



Unlocking Mongolia's copper belts

#### **SEPTEMBER 2014**



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The information in this presentation relating to Exploration Targets and Results is based on information compiled or reviewed by Dr. Andrew Stewart, who is an employee of Xanadu and is a Member of the Australasian Institute of Geoscientists. Dr. Andrew Stewart 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". Dr. Andrew Stewart consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

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. Grades have not been adjusted for metallurgical or refining recoveries and the copper equivalent grades are of an exploration nature only and intended for summarising grade. The copper equivalent calculation is intended as an indicative value only. The following copper equivalent conversion factors and long term price assumptions have been adopted: Copper Equivalent Formula (CuEq) = Cu% + (Au (ppm) x 0.6284); Price assumptions: Cu (US \$3.20lb) and Au (US\$1,375oz).

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## Xanadu Mines – the key highlights

- 1. Flagship Kharmagtai copper-gold project
- 2. Exploration success at Altan Tolgoi prospect
- 3. Proven South Gobi development environment
- 4. Strong team with track record of discovery



# Contents

1. Introduction to Xanadu	5
2. South Gobi copper-gold strategy	13
3. Kharmagtai copper-gold project	17
4. Altan Tolgoi discovery	24
5. Altan Tolgoi geology	29
6. Milestones & analogues	32
Corporate directory	35



# XANADU MINES



SECTION 1: Introduction to Xanadu





## Corporate snapshot

### About Xanadu Mines (ASX: XAM)

- Mongolian porphyry copper-gold strategy
- Flagship Kharmagtai copper-gold project
  - Altan Tolgoi exploration success
  - New tourmaline breccia system
  - Multiple 200m intercepts grading >1% CuEq
- Advanced Oyut Ulaan copper-gold project
- Low cost, high impact exploration programs
- Highly experienced and driven team

### Strategic Partners

### **Noble Group**

Significant shareholder and project partner

### **Mongol Metals LLC**

JV with Mongolian businessman and director Ganbayar Lkhagvasuren

Capital Structure	
Share price <sup>1</sup>	A\$0.130
Issued shares	241.5m
Market capitalisation	A\$31.4m
Cash <sup>2</sup>	A\$4.4m
Debt <sup>2,3</sup>	A\$3.5m

**Enterprise Value** A\$30.5m

US\$2.0m Undrawn debt

24.2m Dec 2014 options exercisable at A\$0.50-1.80 3.0m Jun 2016 options exercisable at A\$0.60-1.80 11.6m share rights (exercise prices A\$0.11-0.19) 35m Oyut Ulaan project JORC milestone options

1. As at 10 September 2014

Capital Structure

- 2. As at 30 June 2014
- 3. Includes % Kharmagtai deferred consideration

#### Leadership

Chairman	Mark Wheatley
Managing Director	George Lloyd
<b>Executive Director</b>	Ganbayar Lkhagvasuren
CFO, Mongolia	Munkhsaikhan Dambiinyam
Chief Geologist	Andrew Stewart

