# XANADU MINES

ASX: XAM | TSX: XAM

proactive investors AUSTRALIA



KHARMAGTAI – A MAJOR NEW COPPER-GOLD DISCOVERY

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### About Xanadu











### LARGE DISTRICT-**SCALE PORPHYRY** Cu-Au PROJECT

Under explored district hosting a globally significant copper-gold discovery

### SHALLOW OPEN-PITABLE HIGH GRADE **MINERALISATION**

Shallow high-grade core defined 54Mt @ 0.86% CuEq to support PEA (Q2 2019)

### **FAST-GROWING COPPER & GOLD RESOURCE BASE**

Major increase in Kharmagtai opencut resource to 1.9Mt Cu & 4.3Moz Au

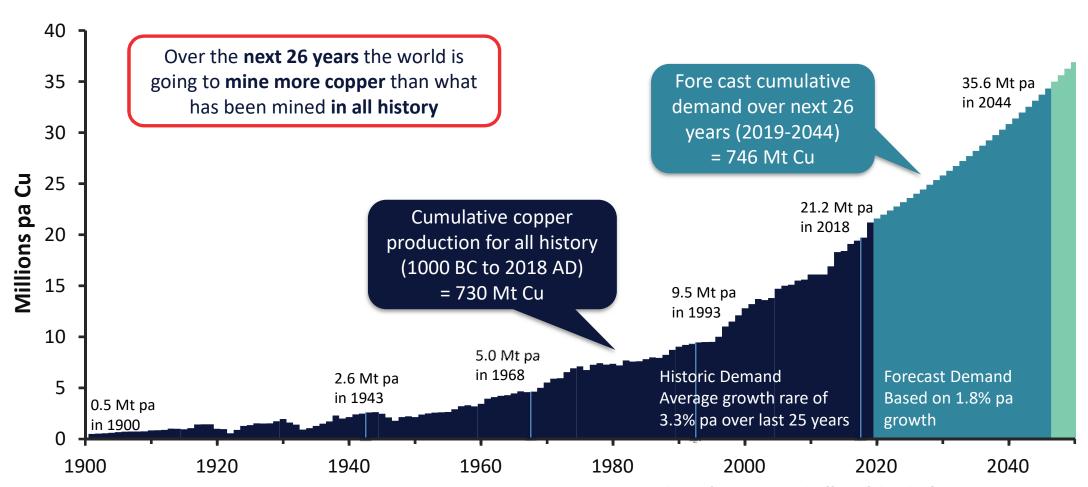
### **ESTABLISHED INFRASTRUCTURE** WITH POWER & WATER

