

## **XANADU & MONGOL METALS TO ACQUIRE 90% OF THE KHARMAGTAI COPPER-GOLD PROJECT**

Xanadu Mines Ltd 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 – and Mongolia is emerging as a globally significant copper province.

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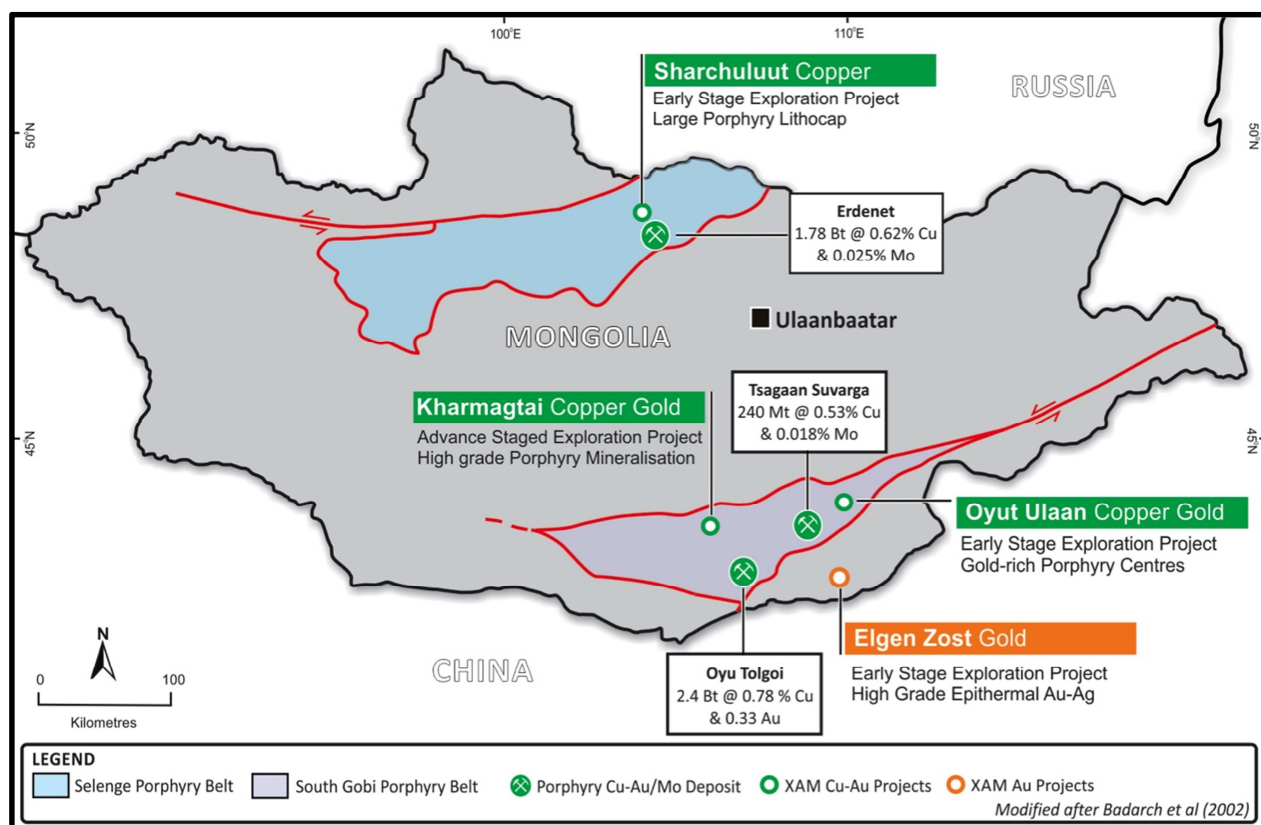
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### **HIGHLIGHTS**

- Xanadu and its joint venture company, Mongol Metals LLC, enter agreements for Mongol Metals to acquire the Kharmagtai advanced porphyry copper-gold exploration project for US\$14.0 million from Turquoise Hill Resources Ltd
- Extensive exploration has identified significant shallow high-grade porphyry copper-gold mineralisation, including:
  - ~ KHDDH240 - 245m (from 3m) grading 0.75% Cu & 2.48g/t Au
  - ~ KHDDH259 - 203m (from 3m) grading 0.45% Cu & 2.45g/t Au
- Mongol Metals has paid a US\$500,000 deposit and will pay an additional US\$3.5 million upon completion plus US\$10.0 million of deferred consideration for up to 18 months
- US\$8.0 million of funding has been arranged for the acquisition and proposed 2014 exploration including a US\$4.0 million, 3-year loan agreement with the Noble Group and US\$4.0m equity in Mongol Metals from our joint venture partner
- Xanadu has the right to earn up to 85% of Mongol Metals from circa 18% at completion

## INTRODUCTION

Xanadu Mines Ltd (ASX: XAM – “**Xanadu**”) is pleased to announce that its joint venture company, Mongol Metals LLC (“**Mongol Metals**”), has entered definitive agreements with a wholly owned subsidiary of Turquoise Hill Resources Ltd (“**THR**”) to acquire a 90% interest in Oyut Ulaan LLC (“**Oyut Ulaan**”) which in turn owns 100% of the Kharmagtai porphyry copper-gold exploration project located in the South Gobi region of Mongolia (“**Kharmagtai**”) (Figure 1).



Kharmagtai is an advanced porphyry copper-gold exploration project with significant mineralisation and substantial exploration potential. The acquisition is a significant milestone in the implementation of Xanadu’s Mongolian copper strategy. Kharmagtai complements the Oyut Ulaan and Sharchuluut projects and establishes Xanadu as having one of the most highly prospective copper-gold exploration portfolios in Mongolia.

