

XANADU MINES

In Demand

Copper & Gold

Unlocking a Major Project with Imminent
Growth towards Realising Maximum Value



September 2024
ASX:**XAM** TSX:**XAM**

Disclaimer

Cautionary Statements

The Study has been undertaken to assess viability of developing the Kharmagtai Copper-Gold Project (Kharmagtai) 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 Kharmagtai. 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 outcomes indicated in the 2022 Kharmagtai Scoping 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 Kharmagtai 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.

CY24 Focus - Build Kharmagtai Value

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Unlock a major copper project towards realising maximum value

Kharmagtai 50:50 JV¹

PRESENT



- Prolific South Gobi porphyry province of Mongolia; 120km north by road of Rio Tinto's Oyu Tolgoi & 10km from rail, with established grid power & water
- Large, gold-rich porphyry copper² acquired by Xanadu in 2014
- Kharmagtai Mineral Resource³ upgraded to 3.8Mt Copper & 9.3Moz Gold (5.3Mt CuEq) in August 2024
- Scoping study shows simple, financially attractive & technically viable project
- Highly educated & motivated workforce with strong, values-based culture⁴

FUTURE



- Detailed mining, metallurgy & water studies largely complete will optimise mining/milling rates & staging for **organic production growth**
- PFS & maiden Ore Reserve in **September 2024** expected to make project scale bigger & financially better

Targeting best value outcome for ALL Xanadu Mines (XAM) shareholders:

1. **Material Liquidity Event** (shorter term), or
2. **Funding Project into Feasibility** (longer term)⁵

1. Khuiten Metals is a 50:50 JV between Xanadu Mines & Zijin Mining holding the controlling stake in Kharmagtai. Refer to Appendix - Well-Funded by Zijin Strategic Partnership.
2. Discovery by Ivanhoe Mines in 2005
3. ASX/TSX Announcement 21 August 2024 – Increase in Kharmagtai Resource
4. Refer to Appendix – ESG is Core to XAM's Vision and Purpose
5. We have received & are assessing multiple inbound offers to fund Xanadu's share of the Project into Definitive Feasibility. This includes international debt providers, investment funds, potential trader customers & royalty streaming companies.

2024 PFS Targets Bigger and Better Project

Significant value above Scoping Study¹ metrics

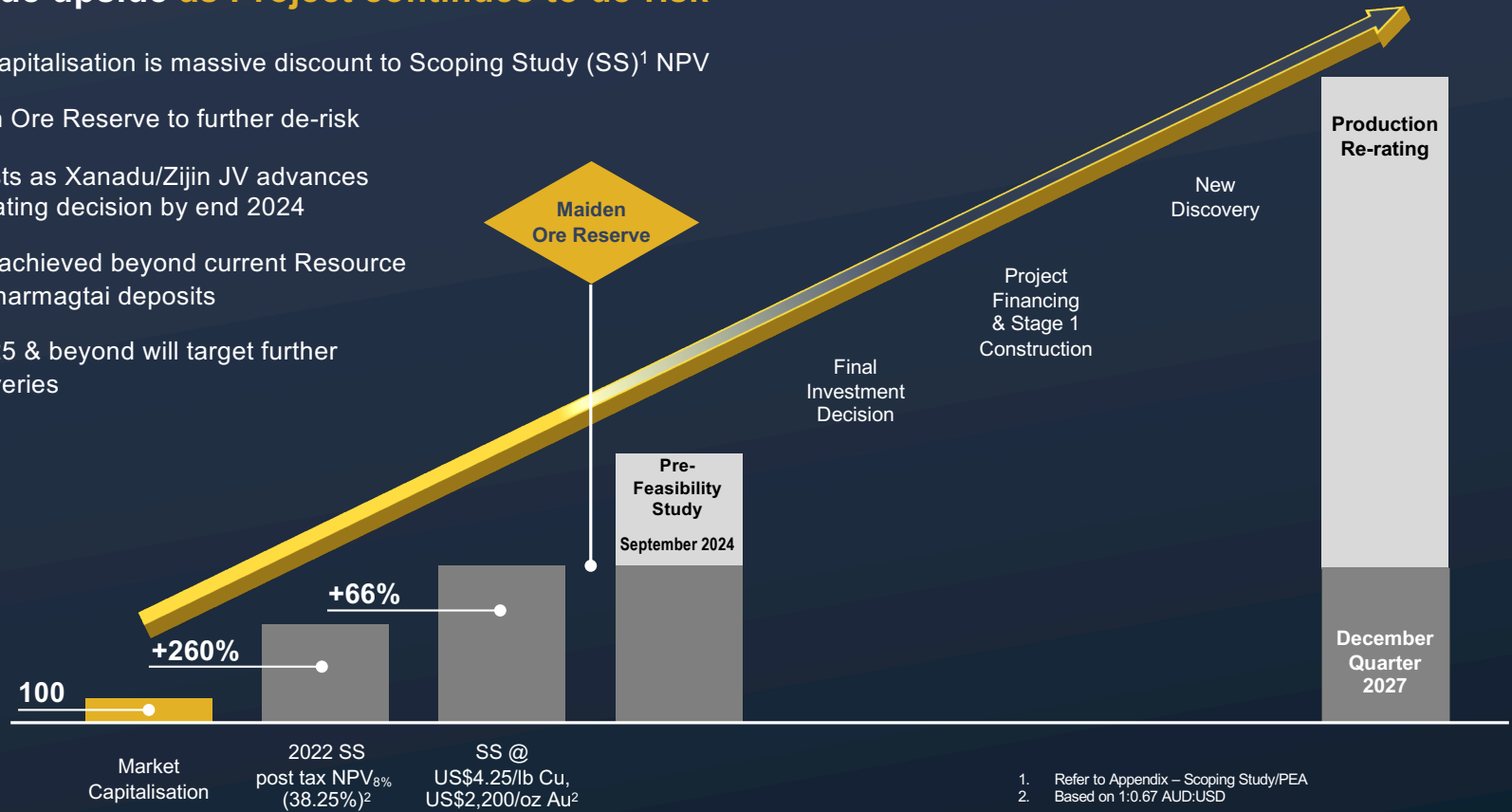
- 1 Increasing % JORC Indicated mineralisation for open pit designs at Kharmagtai
- 2 Elevated grade profile for initial 6+ years
- 3 Assessing higher mining/milling rates for both initial & expansion stages
- 4 Assessing greater gold recovery from addition of a small leaching circuit
- 5 Maiden Ore Reserve for Kharmagtai incorporating recent upgrade to Indicated Resource
- 6 Significant extensions to Kharmagtai's White Hill Mineral Resource from step-out drilling
- 7 Assessing potential for concurrent underground & open pit mining (post PFS)
- 8 New discoveries from more extensive extensional & discovery exploration (post PFS)