Neighboring significant deposits in production, including Rio Tinto's Oyu Tolgoi

### Demand for copper doubles every 20-30 years



#### PRIMARY COPPER PRODUCTION FOR WORLD: 1900-2050

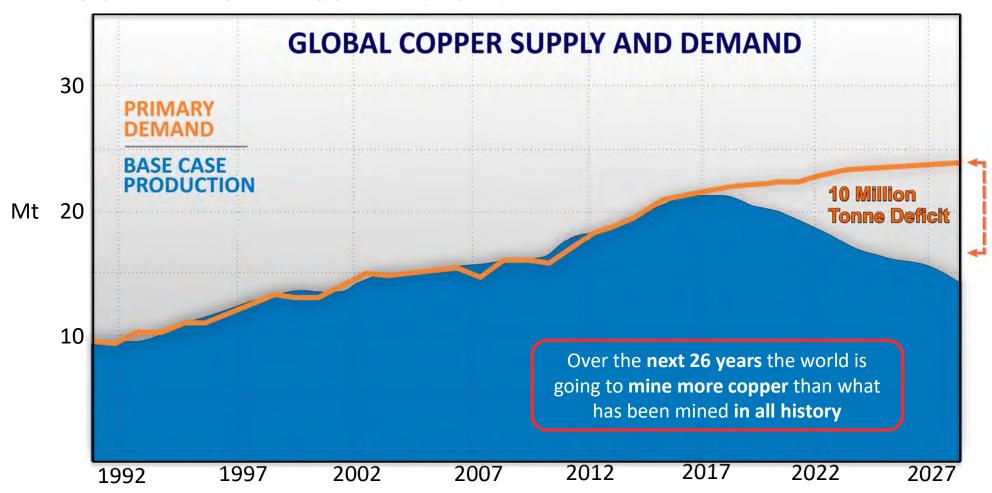


Sources: Historical data from USGS and Office of the Chief Economist Sep 2018

### Copper is not being discovered fast enough



#### THE LOOMING COPPER SUPPLY CRUNCH



Source: Wood Mackenzie Q4 2016, Copper Outlook – December 2016

# Long-term copper fundamentals very strong



### **TEN** REASONS TO LIKE COPPER



# LOOMING COPPER SUPPLY CRUNCH

- 1. Grade decline & resource depletion
- 2. Lack of exploration success
- **3.** Project delivery / shortage of quality assets?
- 4. Above ground risks
- 5. Environmental constraints



# GROWING DEMAND FOR NEW COPPER SUPPLY

#### **Traditional Market Drivers**

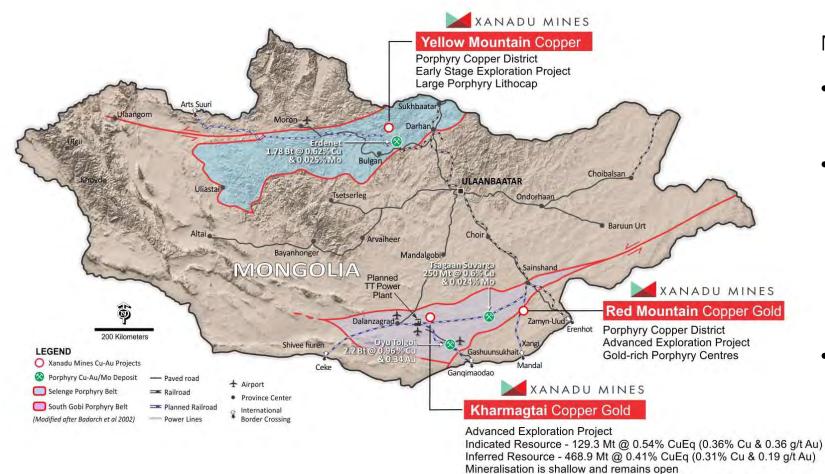
- 1. China accelerating infrastructure development
- 2. India rising

#### **New Technological mega-trends**

- 3. Electrification of energy demand
- 4. Electrification of transport
- 5. Wind & solar

### Copper mining in Mongolia

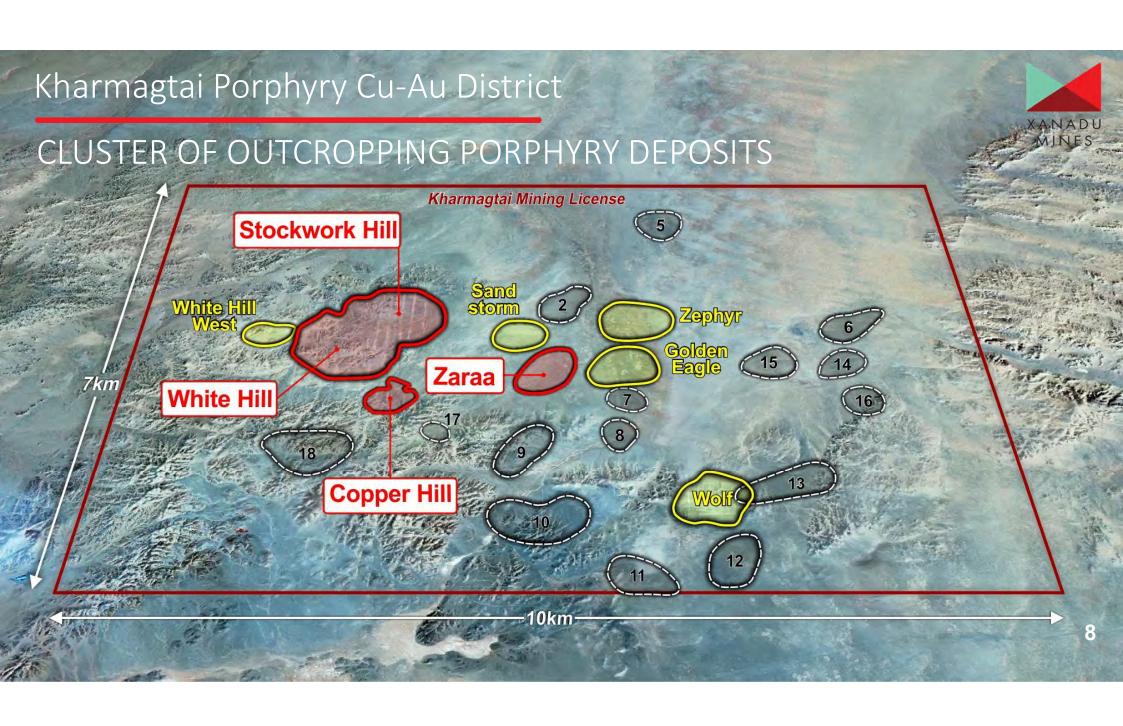
#### SUSTAINABLE AND LONG-TERM MINING INDUSTRY