Mongol Metals will pay initial consideration of US\$4.0 million with deferred consideration of US\$10.0 million to be paid over 18 months (total consideration of US\$14.0 million). Mr Ganbayar Lkhagvasuren, Xanadu’s Executive Director and joint venture partner, has committed US\$4.0 million to Mongol Metals prior to completion. Xanadu has committed to spending around US\$900,000 up to completion (approximately US\$700,000 to date including US\$250,000 of an initial US\$500,000 deposit) to earn a circa 18% interest in Mongol Metals. Xanadu has the right to earn at least 85% of the Mongol Metals joint venture company through funding exploration and acquisition costs. The THR acquisition terms are set out in Appendix 1.

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Xanadu's Managing Director, Mr George Lloyd, said: "Kharmagtai is one of the most advanced, undeveloped copper projects in Mongolia and places Xanadu and Mongol Metals at the forefront of unlocking Mongolia's copper potential. The transaction also demonstrates the strength and value of our strategic partnerships with Mr Ganbayar Lkhagvasuren and the Noble Group following the challenging business conditions of the last 18 months."

A key condition of the transaction is approval by Xanadu's shareholders and a Notice of Meeting will be distributed in due course.

## KHARMAGTAI SETTING

The Kharmagtai project (Figure 2) is located within the South Gobi porphyry copper province which hosts most of the known porphyry deposits in the South Gobi region of Mongolia, including the giant Oyu Tolgoi copper-gold operations (120km south), the Tsagaan Suvarga porphyry copper-molybdenum development (170km east) and Xanadu's Oyut Ulaan porphyry copper-gold exploration project (260km northeast). The project is located within the Omnogovi Province, approximately 420km southeast of Ulaanbaatar and 60km north of the Tavan Tolgoi coal deposit.



**Figure 2: Kharmagtai exploration camp.**

The Kharmagtai mining license, MV-17387A, (Figure 3) covers approximately 66km<sup>2</sup>. It is held by Oyut Ulaan which is 90% owned by THR Oyu Tolgoi Ltd (a wholly owned subsidiary of THR) with the remaining 10% owned by Quincunx Ltd.

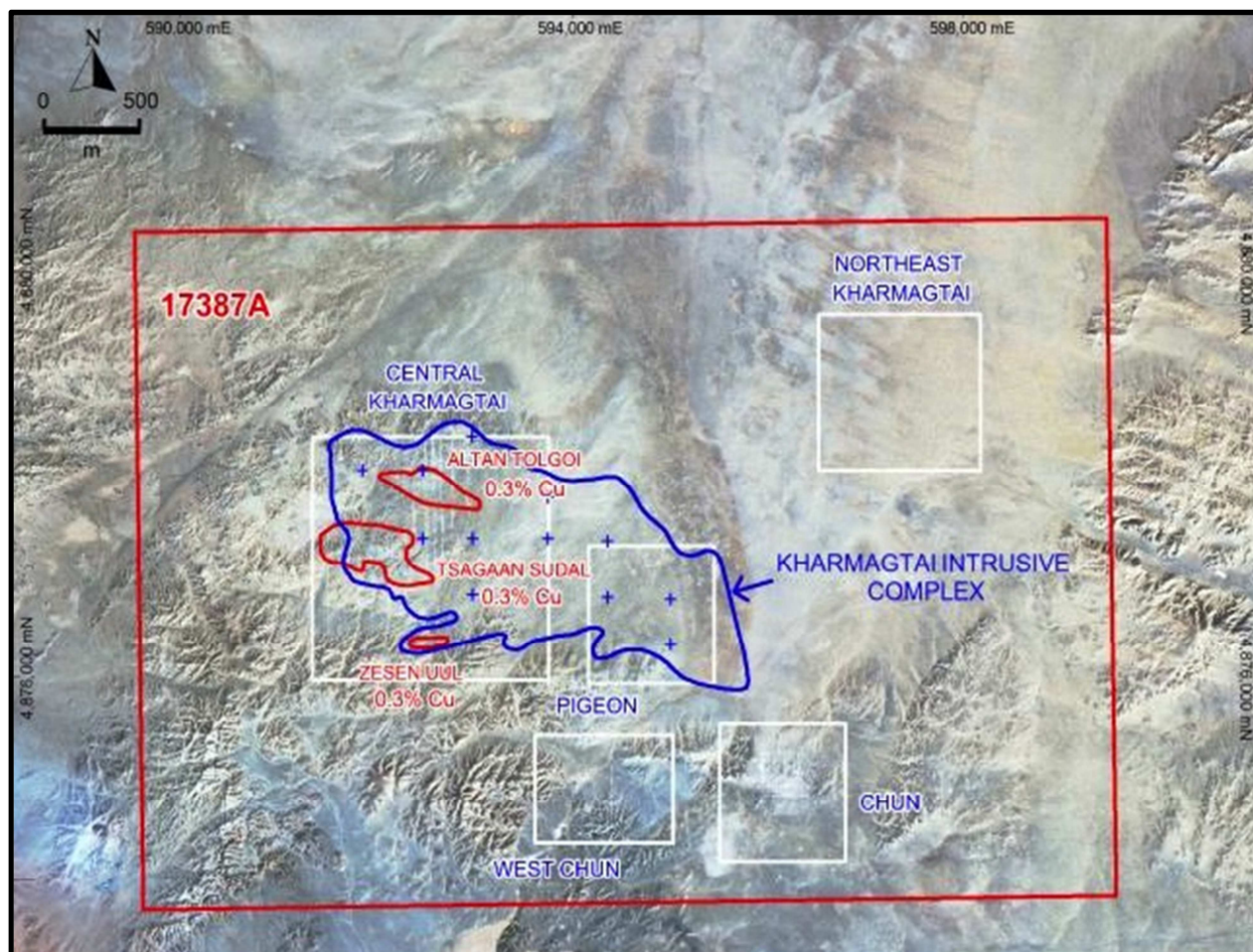


Figure 3: License map with prospects and concealed exploration targets.