Achievable Path for Value Accretion

Significant value upside as Project continues to de-risk

- A\$100M market capitalisation is massive discount to Scoping Study (SS)¹ NPV
- Upcoming maiden Ore Reserve to further de-risk
- Significant catalysts as Xanadu/Zijin JV advances towards project gating decision by end 2024
- Major extensions achieved beyond current Resource limit for several Kharmagtai deposits
- Exploration in 2025 & beyond will target further large-scale discoveries



1. Refer to Appendix – Scoping Study/PEA
2. Based on 1:0.67 AUD:USD

Future-proofing Design for Growth

Rates will be optimised for water to maximise production & value

Completed water drilling & pump testing of artesian basins for PFS

Water modelling & analysis **underway** to confirm initial Project requirements, integrating work to date & capacity from known near-mine aquifers

Forward works plan will meet full Project requirements, potential opportunity in expansion stage to use **pipeline sourcing water from Northern Mongolia**: currently in feasibility study

Assessing **20 – 26Mtpa** (SS: 15Mtpa) throughput for **initial** Project stage

Assessing simple **expansion** upgrade to **40 – 52Mtpa** (SS: 30Mtpa) post capital payback. Duplicate processing plant



Staged Mine Ramp-Up

Multiple independent mining fronts supports two-stage process design

Mine design optimised with >270 prober runs & detailed geo-met models

Aiming to maximise higher grade ore extraction through mine engineering and design, staging and scheduling

Stage 1

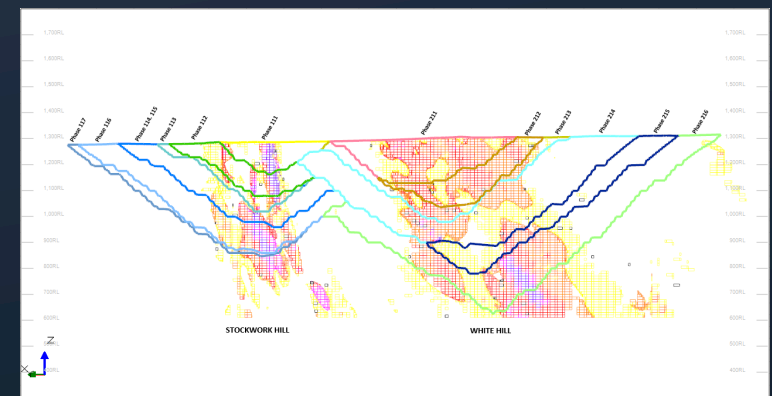
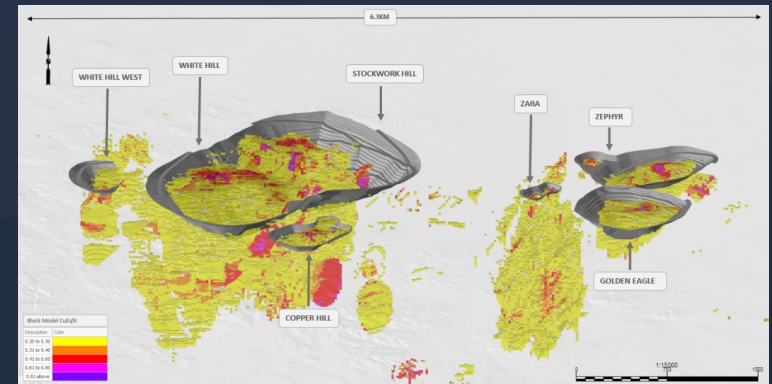
Target Grade
Early