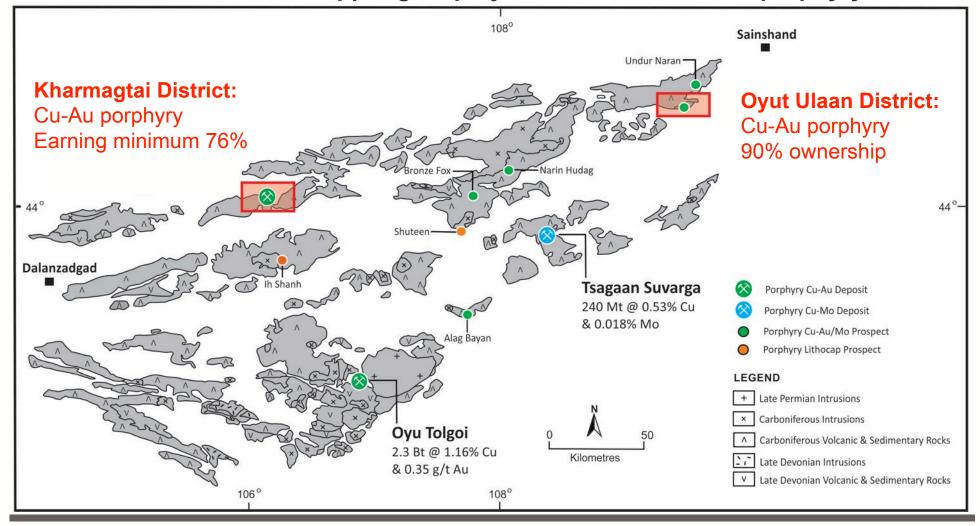
#### Major Shareholders

major onaronoladro	
Sakari Energy (owned by PTT)	11%
Noble Group	9%



## Strategic South Gobi position

### Interests in two advanced copper-gold projects in the South Gobi porphyry belt





## Senior corporate and commercial experience

#### Board and senior management team has strong multi-disciplinary experience



#### Mark Wheatley – Independent Chairman Engineering & commercial

- > Engineer with over 30 years in mining and related industries
- > Non-executive board roles have included former Chair of Gold One International, Norton Goldfields and Goliath Gold as well as directorships of St Barbara Mines Limited and Uranium One Inc.



#### Dr. Darryl Clark – Non-executive Director Geology & commercial

- > Geologist with over 20 years of corporate and exploration experience with BHP Billiton and SRK and senior exploration roles in Mongolia with Ivanhoe and Vale
- > Currently General Director of the Inkai Joint Venture mining operation in Kazakhstan owned by Cameco Corporation and Kazatomprom



#### Hannah Badenach – Non-executive Director Commodities & legal

- Hannah is Director, Mongolia at Noble Resources International Pte Ltd.
- Has extensive Mongolian experience including having managed QGX LLC until the company was sold in 2008 and 2 years practising law with Lynch & Mahoney prior to running Noble's business in Mongolia.



#### **George Lloyd** – Managing Director Corporate finance & natural resources

- > 15 years corporate finance and investment experience in Asia-Pac natural resources and related sectors
- Has advised on Mongolian coal, copper and mining services transactions since 2009
- > Earlier roles include business development at Wesfarmers and corporate finance with Grant Samuel



#### **Ganbayar Lkhagvasuren** – **Executive Director** Mongolian business experience

- Co-founder of Xanadu and a Director since August 2006
- Brings a vital Mongolian perspective to the Board of Directors and works closely with the Managing Director and Chief Geologist in corporate development and managing the day-today operations in Mongolia



#### Munkhsaikhan Dambiinyam - CFO, Mongolia Accounting, finance & commercial

- Finance professional with 10 years experience including private equity and debt financing in the mining services sector
- Financial advisory role with AREVA Mongol, the subsidiary of the French energy conglomerate prior to joining Xanadu.
- > Previously held CFO and Executive Board positions at a leading Mongolian drilling company.



## Extensive porphyry exploration experience

### Highly skilled exploration team with a track record of discovery



#### **Dr. Andrew Stewart** – Chief Geologist

- > Exploration geologist with over 15 years experience
- > Particular expertise in porphyry copper deposits
- During his time with Ivanhoe and Vale Andrew held various technical and management positions throughout Asia
- > Involved in several greenfields copper discoveries



#### **Munkhbat Baatar** – Exploration Manager

- > Exploration geologist with over 20 years of experience
- > Primarily focussed on porphyry copper exploration throughout the South Gobi region of Mongolia
- > During his time with Ivanhoe he held various senior positions
- Critical team member in numerous discoveries including the Kharmagtai cluster of porphyries and recently the high-grade Merlin IOCG deposit in the Cloncurry district of Australia



#### **Dorjsuren Otgonbayar – Senior Geophysicist**

- > Exploration geophysicist with over 10 years experience
- Has held senior positions at Vale focussed primarily on porphyry copper exploration
- Has particular expertise in integrating geological and geophysical data sets for area selection and targeting, data acquisition, processing, modelling, and interpretation



#### **Batbayar Enkhbold** – Senior Geologist

- > Experienced exploration geologist who previously worked as an exploration geologist for East Asia Minerals in Indonesia
- Part of the Miwah high-sulphidation Au deposit and the Barisan cluster of porphyry Cu-Au deposits discovery teams with East Asia Minerals