## GEOLOGY & MINERALISATION

Kharmagtai is an advanced exploration project consisting of multiple co-genetic gold-rich porphyry copper centres (Figure 3) and tourmaline breccia pipes occurring within the Lower Carboniferous Kharmagtai Igneous Complex (“KIC”). Extensive exploration including trenching, diamond drilling and geophysics (as summarised in the JORC Table 1 included in Appendix 4) has to-date identified significant shallow high-grade porphyry copper-gold mineralisation within the Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects, which are located within a 700m radius of each other.

### *Altan Tolgoi Prospect:*

There are two recognised mineralised zones at Altan Tolgoi approximately 100m apart.

The Southern Stockwork is a strongly mineralised stockwork zone with a high-grade gold core which is at least 550m long and up to 600m deep. The stockwork zone widens eastward from a 20 to 70m wide high-grade zone in the west to a 200m wide medium-grade zone in the east. Mineralisation remains open at depth and along strike to the east. Drilling includes three holes drilled down the core of the deposit, at 40m spacing along strike, the intercepts from west to east being:

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- KHDDH240 - 245m grading 0.75% Cu & 2.48 g/t Au (from 3m);
- KHDDH259 - 203m grading 0.45% Cu & 2.45 g/t Au (from 3m); and
- KHDDH281 - 210m grading 0.63% Cu & 1.61 g/t Au (from 28m).

The Northern Stockwork is centred on quartz-diorite dykes that are 0.5 to 20m wide. These thin dykes and their irregular geometry are typical of the shallower zones of a porphyry system. The near surface expression is 250m long, 150m wide long and at least 350m deep. Grades are generally from 0.3 to 0.5 g/t Au & 0.2 to 0.6% Cu. Better intercepts are up 3 g/t Au & 1% Cu, over widths of 10 to 40m.

### ***Tsagaan Sudal Prospect:***

Mineralisation at Tsagaan Sudal occurs as a broad stockwork zone (with grades of 0.3 to 0.4% copper and 0.1 to 0.3 g/t gold) that is at least 850m long, 550m wide and 500m deep, and forms a pipe like geometry. Significant drill intercepts include the following:

- KHDDH301 - 527 m grading 0.32% Cu & 0.34 g/t Au (from 22m); and
- KHDDH324 - 528 m grading 0.36% Cu & 0.22 g/t Au (from 148m).

### ***Zesen Uul Prospect:***

At Zesen Uul the stockwork zone forms a sub vertical body of quartz-chalcopyrite-pyrite vein stockwork mineralisation. The stockwork has a small surface expression (200 x 100m) but at depth is defined as a 350m long and 100m wide elongated body that plunges to the southeast. Mineralisation has a well-defined high-grade core (grades 1 to 3% Cu & 2 to 7 g/t Au) with quartz veining tightly focused within the pipe-like stockwork zone. Zones of high-grade mineralisation are characterised by gold (g/t) to copper (%) ratios that typically exceed 2:1. Mineralisation remains open at depth and along strike to the east. Significant drill intercepts include the following:

- KHDDH006 - 182m grading 0.47% Cu & 0.52 g/t Au (from 108m);
- KHDDH004 - 94m grading 0.65% Cu & 2.06 g/t Au (from 98m); and
- KHDDH021 - 88m grading 0.85% Cu & 1.30 g/t Au (from 50m).

### ***Tourmaline Breccias:***

The Tourmaline Breccias do not outcrop, are generally below 200m depth, and are open to the east and at depth. Mineralisation is associated with chalcopyrite in the tourmaline-rich matrix. Intercepts are commonly over several hundred metres wide and grades range from 0.3 to 0.6% Cu & 0.4 to 0.8 g/t Au. Younger tourmaline-pyrite breccias post-date the stockwork event. Significant drill intercepts include the following:

- KHDDH283 – 562m @ 0.36% Cu & 0.34g/t Au (from 194m);

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- KHDDH263 – 354m @ 0.48% Cu & 0.50g/t Au (from 304m); and
- KHDDH275 – 298m @ 0.45% Cu & 0.58g/t Au (from 358m).

The gold-copper porphyry systems identified at Zesen Uul, Tsagaan Sudal and Altan Tolgoi may be connected at depth and therefore cogenetic.

### EXPLORATION TARGET

Xanadu has reviewed the historical drilling data and completed a geological model (Figure 4) which has resulted in an initial Exploration Target covering the Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects. Additional information used to define the Exploration Target included surface mapping, trenching and extensive geophysics.

An Exploration Target of between 250 to 400Mt at an average grade of 0.25 to 0.30% Cu & 0.25 to 0.30 g/t Au has been estimated for the Kharmagtai project. Contained within this target is a higher grade target of 50 to 80Mt at an average grade of 0.4 to 0.5% Cu & 0.6 to 0.8 g/t Au.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource under the JORC 2012 code and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