#### Mongolia Highlights

- Democraticallyelected government
- GDP has grown
  10%+ p.a for the last
  decade while
  foreign direct
  investment grew at
  almost 15% p.a
  - Abundant natural resource wealth

<sup>\*</sup> The resource figure above (598Mt) includes both indicated (129.3Mt) and inferred (468.9Mt) resource categories. Both at the same 0.3eCu cut-off grade. See press release of October 31, 2018



## Kharmagtai Copper District history



#### **EXPLORATION DRILLING**

2015

2016

2017

2018

2019

Acquisition of KHARMAGTAI

JORC MRE 203 Mt @ 0.34% Cu & 0.33g/t Au\*1 Multiple drilling intercepts of >650m or greater at +1% CuEq.

'Golden Eagle'
Discovery
220m@ 0.64g/t Au
& 0.15% Cu

19 new exploration targets under shallow cover.

Persistent drilling defined deeper high-grade (+1% CuEq) extensions at SH, CH, WH. 'Zaraa' Discovery –
4<sup>th</sup> large-scale
copper
928.4m @0.47%
CuEq.
NI43-101 MRE
Upgrade (not
including 'Zaraa'):
598Mt @ 0.34% Cu
& 0.23g/t Au \*2

Major increase in Kharmagtai opencut resource to 1.9mt Cu & 4.3moz Au \*2

Positive economics on initial scoping study.

<sup>\*1 -</sup> The resource figure includes both indicated (46Mt) and inferred (157Mt) resource categories - See announcement dated 29 March 2015 for more detail

<sup>\*2 -</sup> The resource figure includes both indicated (129.3Mt) and inferred (468.9Mt) resource categories. - See announcement dated October 31, 2018 for more detail

# Kharmagtai - A major new copper-gold project



# ONE OF ASIA'S LARGEST UNDEVELOPED COPPER DEPOSITS



#### **OPEN PIT RESOURCE**

Major increase in Kharmagtai Open-Cut MRE to 598Mt containing 1.9Mt copper and 4.3Moz gold (2.6 Mt copper equivalent metal)\*1



#### HIGH GRADE CORE

Shallow open-pit high grade mineralisation

54Mt @ 0.86% CuEq for 317kt Cu & 1.13 Moz Au\*2

<sup>\*</sup>ASX announcement dated 30 October 2018 "Major increase in Kharmagtai open-cut resource to 1.9mt cu & 4.3moz au." Table 1 information dated 30 October 2018 continues to apply.

<sup>\*1 -</sup> The resource figure above (598Mt) includes both indicated (129.3Mt) and inferred (468.9Mt) resource categories. Both at the same 0.3eCu cut-off grade. -See press release of October 31, 2018

<sup>\*2 –</sup> The resource figure above (54Mt) includes both indicated (33Mt) and Inferred (21Mt) resource categories. Both at the same 0.6eCu cut-off grade -See press release of October 31, 2018