#### **Batbaatar Nyamsuren** – Senior Geologist

- > Has over 20 years porphyry exploration experience
- Currently leads the Xanadu reconnaissance exploration team responsible for prospect evaluation, ground selection and geological mapping
- Previously worked as a senior exploration geologist for Ivanhoe and Fortress Minerals exploring for porphyry copper deposits throughout Mongolia



## Strong partnerships

### Xanadu has formed strategic alliances with key Mongolian investors



### MONGOL METALS

- Kharmagtai acquired via Mongol Metals
   LLC joint venture company
- Ganbayar Lkhagvasuren is joint shareholder in Mongol Metals
  - Xanadu Executive Director
  - Xanadu co-founder in 2005
  - US\$4.0m cash equity



- Market leading global commodities supply chain manager
- Experienced in marketing for natural resources projects
- Experienced and well-established in Mongolia
- Market intelligence and access to global customer and technical networks
- Strategic alliance with Xanadu formed in February 2011

Xanadu equity holder and debt provider



## Investment proposition

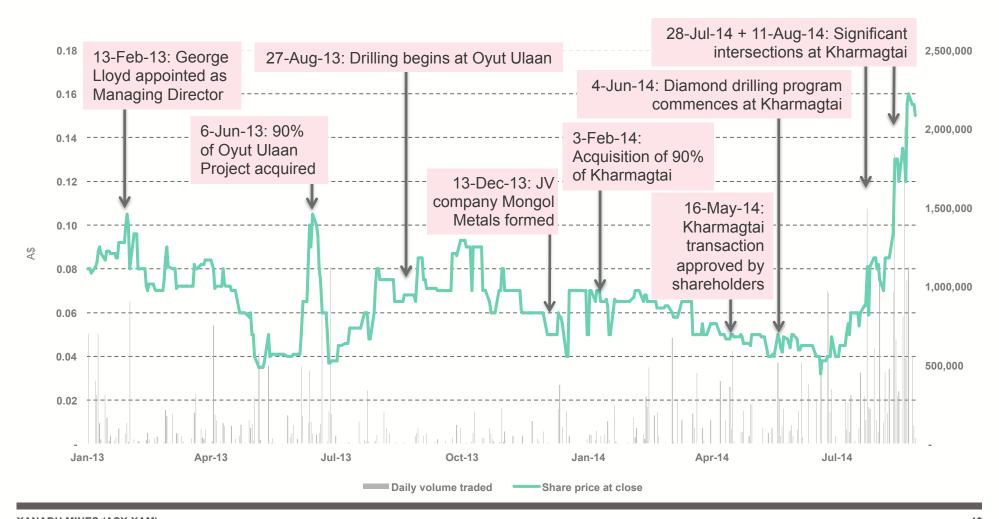
### Xanadu has built strong foundations for exploration and operational success

Advanced projects	<ul> <li>Kharmagtai approaching a moderate sized Cu-Au porphyry</li> <li>Multiple mineralised Cu-Au targets at Oyut Ulaan</li> </ul>
Growth potential	<ul><li>East Altan Tolgoi extensions at Kharmagtai</li><li>Discovery of new tourmaline breccia system</li></ul>
Return on capital	<ul><li>Low cost, high impact exploration programs</li><li>Organic growth via exploration and discovery</li></ul>
Strategic position	<ul><li>Mongolia is emerging as a significant copper supplier</li><li>South Gobi region has proven development potential</li></ul>
Team to deliver	<ul><li>Highly experienced exploration and corporate team</li><li>Strong national and corporate partnerships</li></ul>
Attractive valuation	<ul> <li>Vision to be one of Asia's next mid-tier copper producers</li> <li>Targeting near-term milestones to create value</li> </ul>



## Share price performance

### Recent investor recognition of Xanadu's strategy and exploration results











## One of the last great exploration frontiers

#### Mongolia is vastly under-explored yet already a proven resources province

#### **CLOSED SOVIET ERA MODERN** 1925-1939: Mongolia **1939-1990:** Soviet presence in 1997: Minerals Law opens closed to foreigners Mongolia during WWII and Cold War Mongolia to exploration 2010 1920 1930 1940 1950 1960 1970 1980 1990 2000