Pit sequencing & stockpiling strategy to optimise Stage 1 ore processing feed grades
Potential to leach high-grade portion of oxide pre-strip

Stage 2

Expansion

Scaled up mining rate to match elevated process throughput
Larger equipment fleet; aiming to use hybrid EV haulage, with trolley-assist probable



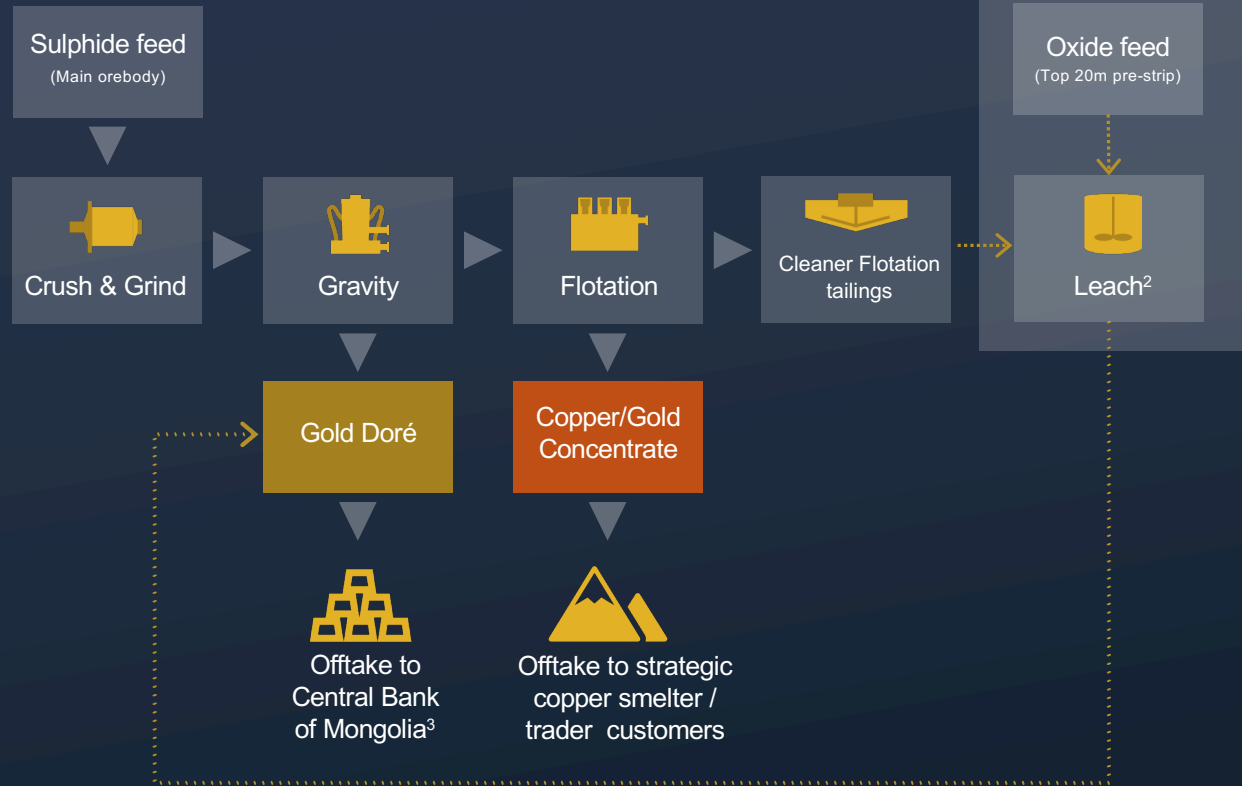
Looking East

Conventional Sulphide Processing Flowsheet

Evaluating several upside options to drive Project value

Key upsides being assessed in Base Case:

- Elevated grade profile for initial 6+ years
- Higher throughput both initially & expansion post capex payback
- Enhanced concentrate grade via alternative cleaner flotation equipment
- Additional gold recovery via small Carbon In Leach (CIL) or GlyCat™ leach circuit², for treating:
 - Cleaner Flotation tailings, and
 - Oxides characterised by higher-grade gold & lower-grade copper
- Geo-metallurgical testwork generating domain level recovery-grade relationships to optimise mine to mill plan



1. Oxide is primarily in the top 20m from surface. Additional surface oxide material resides outside 2023 MRE, representing upside for future leach circuit. (~3.5 to 4.5Mt treatable higher-grade gold, lower-grade copper oxide inventory classified as pre-strip & ascribed negative value in Scoping Study).
 2. Testwork largely completed for CIL on cleaner tails and higher-gold grade oxidised material.
 3. Gold doré sales to Central bank of Mongolia attract taxation benefits, and price received is based on Mongolia spot price.