#### Kharmagtai Porphyry Cu-Au District RAPID RESOURCE GROWTH & LOW DISCOVERY COST 400% increase in contained 5,000,000 copper and a 249% increase in 4,500,000 4,000,000 contained gold within the open 3,500,000 3,000,000 2,500,000 2,000,000 1,500,000 1,000,000 500,000 Gold Copper Copper Gold Xanadu 2015 Xanadu 2018 \*ASX announcement dated 30 October 2018 "Major increase in Kharmagtai open-cut resource to 1.9mt cu & 4.3moz au." Table 1 information dated 30 October 2018 continues to apply \*1 - The resource figure above (598Mt) includes both indicated (129,3Mt) and inferred (468,9Mt) resource categories. Both at the same 0.3eCu cut-off grade. -See press release of October 31, 2018

\*2 – The resource figure above (54Mt) includes both indicated (33Mt) and Inferred (21Mt) resource categories. Both at the same 0.6eCu cut-off grade -See press release of October 31, 2018

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### KHARMAGTAI OPEN PIT SCOPING STUDY COMPLETED

XANADU

1



Distinguished world class open pit project



Strong economics at 10-year average Cu & Au prices

2



Potential to develop a low cost open pit mining operation

3

4



Numerous opportunities for further upside

5

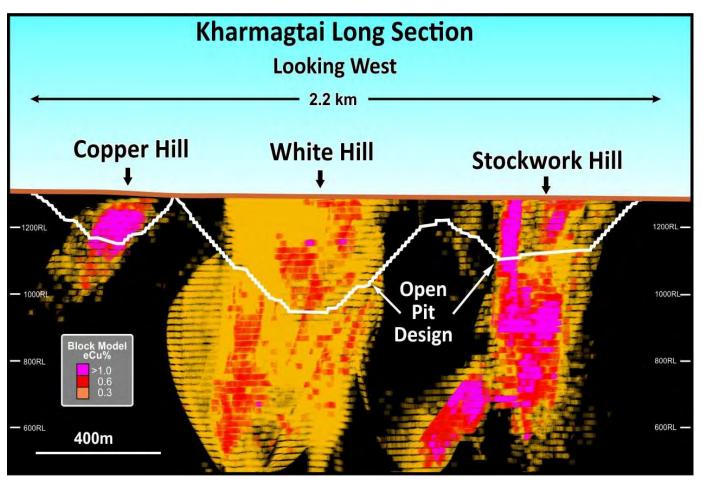


Clear & compelling path to further value creation

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### SHALLOW OPEN-PITABLE HIGH GRADE MINERALISATION



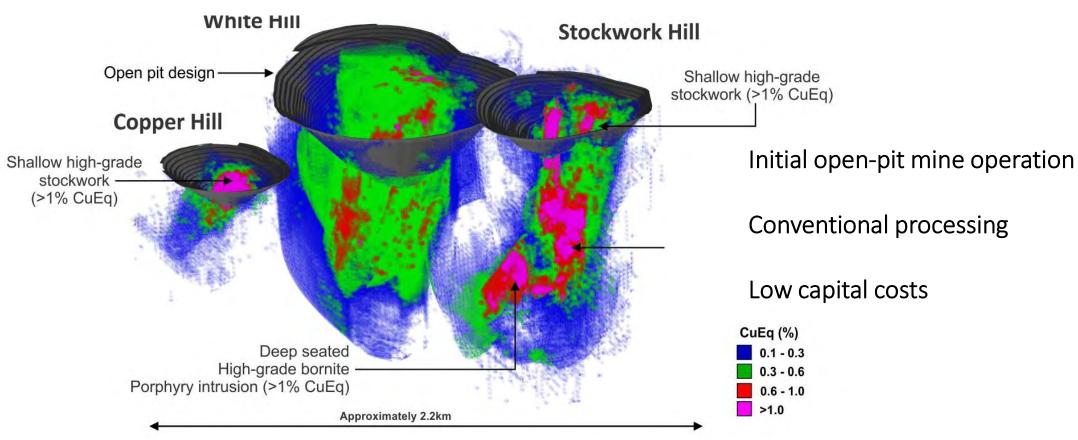
- Scoping Study indicates the potential to develop a low-strip ratio open pit mining operation in an accelerated time frame
- Rapid payback of the lifeof-mine infrastructure for future open pit and underground mining operations

<sup>\*</sup>ASX announcement dated 11 April 2019 "Kharmagtai open pit scoping study completed." Table 1 information dated 11 April 2019 continues to apply.

