

4 November 2014

## **KHARMAGTAI DRILLING CAMPAIGN-1 SUMMARY RESULTS**

### **HIGHLIGHTS:**

- **Xanadu's recently completed diamond drilling campaign (comprising approximately 10,000 metres) at its flagship Kharmagtai project in Mongolia indicates potential for a large scale copper-gold system with a multiple near-surface, gold-rich centres including Altan Tolgoi, Tsagaan Sudal and Zesen Uul.**
- **Shallow, gold-rich stockwork mineralisation within the Altan Tolgoi and Tsagaan Sudal prospects remains open and potential for expansion of the mineralisation is clearly evident while Zesen Uul may represent an off-faulted block from a larger porphyry centre.**
- **Several of the shallow stockwork systems have bornite-rich cores, where mineralisation is characterised by high gold grades (0.7 to >5 g/t Au) that zone outward to chalcopyrite-rich and then outer pyritic haloes.**
- **Xanadu's drilling has intersected the first significant copper-gold (>1% CuEq) mineralisation associated with tourmaline breccia mineralisation at Kharmagtai to date and has caused us to review the economic significance of this geological unit.**
- **Copper and gold grades within the tourmaline breccia both increase and have stronger correlation at depth, suggesting a deeper potassic (possible bornite-rich) core to the system. This represents a new and previously undervalued exploration target at Kharmagtai.**
- **Access to near surface higher-grade, gold-rich mineralisation will have significant implications for potential future project development.**
- **These are extremely encouraging results and provide a solid base for Xanadu's objective to define an economic copper-gold resource.**
- **Exploration drilling continues with a supplementary campaign planned.**

 **CONTACT**  
George A. Lloyd  
Managing Director  
T: +852 6397 3308  
george.lloyd@xanadumines.com

[www.xanadumines.com](http://www.xanadumines.com)

 **AUSTRALIA**  
c/o Company Matters Pty Limited  
Level 12, 680 George Street  
Sydney NSW 2000  
T: +612 8280 7497

 **MONGOLIA**  
2nd Khoroo, Military Town  
AOS Street, Bayanzurkh District  
Ulaanbaatar, Mongolia  
T: +967 5011 0211

 **ASX**  
XAM

Xanadu Mines Ltd (ASX: XAM) is an exploration company that has assembled a significant exploration portfolio across Mongolia's porphyry belts. These belts are part of the larger Central Asian Orogenic Belt – one of the last great exploration frontiers known to host large copper porphyry deposits – with Mongolia emerging as a globally significant copper province.

## INTRODUCTION

Xanadu Mines Ltd (**ASX: XAM – “Xanadu”**) is pleased to present the results of the recently completed drilling program (comprising approximately 10,000 metres), which has provided significant advances in our understanding of the Kharmagtai copper-gold project in Mongolia. Xanadu’s joint venture company, Mongol Metals LLC, acquired a 90% interest in Kharmagtai from Turquoise Hill Resources Ltd for US\$14.0 million, including US\$10.0 million of deferred consideration. The acquisition was approved by shareholders on 16 May 2014 and completed on 3 June 2014. Xanadu has the right to earn at least 85% of Mongol Metals LLC (currently 41.5%), equal to a 76.5% beneficial interest in the project.

## KHARMAGTAI BACKGROUND

The undeveloped Kharmagtai copper-gold porphyry district is located within the Central Asian Porphyry copper province (Figure 1). Contained within this province is the South Gobi porphyry copper belt which is emerging as one of the most prospective regions in the world and has become the focus of extensive exploration for porphyry copper-gold deposits over the last decade following the discovery of the giant Oyu Tolgoi porphyry copper-gold deposit. The Kharmagtai project is strategically located only a 120 kilometres north of the giant Oyu Tolgoi porphyry copper-gold operation owned and operated by Turquoise Hill Resources Ltd and the Government of Mongolia and 60 kilometres northeast of the operational Tavan Tolgoi coking coal deposit. The Kharmagtai project is located within a rapidly developing region of the south Gobi with good access to infrastructure and the growth markets of north Asia.