Saleable Products with Attractive Offtake Terms

Highly sought-after for composition & low impurities



Copper-Gold Concentrate

- High-value concentrate with negligible impurities: 22 – 25% Cu, 15 – 25 g/t Au
- Indicative offtake terms have excellent payabilities & low TC/RC:
 - ✓ TC: US\$80/t concentrate
 - ✓ Cu: 96.5% of LME payability, RC: US\$0.08/t
 - ✓ Au: 97% of LME payability

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potential strategic Chinese smelter customers

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potential International & Chinese trader customers



Gold Dore

PFS assessing:

1. ~10% recovered through upfront gravity circuit
2. ~5% recovered from cleaner flotation tailings & higher-grade oxides as feed into 1Mtpa leach circuit



Project Approvals

Significant progress; more to come



Submitted Mongolian Resource for registration

Mongolian Definitive Environment Impact Assessment (DEIA) submission in Q2 CY2025

Mongolian Feasibility underway, aligned to international PFS

Expanded community & government engagement in pursuit of:

- Mongolian investment agreement
- Full-scale construction

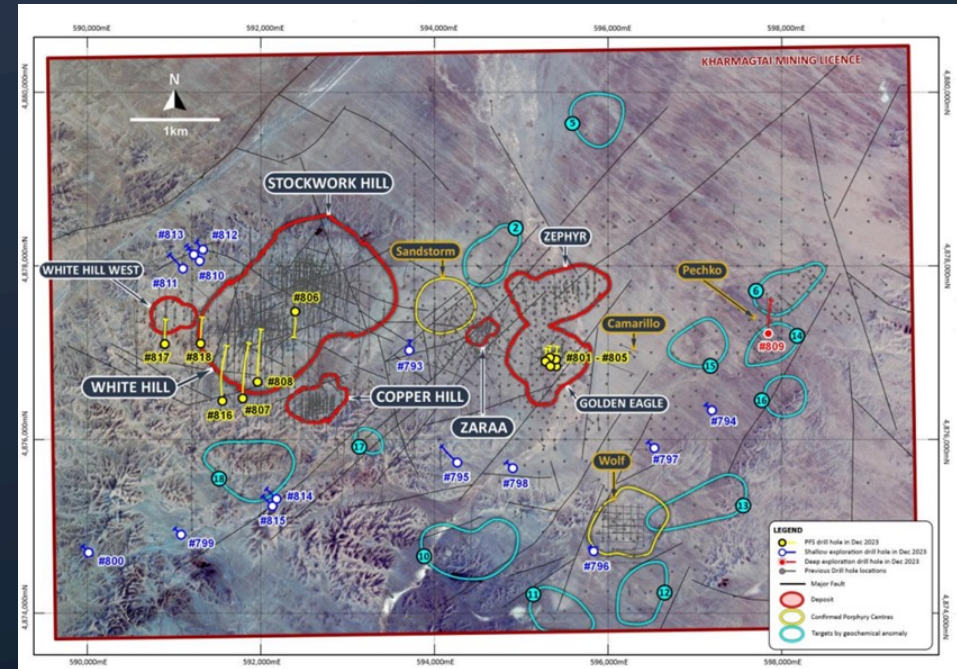


Kharmagtai Mineral Resource

One of the largest undeveloped copper-gold projects, with minimal strip required

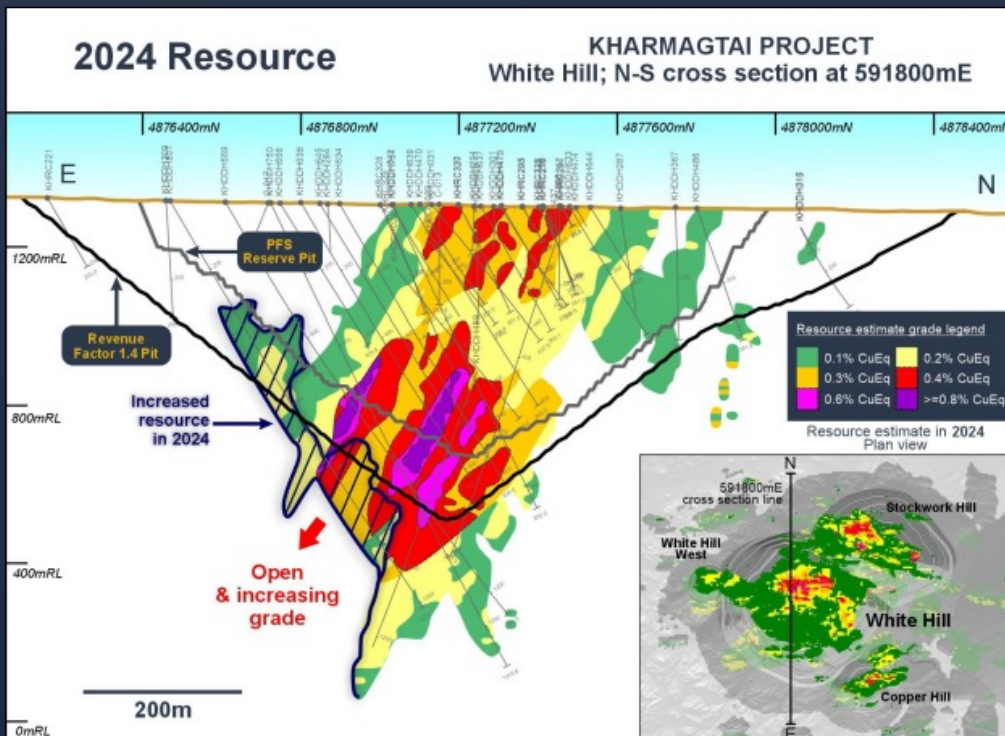