**1922:** Explorer Roy Chapmans Andrews begins his Asiatic Expeditions, making important geological observations

**1963:** Sino-Mongolian military build-up begins, preventing exploration in the South Ghobi district

**1967:** Joint Mongolian and Russian mineral exploration in the north leads to the discovery of Erdenet Ovoo copper-molybdenum deposit

**1996:** Porphyry copper mineralisation identified at Oyu Tolgoi by Magma Copper (later acquired by BHP Billiton)









## Maturing regulatory environment

#### The start of a new phase of stable mining policy and sustainable investment

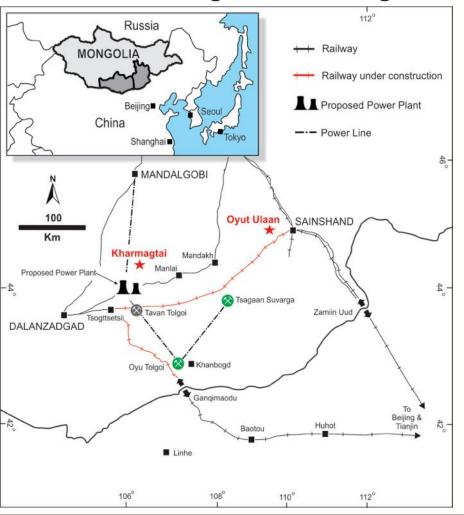


- Mongolia has implemented several important changes to its minerals regime to encourage foreign and domestic investment
- > Amended 2006 Mining Law clarifies several issues and is a step towards international best practice in environmental management and community relations
- Re-opening of the cadastral office and extension of exploration license period
- November 2013 Investment Law promotes fiscal certainty for national and international investors alike



## Proven development potential

### The South Gobi region has the ingredients for successful project development



- > Flat terrain at moderate altitude
- Established power transmission lines
- Tavan Tolgoi mine-mouth power station proposed development
- > Existing north-south rail infrastructure
- East-west rail infrastructure underdevelopment
- Substantial underground water resources
- Well-established mining services sector
- Close to North Asian customers







### Acquisition terms

### Kharmagtai acquisition complete and drilling program underway

### **Acquisition:**

- Mongol Metals JV acquired 90% interest in Kharmagtai from Turquoise Hill
- US\$14.0m consideration
  - US\$0.5m deposit and US\$3.5m at completion – paid
  - US\$10.0m deferred 18 months
- Option to acquire a 3% net smelter royalty
- Approved by Xanadu shareholders in May 2014