## A lot further to go at Kharmagtai

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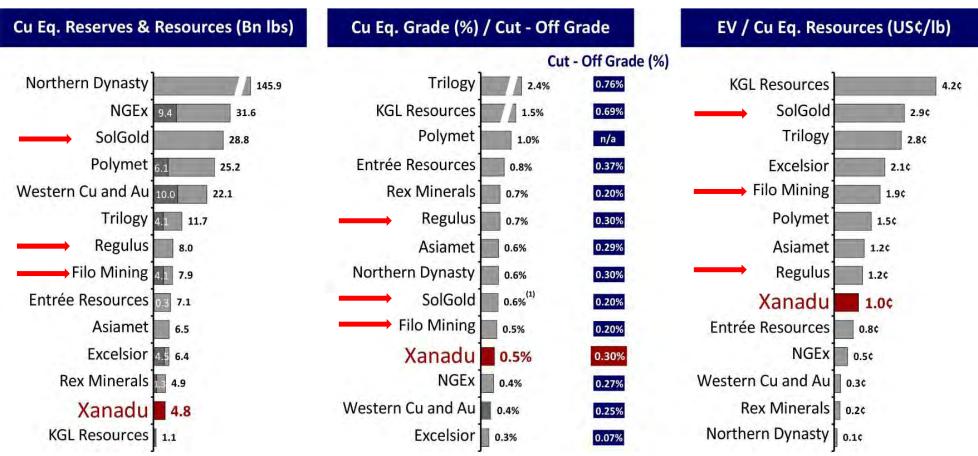
### KHARMAGTAI IS A LEADING DEVELOPMENT ASSETS GLOBALLY



<sup>\*</sup>ASX announcement dated 11 April 2019 "Kharmagtai open pit scoping study completed." Table 1 information dated 11 April 2019 continues to apply.

### Copper developer positioning





Source: Company disclosure.

**Note:** Cu Eq. figures based on long-term consensus metal prices. KGL Resources based on Cu cut-off grade. MOD Resources, Asiamet and Filo Mining cut-off grades based on copper deposits.

(1) Excludes inferred resources. Global resource grade is 0.5% Cu Eq.

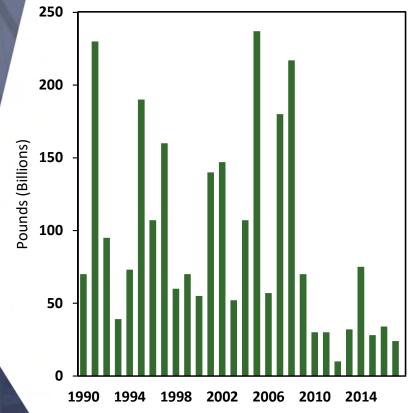


Globally discovery costs have jumped to more than \$0.07 per pound

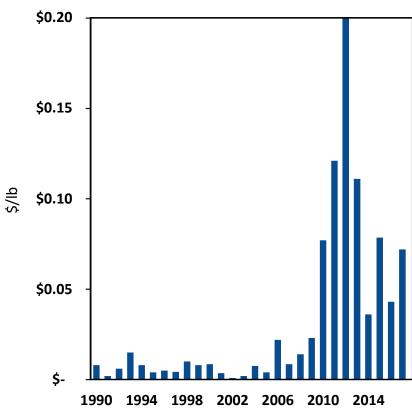
### Where are all the copper discoveries?