- Based on 657 diamond drill holes (279,965m) & 216 RC holes (38,774m)
- Open pit Indicated Resource constrained within revenue factor 1.4 pit shell
- Limited drill testing conducted below 550m depth
- Granted mining licence with 30-year tenure and an option to extend another 40 years
- Large resource of 1.5Bt @ 0.3% Cu & 0.2g/t Au (approx 3.8Mt / 12,000Mlb Cu & 9.3Moz Au)¹
 - 125Mt higher-grade zones @ >0.75% CuEq
 - >90% indicated within the PEA defined pit shells
- Mineralisation outcrops at surface; minimal strip required

Classification (100% basis)	Tonnes		Grade		Contained Metal	
	Mt		Cu (%)	Au (g/t)	Cu (kt)	Au (koz)
Indicated	890		0.26	0.21	2,300	6,000
Inferred	590		0.25	0.17	1,500	3,300



Significant Extension Potential

All Kharmagtai deposits remain open at depth & along strike



Open at Depth¹

- Stockwork Hill & White Hill pits provide majority of tonnes in the Mineral Resource
- Copper Hill, Golden Eagle & Zephyr represent smaller, higher-grade sources
- Kharmagtai remains open, with grades increasing at depth
- Untapped growth opportunity to drill & link mineralisation at depth, with limited drilling below 550m. Deep drill results include:

- KHDDH648: 1,080m at 0.21% CuEq from 491m²

Upgraded Indicated Resource will be included in the PFS

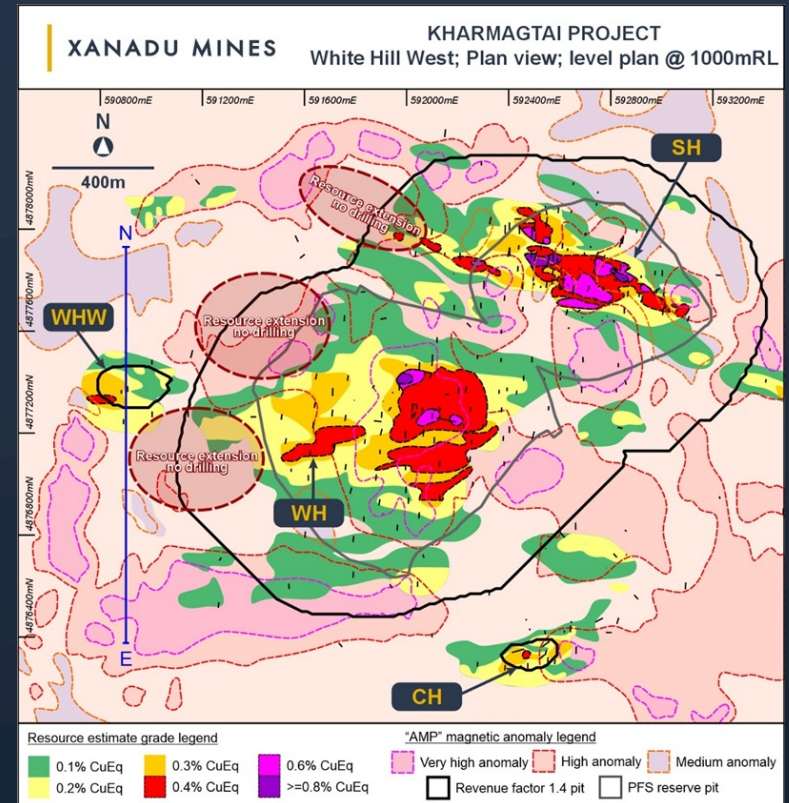
Major Intersections Beneath Existing Pits