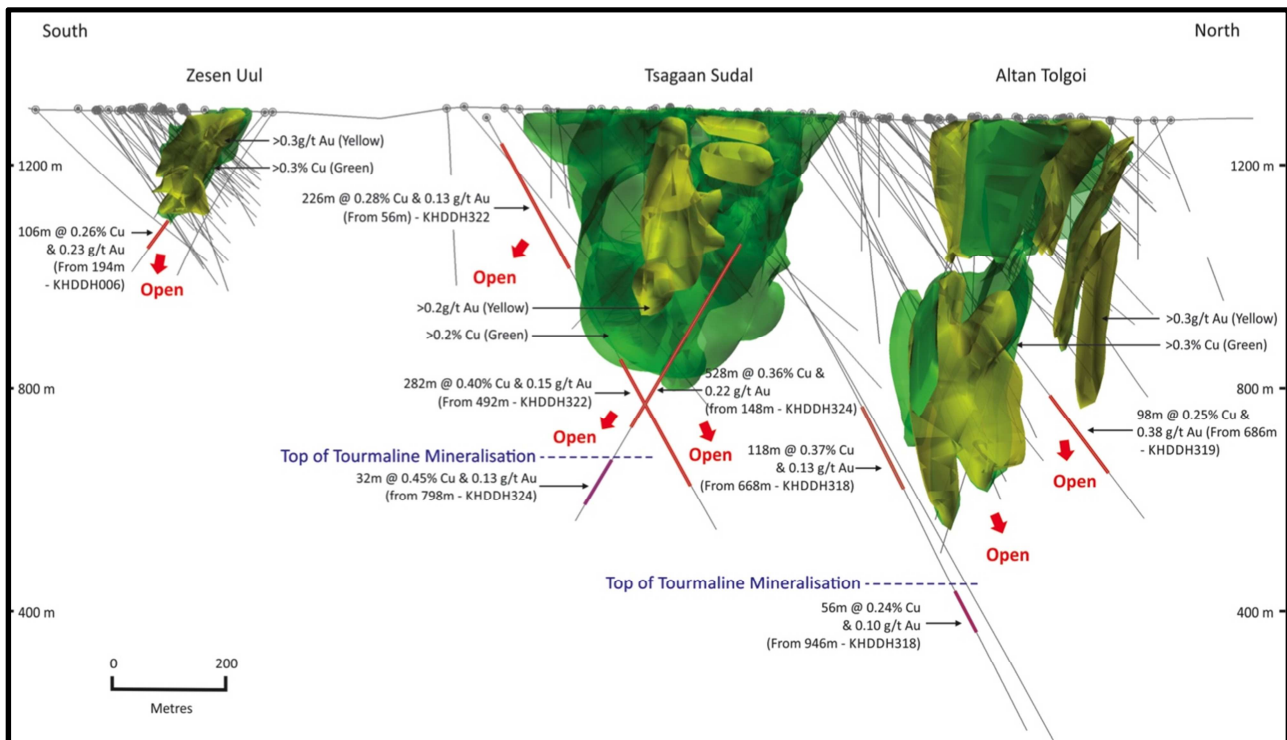


Figure 4: Long section showing mineralisation wireframes.

## EXPLORATION ACTIVITIES

Proposed exploration activities designed to test the validity of the exploration target and increase the current drill density comprises 15,000 to 20,000m of diamond drilling. An increase in drilling density would be likely to improve the current level of understanding of the overall morphology of the mineralisation and may support estimation of a Mineral Resource. The diamond drilling is expected to be staged over an 18 to 24 month period.

## EXPLORATION POTENTIAL

A majority of the strongly mineralised porphyry complex lies under unexplored shallow post-mineral sediments. Porphyry mineralisation at Kharmagati is associated with widespread magnetite alteration and all the main prospects are associated with broad magnetic highs (Figure 5). A regional magnetic survey outlines numerous distinct circular magnetic anomalies in the vicinity of the Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects. The large licence area has only been partially explored and the potential for further discoveries remains high.