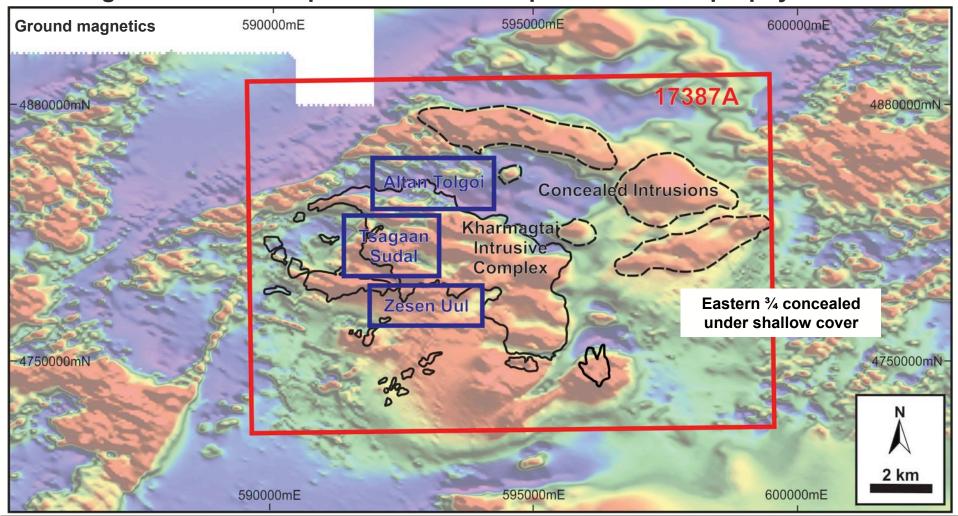
### **Project interest and funding:**

- Xanadu can earn 85% interest in Mongol Metals (76% direct project interest)
- Approximately US\$10.0m already arranged in relation to Kharmagtai
  - US\$4.0m Mongol Metals equity
  - US\$4.0m Noble 3-year loan
  - A\$1.7m brokered placement in April 2014
  - Sale of non-core assets
- Circa 40%+ interest in Mongol Metals earned by 15 September 2014



## Entire porphyry district

### Kharmagtai has excellent potential host multiple mineralised porphyries





## Exploration history





### Advanced exploration project:

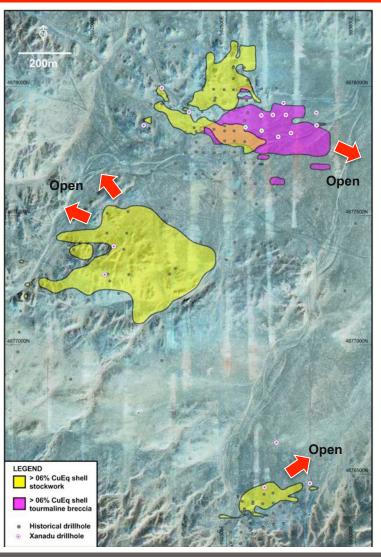
- 1995 -1998: Detailed exploration by QGX with ore-grade mineralisation intercepted in drill holes at Zesen Uul and Altan Tolgoi
- 2002 2006: Aggressive exploration program by Ivanhoe Mines targeting shallow stockwork
- 2006 2012: Sporadic exploration targeting Tourmaline breccia mineralisation

### > Extensive historic exploration completed:

- 119 trenches completed (65,636m)
- Array IP, ground magnetics, ground gravity
- 208 reverse circulation drill holes (27,747m)
- 171 diamond drill holes (63,893m)



## Central Kharmagtai mineralisation



#### High grade Au-rich porphyry mineralisation

JORC Exploration Target <sup>1</sup>					
	Mt	Cu %	Au g/t		
Global Target	200-450	0.25-0.30	0.25-0.30		
High-grade	50-80	0.40-0.50	0.60-0.80		

#### **Historic Representative Intersections**

Altan	KHDDH240: 245m @ 0.75% Cu & 2.48g/t Au from 3m (2.31% CuEq)
Tolgoi	KHDDH259: 203m @ 0.45% Cu & 2.45g/t Au from 3m (1.99% CuEq)
	KHDDH281: 210m @ 0.63% Cu & 1.61g/t Au from 28m (1.64% CuEq)

KHDDH006: 182m @ 0.47% Cu & 0.52g/t Au from 108m (0.80%CuEq) Zesen KHDDH004: 94m @ 0.65% Cu & 2.06g/t Au from 98m (1.94% CuEq) Uul KHDDH021: 88m @ 0.85% Cu & 1.30g/t Au from 50m (1.67% CuEq)