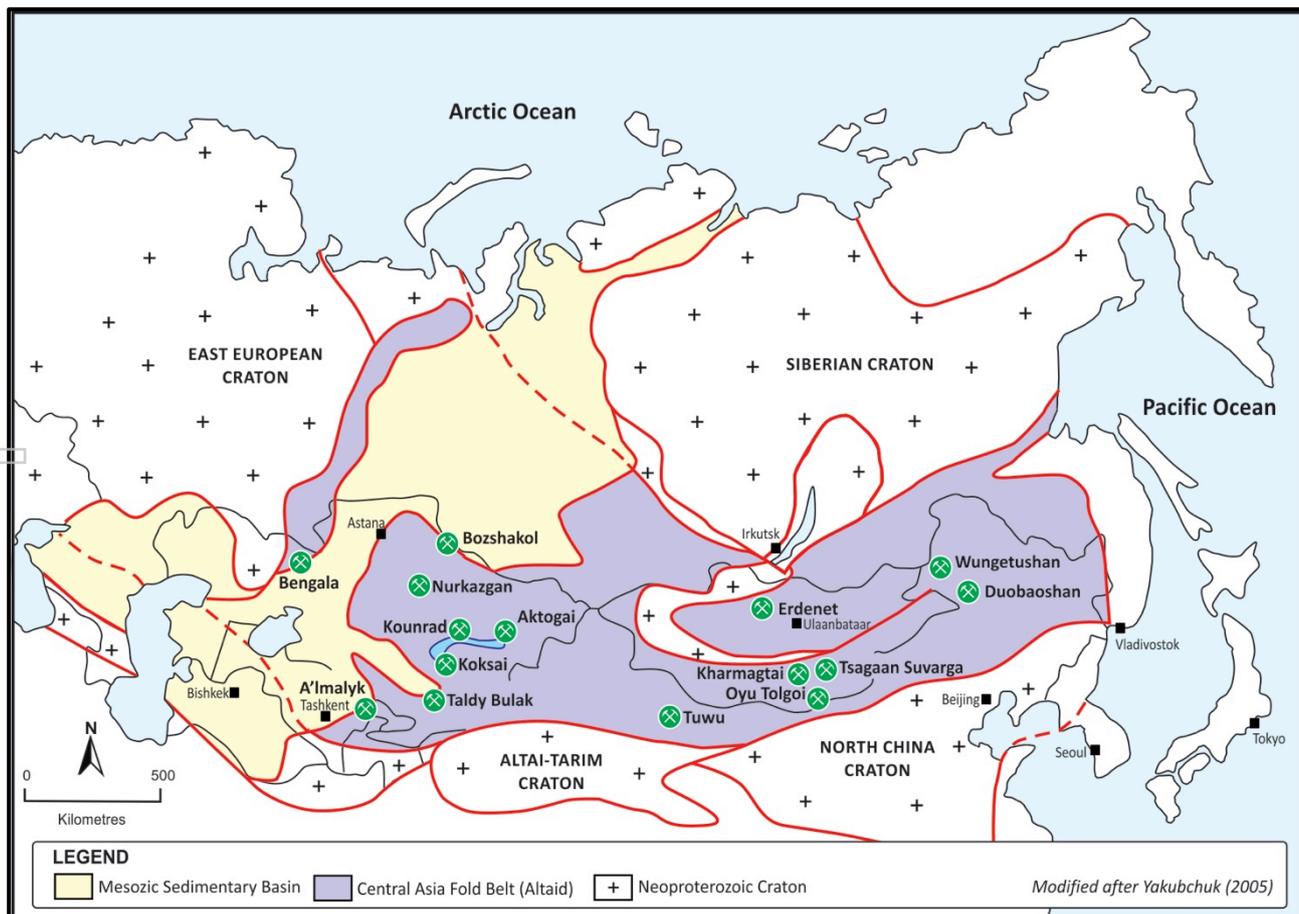


Figure 1: Central Asian Porphyry Copper Province.

The Kharmagtai project comprises a cluster of gold-rich porphyry copper centres and mineralised tourmaline breccia pipes which occur within the central part of a granted Mining Licence which covers approximately 66 square kilometres (Figure 2). The known porphyry mineralisation outcrops around the margin of a shallow 6 kilometre diameter basin and previous exploration in the Kharmagtai district identified significant copper-gold mineralisation within the Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects. Geophysics indicates that some 70% of the mineralised Kharmagtai Igneous Complex (“KIC”) lies under shallow cover.