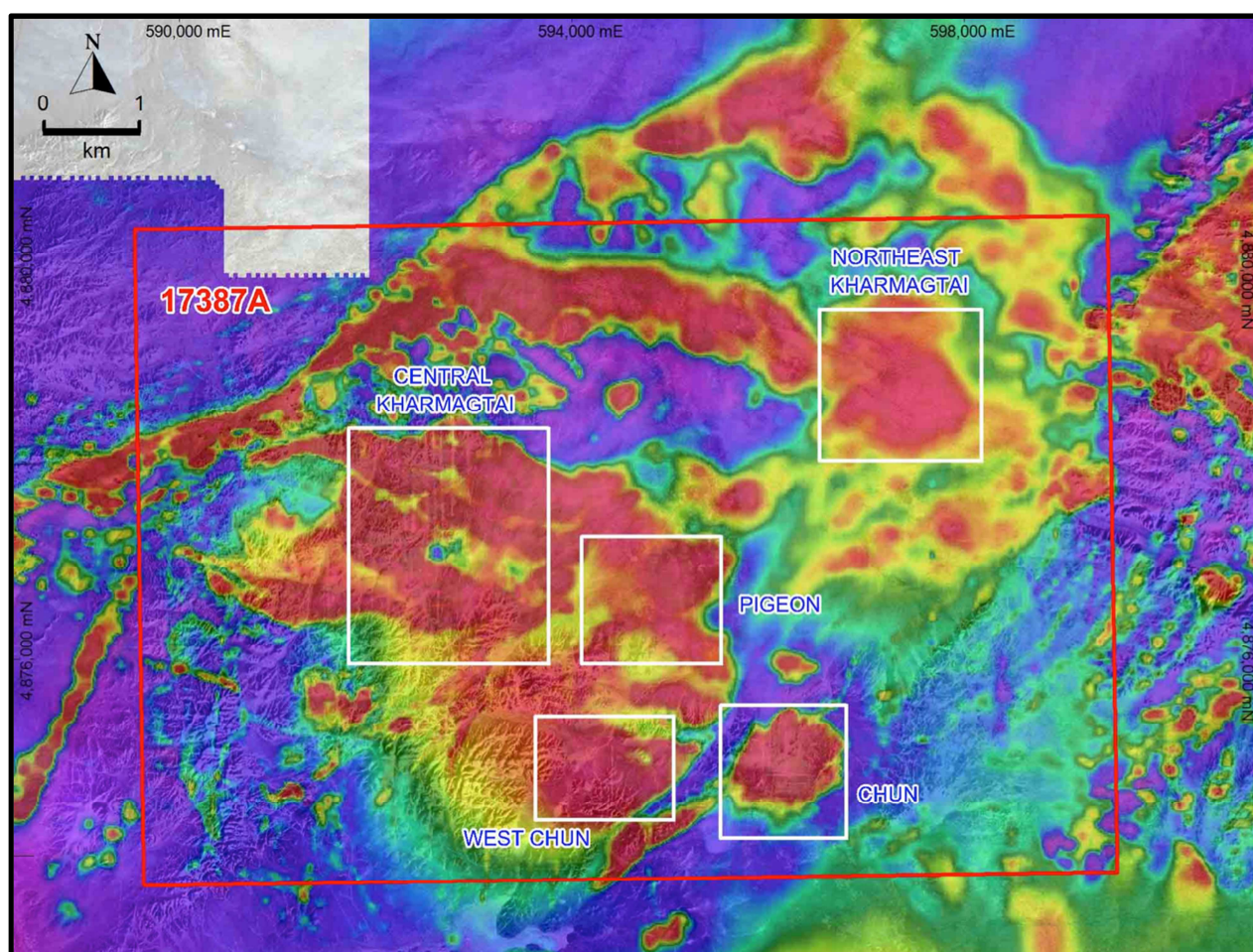


Figure 5: Regional magnetic (RTP) survey.

## **CORPORATE & PROJECT FUNDING**

Xanadu and Mongol Metals have arranged US\$8.0 million of new funds. This secures funding for the initial acquisition consideration and proposed exploration activities for 2014.

Mr Ganbayar has agreed to subscribe for US\$4.0 million of equity in Mongol Metals to fund the initial acquisition consideration. Xanadu and the Noble Group have entered a financing agreement for a further US\$4.0 million to fund the acquisition and exploration of the Kharmagtai project by way of Xanadu's subscription for shares in Mongol Metals. The key Mongol Metals joint venture and Noble financing terms are set out in Appendices 2 and 3 respectively.

Xanadu is also considering a number of alternatives to fund working capital in relation to the acquisition.

## **COMPETENT PERSONS STATEMENT**

The information in this report relating to Exploration Results and Exploration Targets is based on information compiled or reviewed by Dr. Andrew Stewart, who is an employee of Xanadu Mines 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.

### APPENDIX 1: KHARMAGTAI ACQUISITION TERMS

Xanadu Mines Ltd (“**Xanadu**”), Mongol Metals LLC (“**Mongol Metals**”) and THR Oyu Tolgoi Ltd (“**THR**”) have entered a definitive Share Purchase Agreement, and related documents, concerning the acquisition by Mongol Metals, of 90% of the issued and outstanding shares in the capital of Oyut Ulaan LLC (“**Oyut Ulaan**”) from the THR, representing all of THR’s interest in Oyut Ulaan, which in turn is the 100% owner of the Kharmagtai Mining License (MV-17387A) registered with the Mineral Resource Authority of Mongolia.

- ☐ Mongol Metals will acquire 90% of the issued and outstanding shares in the capital of Oyut Ulaan from THR.
- ☐ Oyut Ulaan’s primary assets include:
  - (i) the Kharmagtai Mining License and all associated data and materials; and
  - (ii) property, plant and equipment including the Kharmagtai mine camp and related exploration and core sampling equipment.
- ☐ Consideration of US\$14,000,000 is to be paid to THR in the following three instalments:
  - (i) a US\$500,000 deposit paid by Mongol Metals prior to entering the definitive Share Purchase Agreement;
  - (ii) US\$3,500,000 payable upon registration of Mongol Metals with the Mongolian State Registration Office as the holder of 90% of the shares in Oyut Ulaan (“**Completion**”); and
  - (iii) US\$10,000,000 of deferred consideration payable no later than 18 months after Completion.
- ☐ Xanadu will be granted an option to purchase the 3% net smelter royalty held by THR Mongolia Development Inc. exercisable for a period of 2 years from the date of the definitive Share Purchase Agreement. The exercise price of the option is US\$2,500,000.
- ☐ Xanadu is to provide THR with a corporate guarantee of Mongol Metals’ obligation to pay the deferred consideration.
- ☐ A condition precedent to Completion is Xanadu shareholder approval. Xanadu will distribute a Notice of Meeting, including an Independent Expert’s Report, with which shareholders will be asked to consider and sanction the transaction.

### APPENDIX 2: MONGOL METALS JV TERMS

Mongol Metals LLC ("**Mongol Metals**") has executed a definitive Share Purchase Agreement for the acquisition of 90% of Oyut Ulaan LLC ("**Oyut Ulaan**") from THR Oyu Tolgoi Ltd. ("**THR**") ("**SPA**"). Xanadu, Mr Ganbayar Lkhagvasuren (the "**Founder**") and Mongol Metals have agreed to jointly fund the acquisition Oyut Ulaan and exploration of the Kharmagtai project. The key joint venture terms are set out in the following agreements:

#### Subscription Agreement:

- ☐ Xanadu and the Founder shall subscribe for new shares in Mongol Metals in accordance with the following:
  - (i) Founder to earn US\$250,000 equity at the Subscription Price upon establishment;
  - (ii) Xanadu and the Founder have equally funded the payment of the US\$500,000 deposit by subscribing for new shares in Mongol Metals at the Subscription Price;
  - (iii) the Founder will subscribe for a further US\$3,750,000 of new shares (for a total commitment by the Founder of US\$4,000,000) prior to Completion of the SPA at the Subscription Price;
  - (iv) Xanadu will subscribe for further new shares with credit given for all amounts that have been spent by Xanadu in respect of the Project at the Subscription Price (around US\$900,000 at Completion for a circa 18% interest in Mongol Metals);
  - (v) Xanadu will then have the right to fund exploration and payment of the deferred consideration by subscribing for new shares at the Subscription Price to a minimum 85% interest in Mongol Metals;
  - (vi) upon Xanadu earning an 85% interest in Mongol Metals, Xanadu agrees to fund a total interest of 5.6% of in Mongol Metals on behalf of the Founder up to the Decision to Mine; and
- ☐ if either Xanadu or the Founder do not take up its pre-emptive right then the other party has the right to pay the funds at the Subscription Price and the shareholder that does not take up its pre-emptive right will be diluted. The Founder and Xanadu have customary anti-dilution rights in the event of a third-party financing transaction.