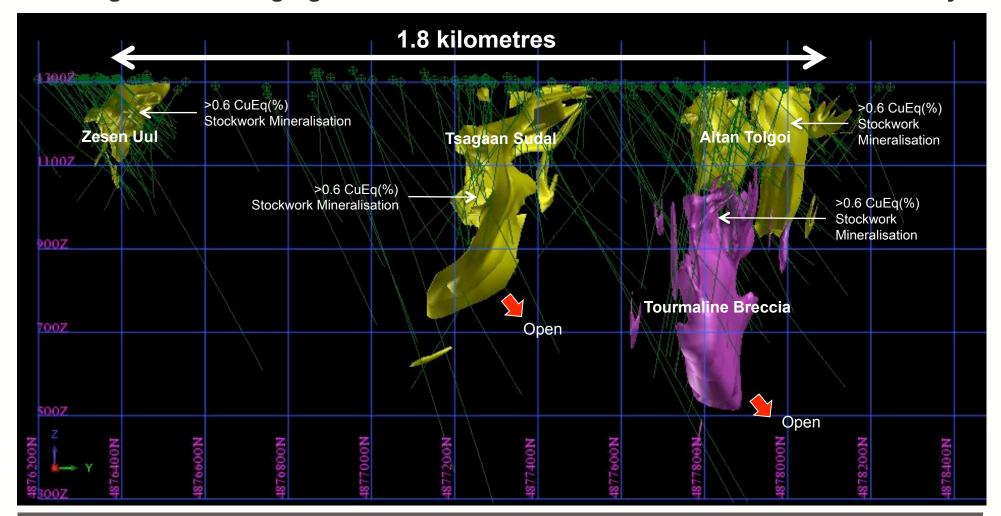
**Tsagaan** KHDDH301: 527m @ 0.32% Cu & 0.34g/t Au from 22m (0.53% CuEq) KHDDH324: 528m @ 0.36% Cu & 0.22g/t Au from 148m (0.50%CuEq) Sudal

JORC Table 1 disclosures in ASX release of 5 September 2014 continue to apply.



## Central Kharmagtai long section

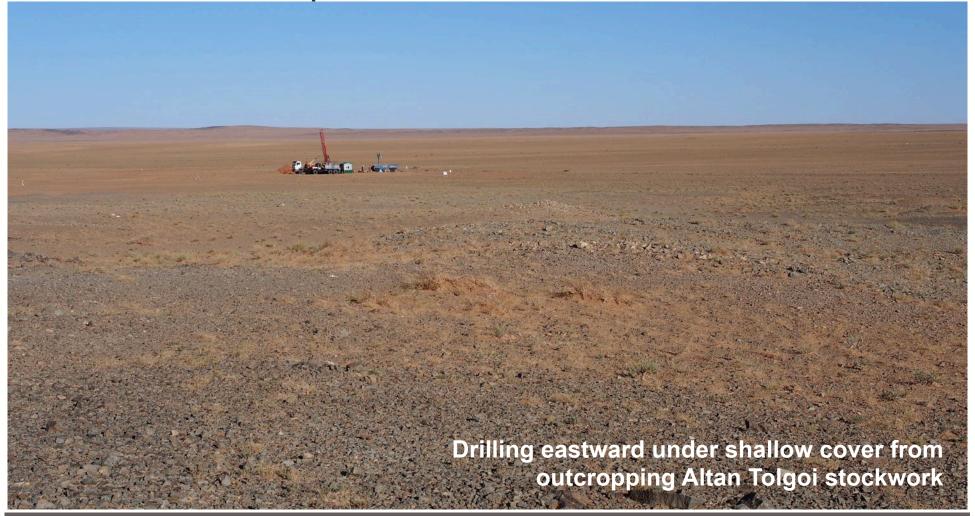
### N-S long section of high-grade stockwork zones and tourmaline breccia discovery