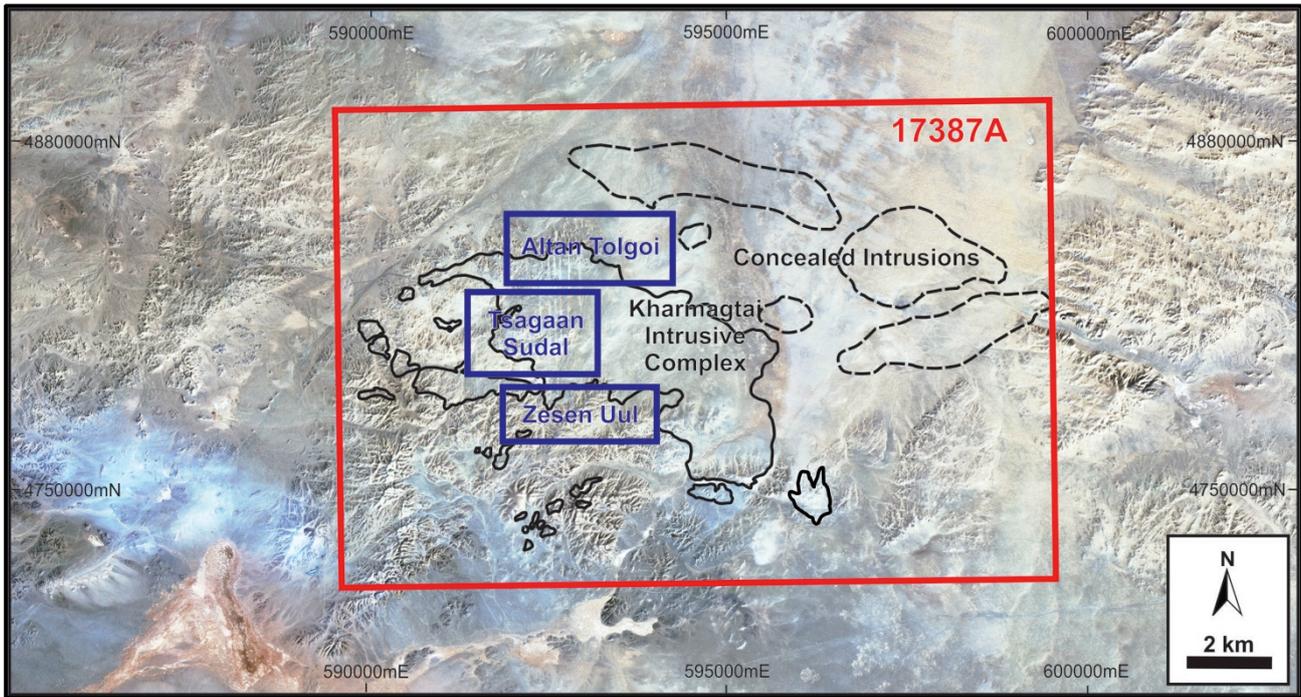


Figure 2: Kharmagtai Porphyry District.