New discoveries & extensions expected at Kharmagtai

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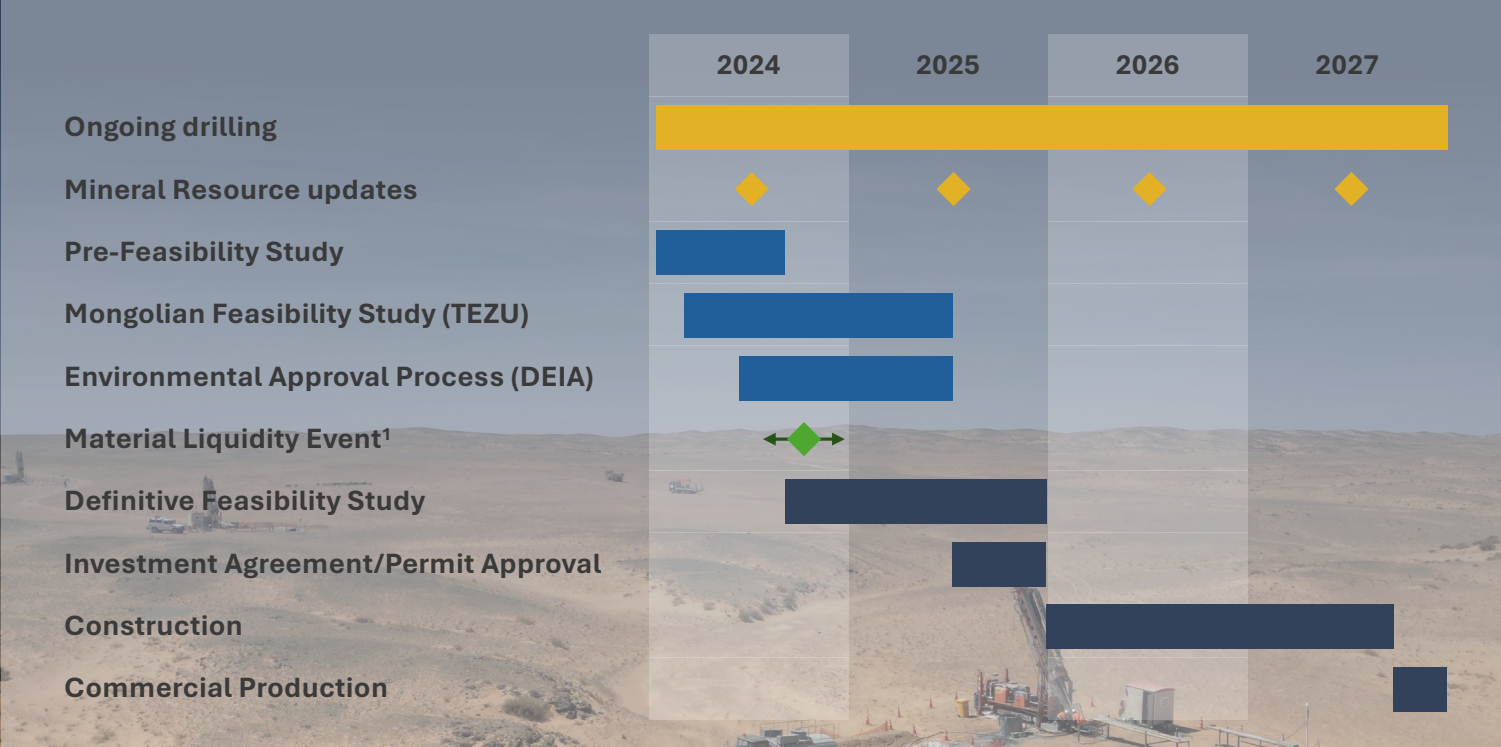
Recent Resource growth demonstrates **strong potential for open pit upside to scoping study**, plus future underground

Strong potential for **new discoveries** both at depth & along strike, where there is abundant near surface anomalism



Conceptual Schedule

Targeting Material Liquidity Event¹ or Funding into Definitive Feasibility² in CY24



1. Material Liquidity Event could occur as early as now or prior to being funded into Definitive Feasibility
 2. We have received & are assessing multiple inbound offers to fund Xanadu's share of the Project into Definitive Feasibility. This includes international debt providers, investment funds, potential trader customers & royalty streaming companies.

Exceptional Potential at Other Mongolian Projects

Our projects make us a major landholder in underexplored Mongolia

Red Mountain Copper-Gold

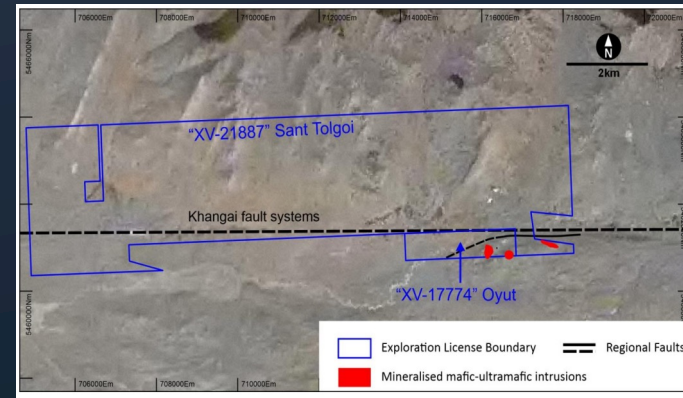
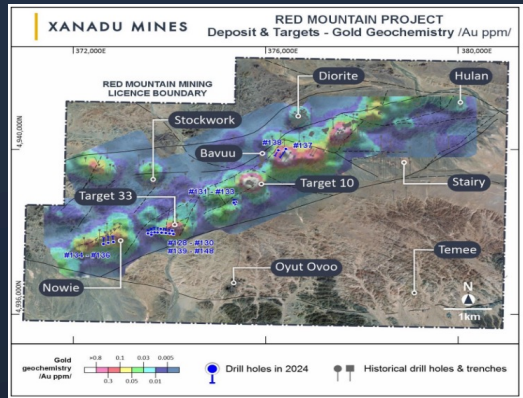
(100% owned – 57km²)

