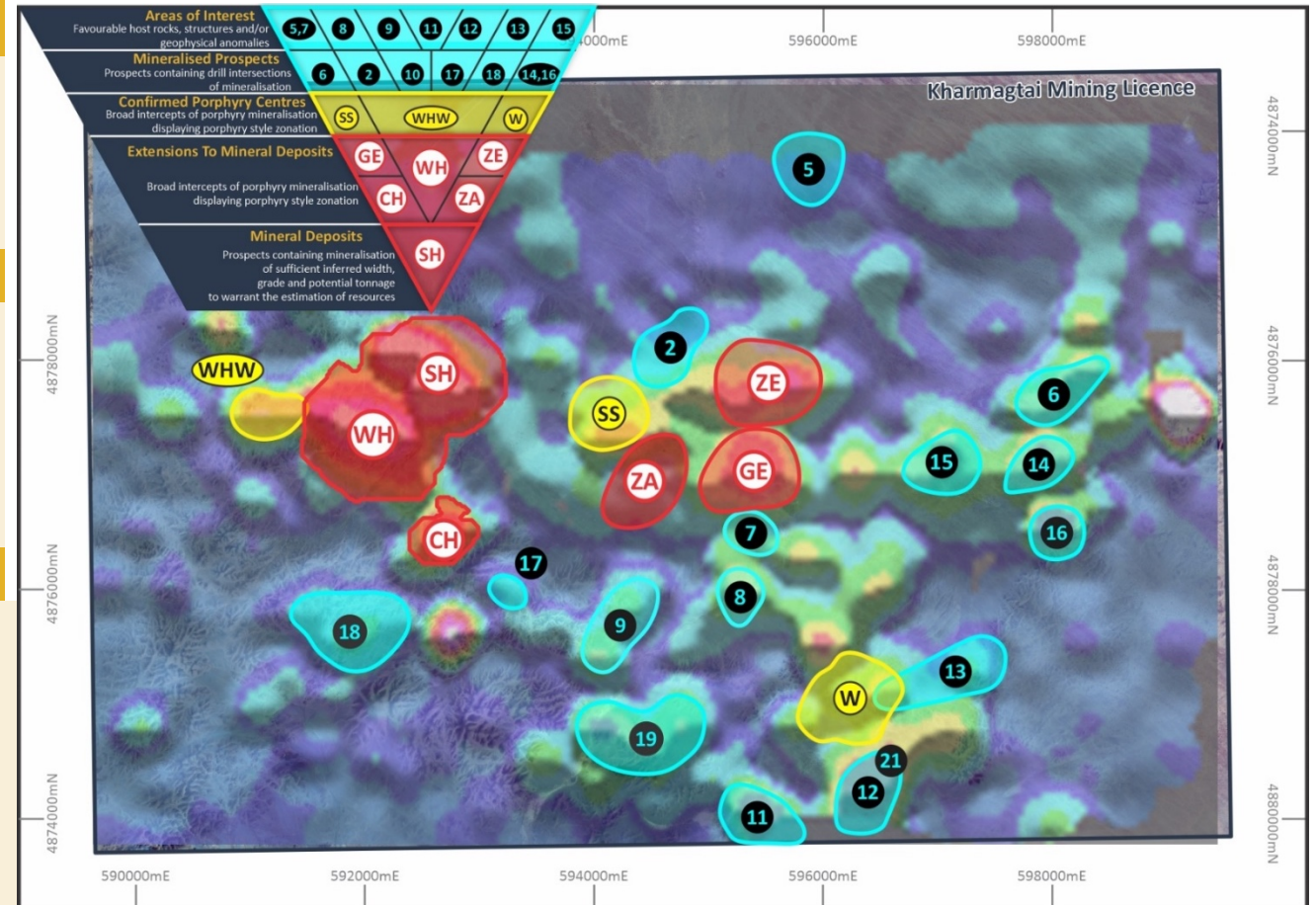
- 5 subsurface discoveries out of 10 prospects drilled
- <\$0.01/lb CuEq discovery cost vs ~\$0.07/lb industry avg<sup>1</sup>

## DISTRICT CONTINUES TO OPEN UP

- Multiple copper-gold porphyry intrusions
- Mineralised structures linked to faulting
- Increasing grade at depth