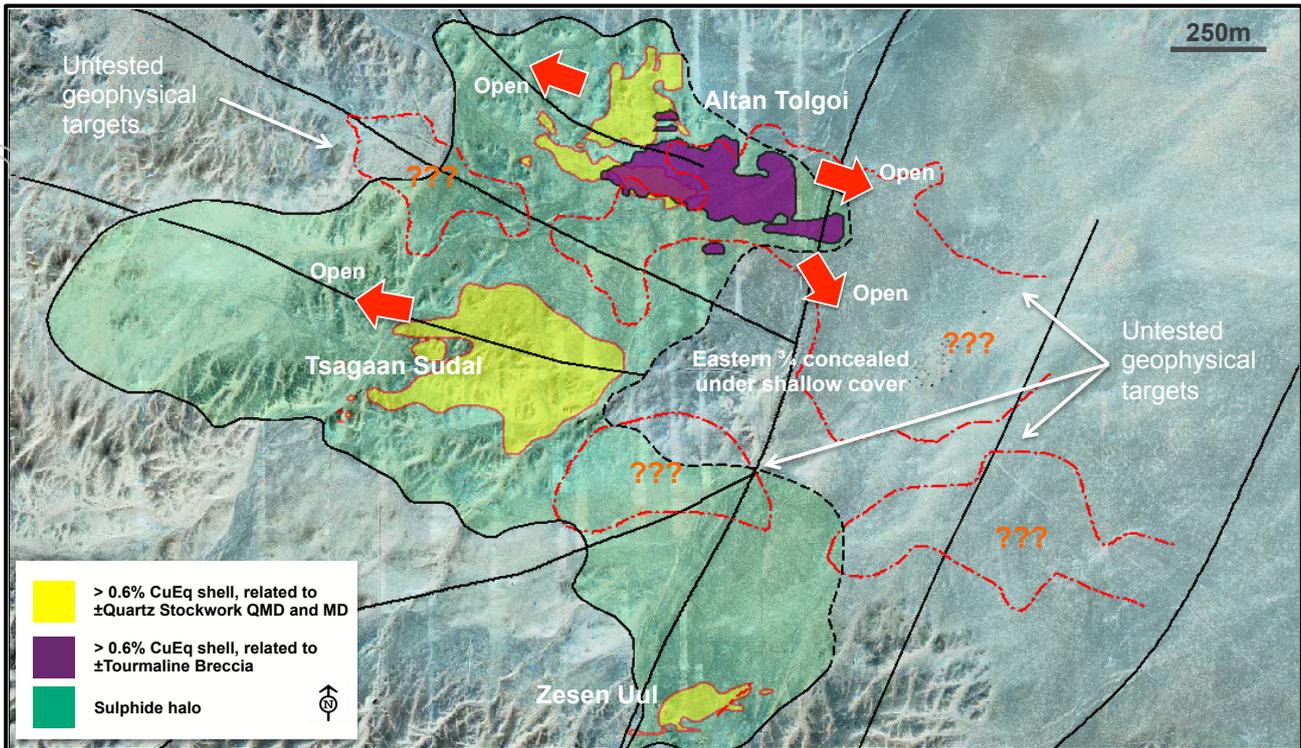
### CAMPAIGN-1 DRILLING RESULTS

Drilling campaign 1 at Kharmagtai clearly indicates potential for a large-scale porphyry Cu-Au system with multiple shallow gold-rich zones (Figures 3 and 4). Similar to those seen elsewhere in the south Gobi such as Oyu Tolgoi (>27 Mt Cu & >810 t Au).

Shallow gold-rich stockwork mineralisation has already been located within the Altan Tolgoi and Tsagaan Sudal prospects and remains open with potential for expansion clearly evident. At Zesen Uul the mineralisation is reasonably well defined and may represent an off-faulted block from a larger system.

The immediate target for activities is becoming clearer with Kharmagtai presenting significant areas of shallow mineralisation with high gold grades. The prospects are located within a flat topography amenable to surface mining and expanding these zones remains a high priority target for the next phase of drilling, and will ultimately contribute to a maiden resource estimate.

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**Figure 3: Central Kharmagtai, showing the foot print of porphyry mineralisation with multiple shallow high-grade gold-rich zones at Altan Tolgoi, Tsagaan Sudal and Zesen Uul.**

The recent drill program returned excellent results and provides important advances in understanding Kharmagtai's potential. The key findings include:

- there is clear potential for a large-scale porphyry copper-gold system with multiple shallow high-grade, gold-rich cores;
- intersected the first significant copper-gold (>1% CuEq) mineralisation associated with tourmaline breccia mineralisation at Kharmagtai to date;
- there is excellent potential for further expansion of the tourmaline breccia mineralisation at East Altan Tolgoi;
- copper and gold grades increase with depth within the tourmaline breccia unit which is consistent with a possible deeper potassic (bornite-rich) core to the system, which could host higher grades;
- drilling expanded the near-surface and higher-grade stockwork mineralisation at Altan Tolgoi, Zesen Uul and Tsagaan Sudal (Figure 4); and
- the Altan Tolgoi, Tsagaan Sudal and Zesen Uul areas are located in close proximity and further development studies would be based on a single central plant.