#### Management Agreement:

- ☐ Xanadu will be appointed as the Manager of the Kharmagtai project until the commencement of commercial production;
- ☐ the Manager shall be responsible for preparing accounts, reports and filings and shall provide office space, equipment and may make available secondees to the Company;
- ☐ the Manager shall manage the Kharmagtai project in accordance with good mining practice. The Manager may award contracts and engage employees and service providers; and
- ☐ the Manager shall prepare an annual program and budget for the Kharmagtai project.

### **Shareholder Agreement:**

- ☐ Xanadu shall appoint two directors and the Founder one director;
- ☐ Mongol Metals shall be managed by the Manager in accordance with the Management Agreement;
- ☐ all decisions of the board shall be made by a simple majority of the directors except for reserved decisions in accordance with the Mongolian Company Law;
- ☐ following the Decision to Mine, Xanadu and the Founder agree to negotiate the purchase of the Founder's interest in Mongol Metals in exchange for Xanadu shares listed on the ASX; and
- ☐ standard pre-emption provisions apply and no transfer of the parties interest without board approval is permitted.

### APPENDIX 3: NOBLE FINANCING TERMS

Noble Resources International Pte Ltd (“**Noble**”) and Xanadu’s wholly owned subsidiary, Khuiten Metals Pte Ltd (the “**Borrower**”) have executed a US\$4,000,000 Facility Agreement (the “**Facility**”) to fund the acquisition and exploration of the Kharmagtai project. A key condition of the Facility is that Noble will be engaged as the agent for the sale of up to 30% of copper concentrate products produced at the Kharmagtai project. The key financing terms are set out in the following agreements:

#### **US\$4,000,000 Facility Agreement:**

- ☐ the Facility is for a term of 3 years and is to be provided in two US\$2,000,000 facilities, Facility A and Facility B respectively;
- ☐ the interest rate is 10% plus LIBOR and is to be calculated quarterly with interest for the first 12 months of the term to be capitalised;
- ☐ the key conditions precedent for the drawdown of Facility A and Facility B include:
  - (i) evidence that the acquisition by Mongol Metals of 90% of the issued and outstanding shares in the capital of Oyut Ulaan from THR is completed;
  - (ii) the Marketing Agreement is duly executed by Xanadu and Oyut Ulaan; and
  - (iii) Xanadu agrees to the appointment of a representative of Noble to the Xanadu board for the term of the Facility;
- ☐ the additional conditions precedent for the drawdown of Facility B include:
  - (i) Xanadu or the Borrower has released a Joint Ore Reserves Committee (“JORC”) statement of at least 100 million metric tonnes for the Kharmagtai project; and
  - (ii) Xanadu has a market capitalisation on the Australian Securities Exchange of at least A\$15,000,000;
- ☐ the Borrower has offered a share pledge over its shares in Mongol Metals in favour of Noble as security and also agreed to a negative pledge in which it will not grant any security over its assets without Noble’s prior approval; and
- ☐ Xanadu has granted Noble a pre-emptive right for a period of 24 months for up to 20% of any placement of new shares issued (including securities that are convertible into shares).

#### **Marketing Agreement:**

- ☐ Oyut Ulaan appoints Noble as its marketing agent in respect of 30% of copper concentrate products produced from the treatment of ore mined at the Kharmagtai project. Noble will not have any form of exclusivity over the other 70% of product;
- ☐ the term of the agreement is for a period of up to 20 years from the commencement of production;
- ☐ the marketing fee is to be calculated according to a schedule of nominal rates per dry metric ton of copper sulphide concentrate that have been benchmarked against industry norms; and

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- the marketing services that are to be provided by Noble include preparation of a marketing plan, reporting on copper marketing intelligence, developing a sales strategy, managing customer introductions and the execution of sales contracts including procuring the best possible sales prices and managing delivery to customers.

## APPENDIX 4: JORC TABLE 1

### SECTION 1 - SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections).

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	<input type="checkbox"/> Nature and quality of sampling. <input type="checkbox"/> Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. <input type="checkbox"/> Aspects of the determination of mineralisation that are Material to the Public Report.	<input type="checkbox"/> Representative 2 meter samples were taken from ½ PQ, HQ and NQ diameter diamond core. <input type="checkbox"/> Visual checks by geologists of sampling confirm sample intervals. <input type="checkbox"/> Only assay result results from recognised, independent assay laboratories are reported.
<b>Drilling techniques</b>	<input type="checkbox"/> Drill type and details.	<input type="checkbox"/> Diamond drilling of NQ, HQ and PQ diameters with standard and triple tube sample recovery has been the primary drilling method.
<b>Drill sample recovery</b>	<input type="checkbox"/> Method of recording and assessing core and chip sample recoveries and results assessed. <input type="checkbox"/> Measures taken to maximise sample	<input type="checkbox"/> Diamond core recoveries averaged 97% overall in mineralised zones. <input type="checkbox"/> In localized areas of faulting and/or fracturing the recoveries decrease; however this is a very small percentage of the overall mineralised zones. <input type="checkbox"/> Recovery measurements were collected during all drilling programs. The methodology used for measuring recovery is standard industry practice. <input type="checkbox"/> Analysis of recovery results vs. grade indicates no significant trends indicating bias of grades due to diminished recovery and / or wetness of samples.