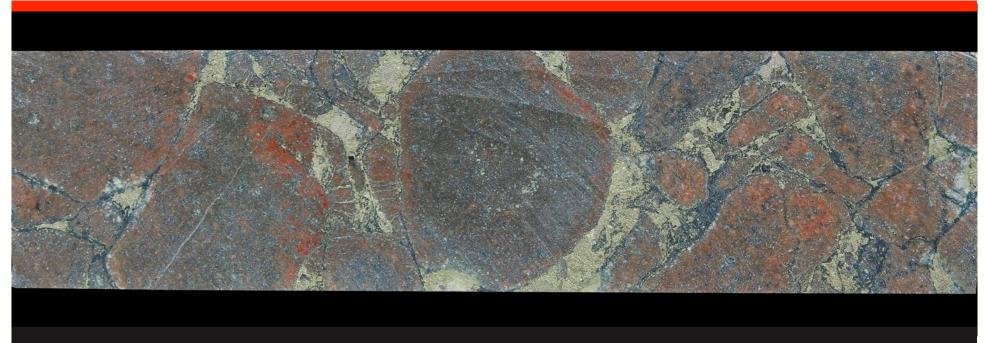


## Testing discovery potential under cover

### Potential to discover multiple mineralised zones under shallow cover







SECTION 4: Altan Tolgoi discovery



## Altan Tolgoi tourmaline breccia discovery

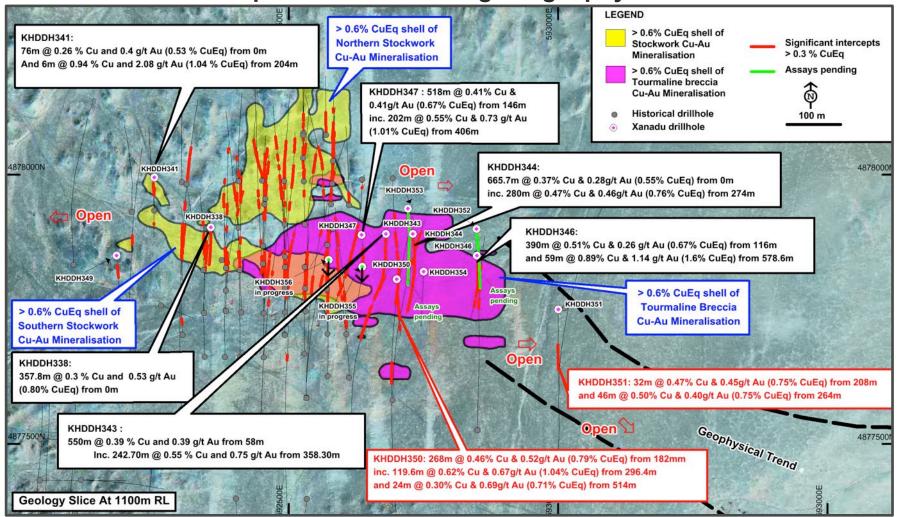
Massive chalcopyrite infill around mineralised porphyry stockwork clasts





## Altan Tolgoi plan

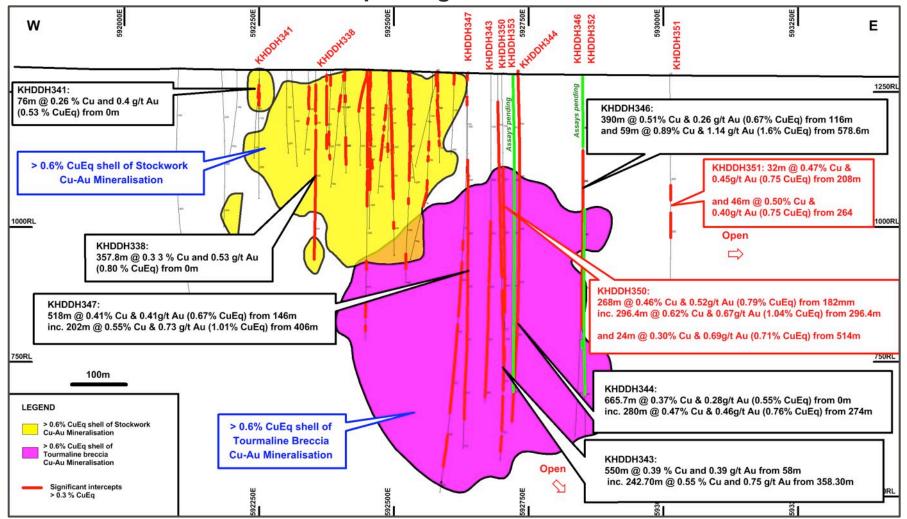
### Mineralisation remains open to the east along the geophysical trend





## Altan Tolgoi long section

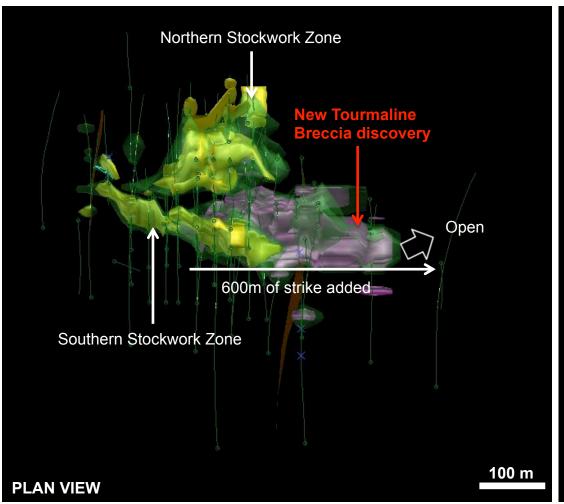
### Tourmaline breccia intrusion overprints gold-rich stockwork