- Follow-up diamond drilling¹ in 2H CY2024
- Near surface, high-grade gold & copper-gold, akin to shallower parts of Northparkes porphyry (NSW, Australia)

Sant Tolgoi Copper-Nickel

(80% earn-in right to 2 Exploration Licences – 40km²)

- Exploration discovery program kicked off recently
- District-scale magmatic copper nickel sulphide² prospectivity
- Khangai Fault hosts several significant mafic & ultramafic intrusions; prospective for high-grade discoveries



Investment Highlights



World Class Production

One of the few near-term Copper-Gold mines with significant scale & margin.



Resource Growth

Highly prospective for new discoveries at depth & along strike at Kharmagtai.



Production Growth

Mine & Plant designed for staged production growth.

Stage 1 targets higher grade feed. Stage 2 duplicates plant post capex payback.



Re-Rate Potential

Significant potential for valuation re-rate.

Kharmagtai advancing towards either a Material Liquidity Event (ST) or Feasibility Funding (LT).

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.

Metallurgy: The information in this Announcement that relates to metallurgy and metallurgical testwork has been reviewed by Graham Brock, BSc (Eng), ARSM. Mr Brock is not an employee of the Company but is employed as a contract consultant. Mr Brock is a Fellow of the Australasian Institute of Mining and Metallurgy; he has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a competent 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. Mr Brock consents to the inclusion in this report of the contained technical information in the form and context as it appears.

Copper and Gold Equivalence

Calculation consistent with August Mineral Resource Estimate

The copper equivalent (CuEq) calculation represents the total metal value for each metal, multiplied by the conversion factor, summed and expressed in equivalent copper percentage with a metallurgical recovery factor applied.

Copper equivalent (CuEq) grade values were calculated using the formula:

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

Gold Equivalent (AuEq) grade values were calculated using the following formula:

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

Where:

- Cu = copper grade (%);
- Au = gold grade (g/t);
- 0.60049 = conversion factor (gold to copper);
- 0.86667 = relative recovery of gold to copper (78% / 90% = 86.67%);
- Copper price = US\$3.40/lb
- Gold price = US\$1,400/oz

Exceptional Share Register

Underpinned by financial backer as JV Partner with industry-leading operational & innovation expertise

A\$0.059
Share Price¹

A\$101M
Market Cap¹

~A\$5.2M
Corporate Cash²

1.3M
Average Daily Volume³

US\$3.2M
Kharmagtai JV Cash²

No Debt
No Offtake, No Streams

Capital Structure⁴

Shares on Issue	1,716m
Board/Mgmt shares & perf rights	199m ⁵
Top 20 Shareholders	58%

Shareholder Summary

Board & Management (fully diluted)	11% ⁵
Zijin Mining Group	19%
Australian & Global Institutions	25%