Criteria	JORC Code Explanation	Commentary
	<p>recovery and ensure representative nature of the samples.</p> <p><input type="checkbox"/> Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</p>	
<b>Logging</b>	<p><input type="checkbox"/> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</p> <p><input type="checkbox"/> Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</p> <p><input type="checkbox"/> The total length and percentage of the relevant intersections logged.</p>	<p><input type="checkbox"/> Diamond drill core samples are logged for geology, alteration and mineralisation using a standardised logging system.</p> <p><input type="checkbox"/> Rock quality data (RQD) is collected from all diamond drill core.</p> <p><input type="checkbox"/> Diamond drill core was photographed after being logged by a geologist.</p> <p><input type="checkbox"/> All diamond drill cores have been logged by a competent geologist.</p>

Criteria	JORC Code Explanation	Commentary
Sub-sampling techniques and sample preparation	<p><input type="checkbox"/> If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p><input type="checkbox"/> If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</p> <p><input type="checkbox"/> For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p><input type="checkbox"/> Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p><input type="checkbox"/> Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</p> <p><input type="checkbox"/> Whether sample</p>	<p><input type="checkbox"/> Diamond drill core is cut in half with a diamond saw, following a line marked by the geologist.</p> <p><input type="checkbox"/> The rock saw is regularly flushed with fresh water.</p> <p><input type="checkbox"/> Sample intervals are a constant 2m interval down-hole in length.</p> <p><input type="checkbox"/> Routine sample preparation and analyses of diamond drill core samples were carried out by SGS Mongolia LLC (SGS Mongolia), who operates an independent sample preparation and analytical laboratory in Ulaanbaatar.</p> <p><input type="checkbox"/> All samples were prepared to meet standard quality control procedures as follows: Crushed to 90% passing 3.54 mm, split to 1kg, pulverised to 90% - 95% passing 200 mesh (75 microns) and split to 150g.</p> <p><input type="checkbox"/> Certified reference materials (CRMs), blanks and pulp duplicates were randomly inserted to manage the quality of data.</p> <p><input type="checkbox"/> Sample sizes are well in excess of standard industry requirements.</p>

Criteria	JORC Code Explanation	Commentary
	sizes are appropriate to the grain size of the material being sampled.	
<b>Quality of assay data and laboratory tests</b>	<p><input type="checkbox"/> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p><input type="checkbox"/> For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p> <p><input type="checkbox"/> Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable</p>	<p><input type="checkbox"/> All samples were routinely assayed by SGS Mongolia for gold, copper, silver, lead, zinc, arsenic and molybdenum.</p> <p><input type="checkbox"/> Au is determined using a 30g fire assay fusion, cupelled to obtain a bead, and digested with Aqua Regia, followed by an atomic absorption spectroscopy (AAS) finish, with a lower detection (LDL) of 0.01 ppm.</p> <p><input type="checkbox"/> Cu, Ag, Pb, Zn, As and Mo were routinely determined using a three-acid-digestion of a 0.3g sub-sample followed by an AAS finish (AAS21R). Samples are digested with nitric, hydrochloric and perchloric acids to dryness before leaching with hydrochloric acid to dissolve soluble salts and made to 15ml volume with distilled water. The LDL for copper using this technique was 2ppm. Where copper is over-range (&gt;1% Cu), it is analysed by a second analytical technique (AAS22S), which has a higher upper detection limit (UDL) of 5% copper.</p> <p><input type="checkbox"/> Quality assurance was provided by introduction of known certified standards, blanks and duplicate samples on a routine basis.</p> <p><input type="checkbox"/> Assay results outside the optimal range for methods were re-analysed by appropriate methods.</p> <p><input type="checkbox"/> Ore Research Pty Ltd certified copper and gold standards have been used as a part of QAQC procedures.</p> <p><input type="checkbox"/> QAQC monitoring is an active and ongoing processes on batch by batch basis by which unacceptable results are re-assayed as soon as practicable.</p>

Criteria	JORC Code Explanation	Commentary
	levels of accuracy (ie lack of bias) and precision have been established.	
<b>Verification of sampling and assaying</b>	<input type="checkbox"/> The verification of significant intersections by either independent or alternative company personnel. <input type="checkbox"/> The use of twinned holes. <input type="checkbox"/> Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. <input type="checkbox"/> Discuss any adjustment to assay data.	<input type="checkbox"/> All assay data QAQC is checked prior to loading into the data base. <input type="checkbox"/> No twinned drill holes exist. <input type="checkbox"/> The data is managed XAM geologists. <input type="checkbox"/> The data base and geological interpretation is managed by XAM. <input type="checkbox"/> No adjustment to assay data.
<b>Location of data points</b>	<input type="checkbox"/> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. <input type="checkbox"/> Specific location of the	<input type="checkbox"/> All drill holes have been surveyed with a differential global positioning system (DGPS) to within 10cm accuracy. <input type="checkbox"/> All drill holes have been down hole surveyed to collect the azimuth and inclination at specific depths. Two principal types of survey method have been used over the duration of the drilling programs including Eastman Kodak and Flexit. <input type="checkbox"/> UTM WGS84 48N grid. <input type="checkbox"/> The DTM is based on 1 m contours with an accuracy of $\pm 0.01$ m.