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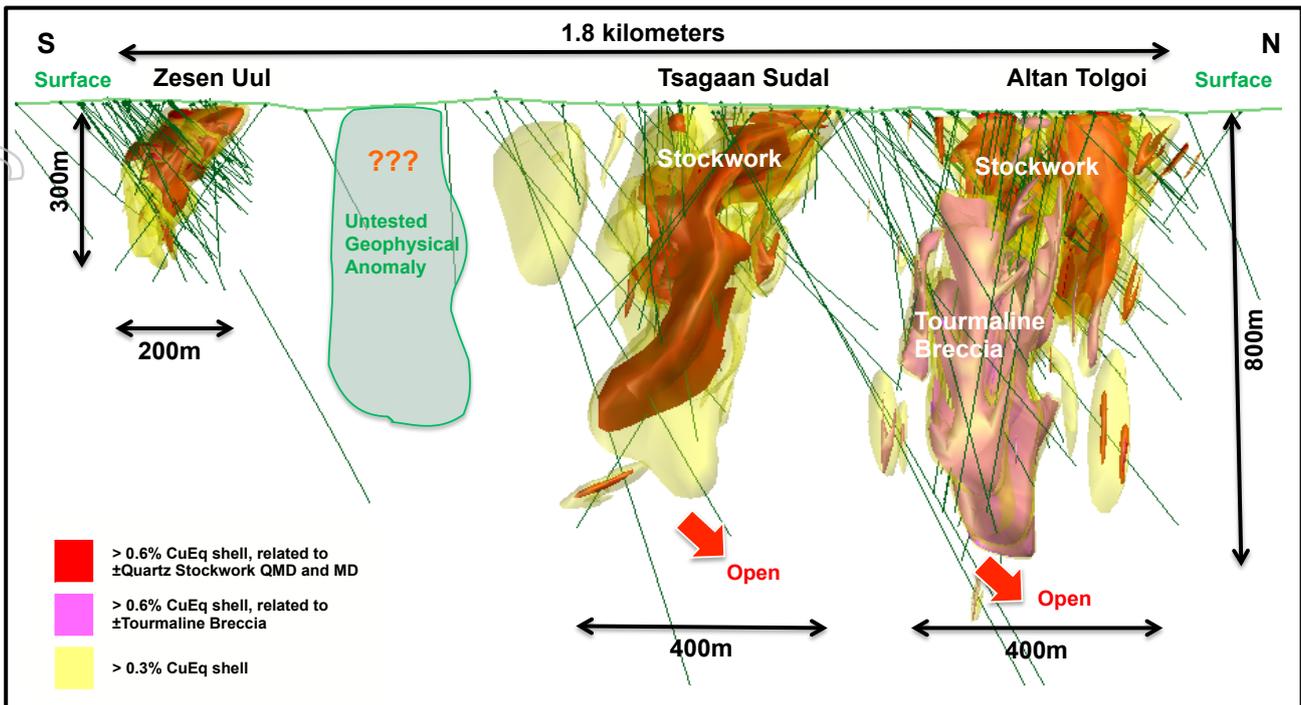


Figure 4: Central Kharmagtai long section through Altan Tolgoi, Tsagaan Sudal and Zesen Uul.

### SHALLOW STOCKWORK MINERALISATION

The shallow zones of high-grade stockwork mineralisation at Altan Tolgoi, Tsagaan Sudal and Zesen Uul resulted from the formation of quartz-chalcopyrite-pyrite-magnetite stockwork veins and minor breccias (Figure 5). Sulphide mineralisation is zoned from a bornite-rich core that zones outwards to chalcopyrite-rich and then outer pyritic haloes, with high-grade gold closely associated with cores. The principle copper sulphides are chalcopyrite and bornite and based on previous petrological work, gold primarily occurs either within chalcopyrite or as free grains (refer to appended Figures 7 and 8). The average gold grain size is relatively large (up to 100 microns long).

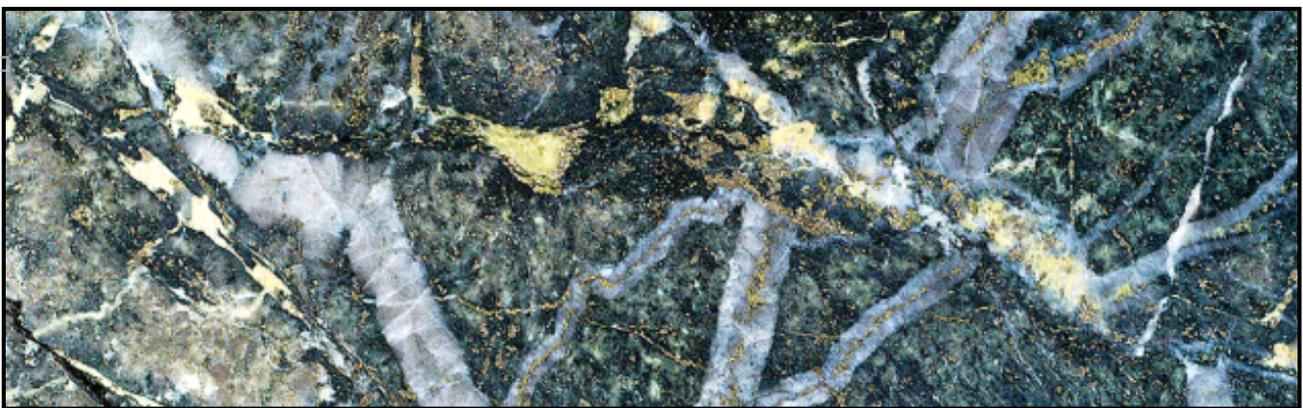


Figure 5: Stockwork quartz-chalcopyrite veins: 2 metres @ 2.10 g/t Au and 1.19% Cu.