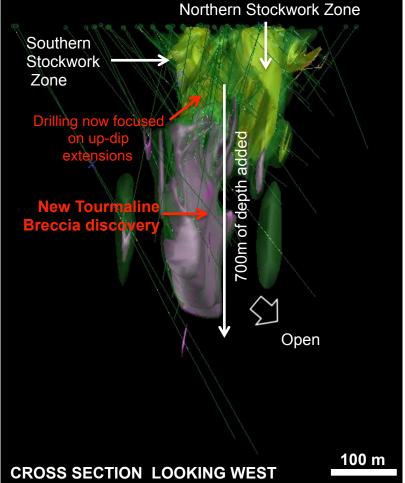




## Altan Tolgoi mineralisation block model

### Wireframe model defines open mineralisation and new targets





# XANADU MINES



SECTION 5: Altan Tolgoi geology





### Stockwork mineralsiation

### Gold-rich quartz veining with copper present as chalcopyrite and bornite



2 cm

Laminated quartz-chalcopyrite-magnetite sheeted veins: 2 metres @ 2.45 g/t Au and 0.96% Cu



Massive granular quartz-chalcopyrite-magnetite vein: 2 metres @ 6.25 g/t Au and 2.52% Cu



### Tourmaline breccia mineralisation

### Coarse chalcopyrite infill creates zones of exceptionally high copper grades



KHDDH346: 419.5m. From a 2m interval (418m to 420m) that assayed 2.86% Cu & 2.13 g/t Au

2 cm



KHDDH346: 415.5m. From a 2m interval (414m to 416m) that assayed 5.16% Cu & 3.44 g/t Au





SECTION 6: Milestones & analogues





## Timeline and milestones

### Adding value via low cost, high impact exploration and multi-disciplinary studies

	4Q 2014	1Q 2015	2Q 2015	3Q 2015	4Q 2015
Kharmagtai					
Diamond drilling					
- Central Kharmagtai drilling					
- district exploration drilling					
Central Kharmagtai scoping study					
Central Kharmagtai resource estimate					
Central Kharmagtai advanced studies					
Oyut Ulaan					
Geophysics					
Diamond drilling					

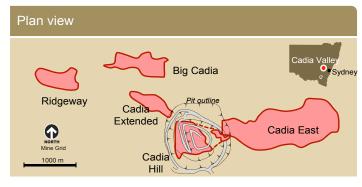


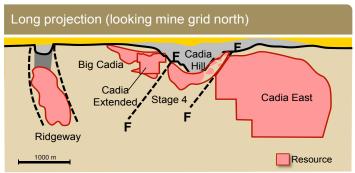
## Kharmagtai & Oyut Ulaan analogues

### Xanadu's projects are analogous to the Lachlan Fold Belt Cu-Au porphyries

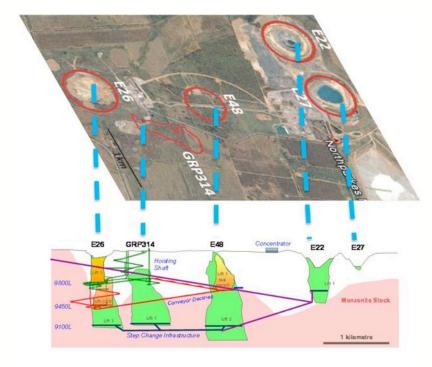
- > Small (10Mt x) to moderate (100Mt x) porphyry systems
- > Clusters of porphyry centres that are typically vertically extensive
- Resources can grow quickly within a district once geology is understood

#### Cadia Valley Operations, Australia (Newcrest)





Northparkes, Australia (ex Rio Tinto)







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