Banking & Research

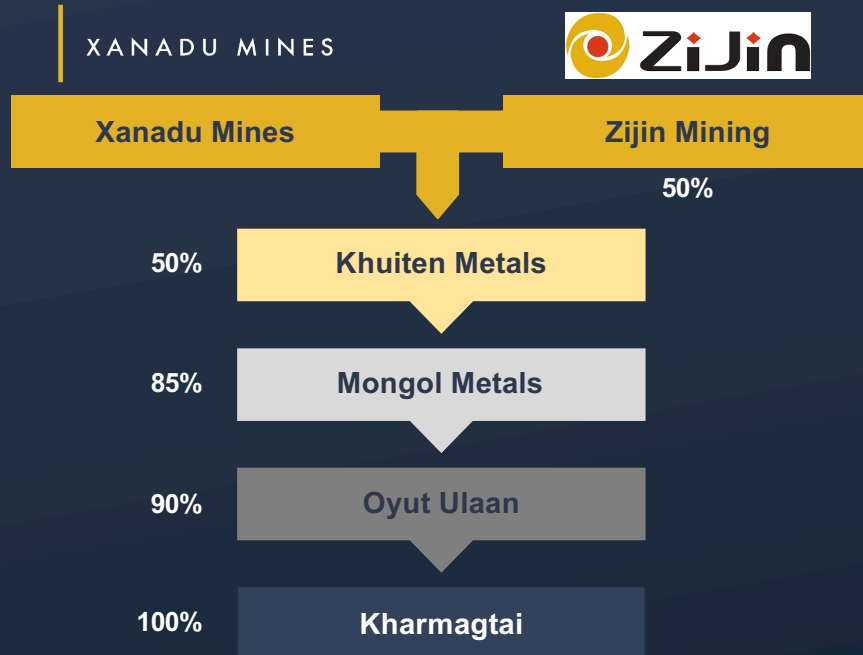


- As at 27 August 2024
- Approximate cash position as at 30 June 2024. Slow corporate cash burn rate as operator fees paid by Kharmagtai project. Kharmagtai project held as 50:50 Khuiten JV with Zijin Mining Group, with each holding 38.25% effective interest.
- 90-day average volume as at 27 August 2024
- As at 30 June 2024
- Listed board/management shares + Unlisted board/management performance rights & options

Well-Funded by Zijin Strategic Partnership

Xanadu is pleased to have Zijin Mining, a major global mining company, as its strategic partner

Ownership Structure



Strategic Partnership

Zijin Mining strategic partnership with Xanadu has come through three phases of investment:

- 1 April 2022: Placement to raise ~A\$5.6 million, providing Zijin with a 9.9% shareholding in Xanadu¹
- 2 March 2023: Placement to raise ~A\$7.2 million, providing Zijin with a 19.4% shareholding in Xanadu²
- 3 March 2023: Creation of a 50/50 JV, Khuiten Metals, holding a 76.5% effective interest in Kharmagtai. Zijin invested US\$35.0 million in the JV to fund the Kharmagtai PFS & exploration until September 2024

Zijin Mining is the sixth largest metals mining company in the world, operating in 16 countries. In 2023, it produced 1.01Mt copper & 2.40Moz gold³.

Proven Team

Highly Experienced; Track Record of Successful Mine Discovery and Delivery

Board



Colin Moorhead
Executive Chairman
& Managing Director



Ganbayar Lkhagvasuren
Country Manager
& Executive Director



Michele Muscillo
Non-executive Director



Tony Pearson
Non-executive Director



Shaoyang Shen
Non-executive Director
(Nominated by Zijin)

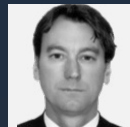
Management



**Munkhsaikhan
(Mugii) Dambiinyam**
Chief Operating Officer



Andrew Stewart
Vice President
Exploration



Mat Brown
Chief Geologist



Spencer Cole
Chief Development Officer
Chief Financial Officer



Guodong Yu
Deputy General Manager,
Kharmagtai Project
(On secondment from Zijin)

Highly experienced, with a track record of discovering & developing successful porphyry copper-gold mines

- Mongolia Expertise
- Deep Exploration Skills
- Experienced Developers of Porphyry Deposits
- Significant Commercial & Deal Making Capability

ESG is core to XAM's vision and purpose

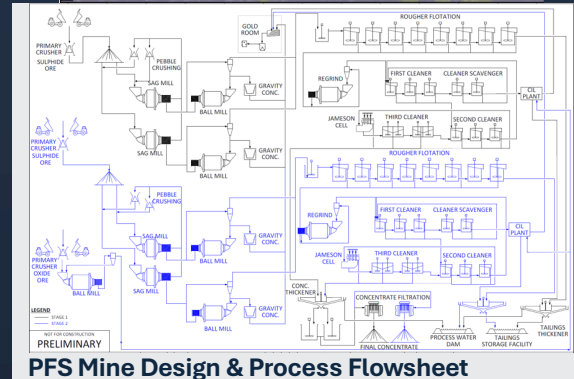
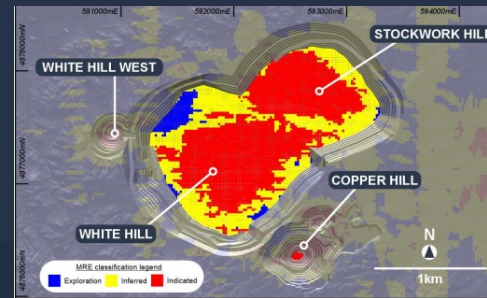
Supporting Mongolia to Develop Sustainable Mining in South Gobi Region



1. Sustainability Report 2023 – 15/05/2024

Scoping Study/PEA¹

Conservative, Long Life, Low-Cost; works on Scale and Gold Credits



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
Capital	Gold produced	Moz	0.5	2.8	3.3
	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

1. Scoping Study: Kharmagtai Copper-Gold Project – 06/04/2022

Clean and Simple Project Layout

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Incorporates best in class design, infrastructure and engineering practices

- 50-50 Grid & renewable power (solar / wind)
- Conventional wet tailings storage facility with thickening plant to maximise water recycling
- Nearby artesian basins provide industrial process water



Site General Arrangement

PFS Drawing on Top Tier Experts

Recognised industry leaders contributing to study



Notes

Notes

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