### COST TO DISCOVER A NEW POUND OF COPPER

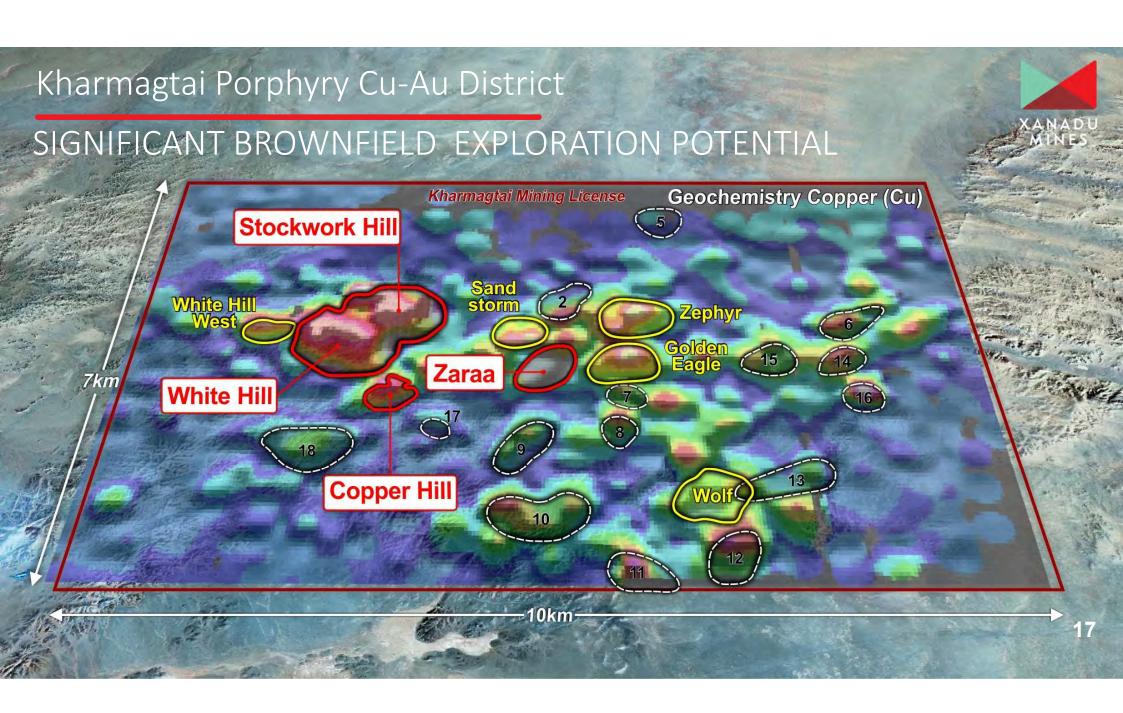
**Annual Copper Discoveries** 



Copper Exploration Cost per Pound Discovered

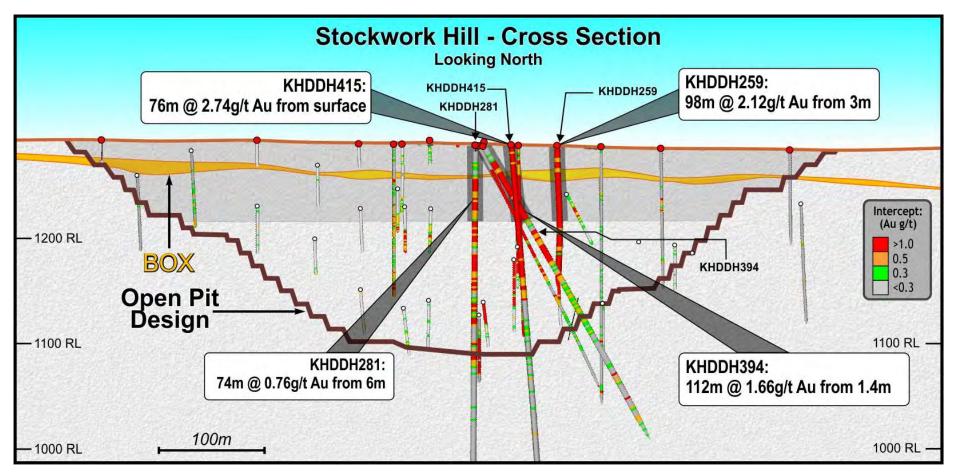


Source: S&P Global Marketing Intelligence





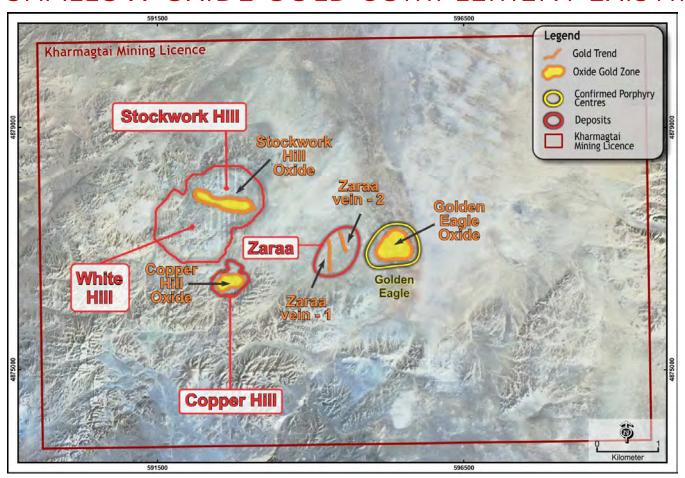
### SHALLOW OXIDE GOLD COMPLEMENT EXISTING RESOURCES