## PORPHYRY DEPOSITS ARE MADE NOT FOUND

- Continued exploration for new systems & new high grade
- Link existing systems at depth
- Highly prospective for new discovery
- Several priority targets drilled in 2021
- >20 targets to be drilled over next 12 months

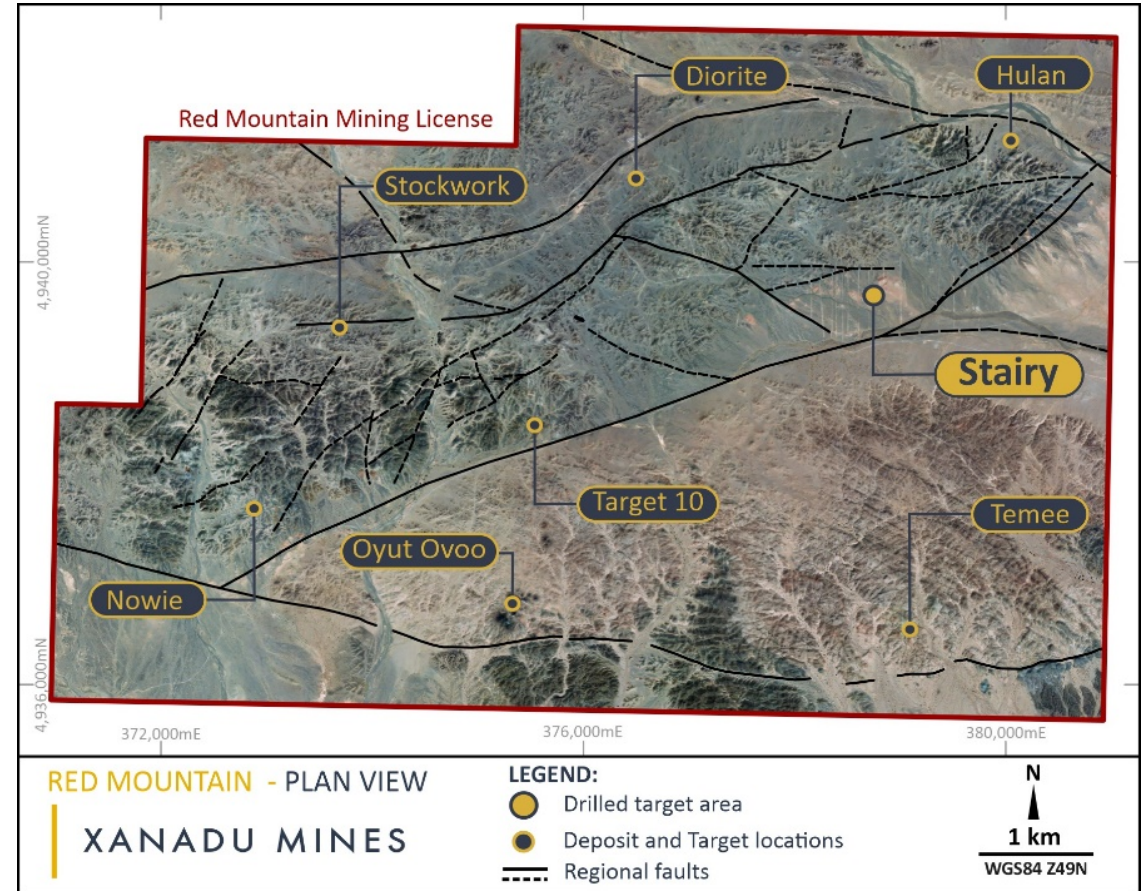


<sup>1</sup> Minexconsulting <https://minexconsulting.com/recent-trends-in-copper-exploration-are-we-finding-enough-2/>

# Red Mountain Early Stage & Highly Prospective

Already delivering exciting results

- ▶ Advanced exploration with multiple known targets:
  - Outcropping sulphides at surface, up to 184m width
  - 4 mineralised Cu-Au systems
  - 2 epithermal Au-Ag systems
  - High-grade diamond drill assays, up to 16% Cu
- ▶ Located 265km east of Kharmagtai
- ▶ Already has a 30-year extendable mining license
- ▶ Consolidated to 100% ownership in 2021<sup>1</sup>
- ▶ Updated exploration strategy to commence in 2022



<sup>1</sup> ASX/TSX Announcement 27 October 2021 – Xanadu Consolidates 100% Ownership of Red Mountain