Preliminary metallurgical testing of the stockwork mineralisation indicates high recoveries (>85%) for the copper and it is likely that gold will be a significant by-product.

## NEWLY DEFINED TOURMALINE BRECCIA MINERALISATION

Drilling at East Altan Tolgoi has intersected the first significant tourmaline breccia copper-gold mineralisation at shallow depths (<150 metres) at Kharmagtai (Figure 6). The Altan Tolgoi stockwork mineralisation is overprinted by a late tourmaline breccia mineralisation at depth and along strike to the east (Figures 3 and 4 above). The recent drilling indicates that the tourmaline breccias significantly contribute to mineralisation in this area and represent a new and previously undervalued exploration target at Kharmagtai.

The tourmaline breccias appear to be controlled by southeast-northwest trending structural corridors and are strongly zoned around a higher-grade gold core (which is at least 1,000 metres long, 150 metres wide and up to 600 metres deep). The system remains open along strike to the west and east where tourmaline breccias are very widespread. The tourmaline breccia appears to be part of a much larger system of breccias extending for several kilometres in an east-west direction. Drilling will continue testing the extent of mineralisation within this geological unit.



Figure 6: Mineralised tourmaline breccia: 2m interval that assayed 5.16% Cu & 3.44 g/t Au.

## OUTLOOK

Xanadu believes that the Kharmagtai mineralisation can be greatly expanded and the average grade significantly increased through the identification of higher-grades cores and more highly mineralised units such as the stockwork and tourmaline breccia. Mineralisation remains open at Altan Tolgoi and Tsagaan Sudal with strong evidence that Zesen Uul may represent an off-faulted block from a much larger system.

The focus of the next drilling campaign will be to continue to define the mineralisation that will support an initial shallow open pit operation. Expansion of the gold-rich cores and the definition of medium-grade material (~0.5% CuEq) as a halo to the cores would bring the future pits into closer proximity with potential economic mining synergies.

There are numerous other targets remaining in the Kharmagtai area with most of the area lying under shallow sedimentary cover. Geophysical methods employed by Xanadu in areas under cover have worked well to date and surface geochemistry and geology have highlighted additional new target areas of mineralisation and the potential for the discovery of additional porphyry centres remains high.



**For further information, please contact:**

George A. Lloyd  
Managing Director  
T: +852 6397 3308  
george.lloyd@xanadumines.com

[www.xanadumines.com](http://www.xanadumines.com)

**KHARMAGTAI PROJECT & THE MONGOL METALS JV**

The Kharmagtai project is located in the under-explored South Gobi porphyry copper province which hosts the world-class Oyu Tolgoi copper-gold operation, the Tsagaan Survarga porphyry copper-molybdenum development and Xanadu's Oyut Ulaan copper-gold exploration project. The Kharmagtai project is located within the Omnogovi Province, approximately 420 kilometres southeast of Ulaanbaatar and 60 kilometres north of the Tavan Tolgoi coal deposit.

The Kharmagtai project is an advanced exploration project consisting of multiple gold-rich porphyry copper prospects including Altan Tolgoi, Tsagaan Sudal and Zesen Zul. Exploration has identified significant shallow high-grade porphyry copper-gold mineralisation. A majority of the mineralised porphyry complex lies under un-explored shallow sediments. The large licence area has only been partially explored and the potential for further discoveries remains high. Altan Tolgoi is the present priority and the other deposits are planned to be explored and further discoveries are anticipated.

Xanadu has the right to earn an 85% interest in the Mongol Metals LLC joint venture company, equivalent to a 76.5% beneficial interest in the Kharmagtai project, by funding acquisition and exploration costs.