<sup>\*</sup>ASX announcement dated 20 March 2019 "Excellent oxide gold recoveries at Kharmagtai complement existing copper-gold resources." Table 1 information dated 20 March 2019 continues to apply.



### SHALLOW OXIDE GOLD COMPLEMENT EXISTING RESOURCES

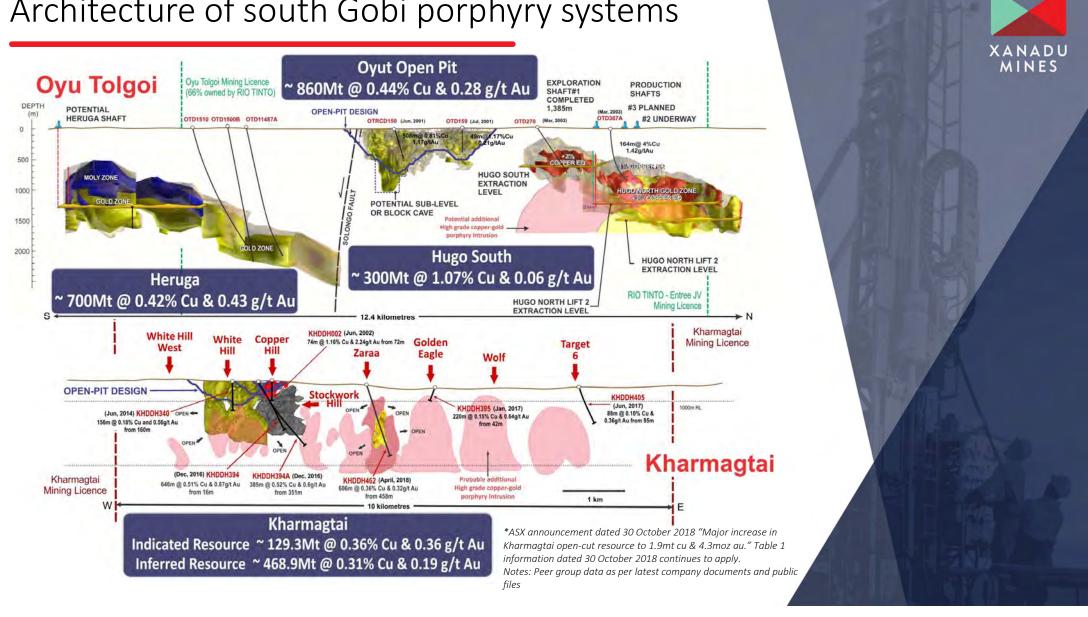


- The Exploration Target confirms the presence of a substantial oxide gold system
- Early stage gravity and bottle roll results on composite samples from Golden Eagle are outstanding
- Oxide gold may provide additional and or alternative options for the development of the project

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ASX announcement dated 20 March 2019 "Excellent oxide gold recoveries at Kharmagtai complement existing copper-gold resources." Table 1 information dated 20 March 2019 continues to apply.

### Architecture of south Gobi porphyry systems



# Levers to unlock maximum value at Kharmagtai







#### **EXTERNAL FACTORS**

Build understanding of Mongolia as an investment destination

Geopolitical risk continues to be mitigated by further foreign investment

Improving copper & gold price outlook



REALISE FULL VALUE FOR CURRENT COPPER RESOURCES PRIOR TO DIVESTMENT

Positioned as a globally significant source of copper that will help bridge the looming supply gap

Attract cornerstone investor

# ADVANCE NEAR SURFACE GOLD RESOURCE

The Exploration Target confirms the presence of a substantial oxide gold system

Define near surface gold resource

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