**COMPETENT PERSONS STATEMENT**

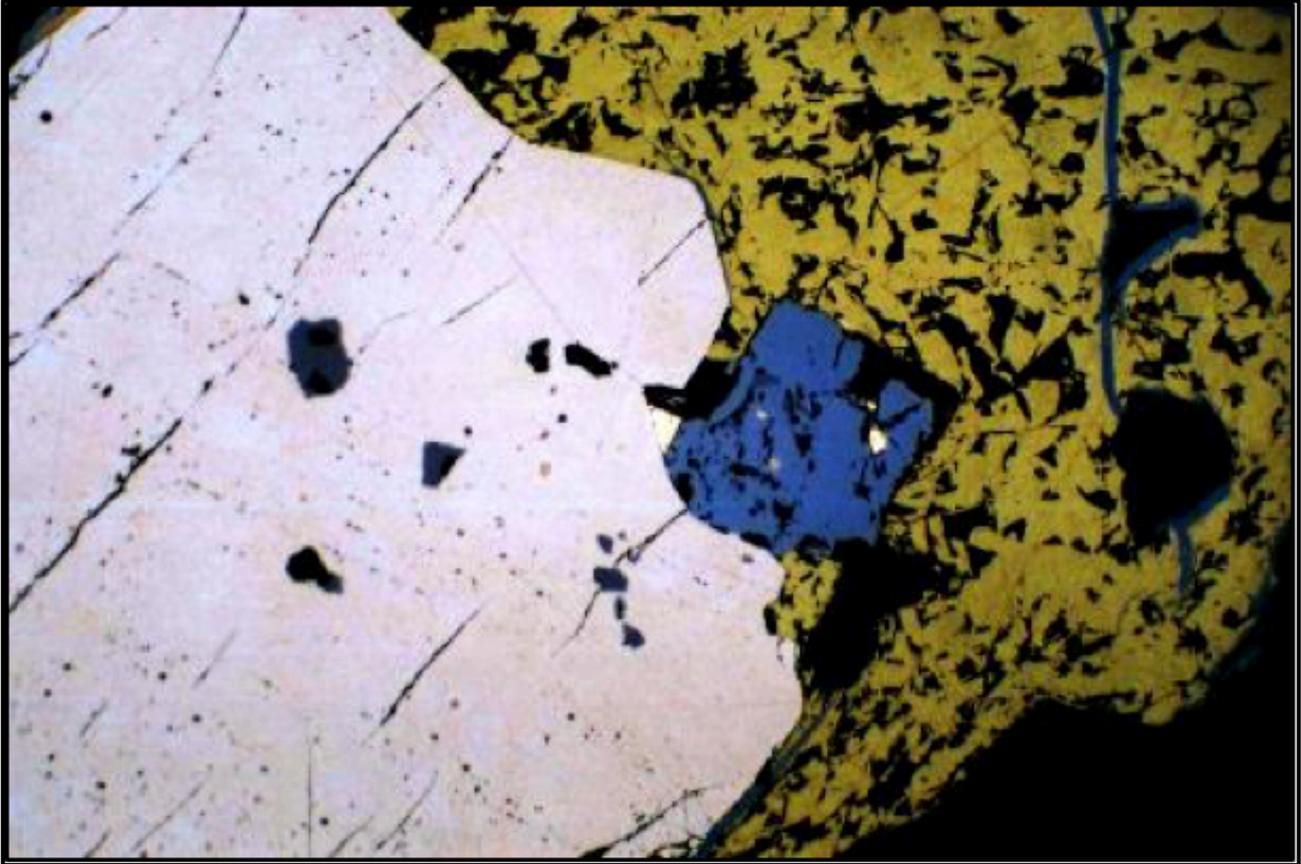
The information in this report relating to Exploration Results is based on information compiled or reviewed by Dr. Andrew Stewart, who is an employee of Xanadu and is a Member of the Australasian Institute of Geoscientists. Dr. Andrew Stewart has sufficient experience relevant to the style of mineralisation 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 report 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).

## APPENDICES

### FIGURE 7:

KHDDH022: 166.5 metres - mineralised stockwork vein with pyrite (white), chalcopyrite (yellow), and magnetite (bluish grey, centre). Note the presence of small grains of native gold (bright yellow), at centre between pyrite and magnetite, and as inclusions in magnetite. Field of view is approximately 0.4mm.



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**FIGURE 8:**

KHDDH 229: 116.3 metres - gold (centre, yellow) in chalcopyrite (pale yellow). The gold is an infill component and is approximately 60 microns long.



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