Criteria	JORC Code Explanation	Commentary
	<p>grid system used.</p> <p><input type="checkbox"/> Quality and adequacy of topographic control.</p>	
<b>Data spacing and distribution</b>	<p><input type="checkbox"/> Data spacing for reporting of Exploration Results.</p> <p><input type="checkbox"/> Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</p> <p><input type="checkbox"/> Whether sample compositing has been applied.</p>	<p><input type="checkbox"/> Drilling has been completed on nominal north-south sections, commencing at 100m spacing and then closing to 50m for mineralised zones.</p> <p><input type="checkbox"/> Vertical spacing of intercepts on the mineralised zones similarly commences at 100m spacing and then closing to 50m for mineralised zones.</p> <p><input type="checkbox"/> Drilling has predominantly occurred with angled holes approximately 70° to 60° inclination below the horizontal and either drilling to north or south, depending on the dip of the target mineralised zone.</p> <p><input type="checkbox"/> Holes have been drilled to 1,000m vertical depth.</p> <p><input type="checkbox"/> The data spacing and distribution is sufficient to establish geological and grade continuity.</p> <p><input type="checkbox"/> Sample composite lengths of 5m on sample lengths of 2m have been applied.</p>
<b>Orientation of data in relation to geological structure</b>	<p><input type="checkbox"/> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p>	<p><input type="checkbox"/> Drilling has been predominantly completed on north-south section lines across the strike of the known mineralised zones and from either the north or the south depending on the dip.</p> <p><input type="checkbox"/> Vertical to south dipping mineralised zones were predominantly drilled to the north.</p> <p><input type="checkbox"/> Scissor drilling (drilling from both north and south), as well as vertical drilling, has been used in key mineralised zones to achieve unbiased sampling of possible structures and mineralised zones.</p>

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Criteria	JORC Code Explanation	Commentary
	<input type="checkbox"/> If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
<b>Sample security</b>	<input type="checkbox"/> The measures taken to ensure sample security.	<input type="checkbox"/> Samples are dispatched from site via company employees to the Laboratories. <input type="checkbox"/> Samples are signed for at the Laboratory with confirmation of receipt emailed through. <input type="checkbox"/> Samples are then stored at the lab and returned to a locked storage site.
<b>Audits or reviews</b>	<input type="checkbox"/> The results of any audits or reviews of sampling techniques and data	<input type="checkbox"/> Internal audits of sampling techniques and data management on a regular basis, to ensure industry best practice is employed at all times. <input type="checkbox"/> External review and audit have been conducted by the following groups <input type="checkbox"/> 2012 – AMC Consultants Pty Ltd. was engaged to conduct an Independent Technical Report which reviewed drilling and sampling procedures. It was concluded that sampling and data record was to an appropriate standard. <input type="checkbox"/> 013 - Mining Associates Ltd. was engaged to conduct an Independent Technical Report to review drilling, sampling techniques and QAQC. Methods were found to conform to international best practise.

## SECTION 2 – REPORTING OF EXPLORATION RESULTS

(Criteria in this section apply to all succeeding sections).

Criteria	JORC Code Explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<input type="checkbox"/> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, over riding royalties, native title interests, historical sites, wilderness or national park and environmental settings.  <input type="checkbox"/> The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	<input type="checkbox"/> The Project comprises 1 Mining Licence (MV-17387A).  <input type="checkbox"/> The Kharmagtai mining license MV-17387A is 100% owned by Oyut Ulaan LLC. THR Oyu Tolgoi Ltd (a wholly owned subsidiary of Turquoise Hill Resources Ltd) ("THR") owns 90% of Oyut Ulaan LLC. The remaining 10% is owned by Quincunx Ltd ("Quincunx").  <input type="checkbox"/> The Mongolian Minerals Law (2006) and Mongolian Land Law (2002) govern exploration, mining and land use rights for the project.
<b>Exploration done by other parties</b>	<input type="checkbox"/> Acknowledgment and appraisal of exploration by other parties.	<input type="checkbox"/> Detailed exploration was conducted by Quincunx Ltd, Ivanhoe Mines Ltd and Turquoise Hill Resources Ltd including extensive surface mapping diamond drilling, surface geochemistry and geophysics.
<b>Geology</b>	<input type="checkbox"/> Deposit type, geological setting and style of mineralisation.	<input type="checkbox"/> The mineralisation is characterised as porphyry copper-gold type.  <input type="checkbox"/> Porphyry copper-gold deposits are formed from magmatic hydrothermal fluids typically associated with felsic intrusive stocks that have deposited metals as sulphides both within the intrusive and the intruded host rocks. Quartz stockwork veining is typically associated with sulphides occurring both within the quartz veinlets and disseminated throughout the wall rock. Porphyry deposits are typically large tonnage deposits ranging from low to high grade and are generally mined by large scale open pit or underground bulk mining methods. The prospects at Kharmagtai are atypical in that they are associated with intermediate intrusions of diorite to quartz diorite composition; however the deposits are in terms of gold significant, and similar to other gold-rich porphyry deposits.
<b>Drill hole Information</b>	<input type="checkbox"/> A summary of all information material to the understanding of the exploration results including a tabulation	<input type="checkbox"/> Diamond drill holes are the principal source of geological and grade

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	<p>of the following information for all material drill holes: easting and northing of the drill hole collar, elevation or RL Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth, hole length.</p> <p><input type="checkbox"/> If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</p>	<p>data for the Project.</p> <p><input type="checkbox"/> See figures above.</p> <table><tr><th></th><th></th><th colspan="2">Diamond Drilling</th></tr><tr><th>Year</th><th>Prospect</th><th>No. of Holes</th><th>Metres</th></tr><tr><td rowspan="4">2002</td><td>AT</td><td>18</td><td>6,234.90</td></tr><tr><td>TS</td><td>17</td><td>6,233.80</td></tr><tr><td>ZU</td><td>41</td><td>10,175.50</td></tr><tr><td>Regional Targets</td><td>7</td><td>2,429.60</td></tr><tr><td>2003</td><td>AT</td><td>18</td><td>5,127.00</td></tr><tr><td rowspan="2">2004</td><td>AT</td><td>22</td><td>8,519.25</td></tr><tr><td>Regional Targets</td><td>6</td><td>2,234.00</td></tr><tr><td rowspan="3">2005</td><td>AT</td><td>2</td><td>495.55</td></tr><tr><td>TS</td><td>4</td><td>1,415.40</td></tr><tr><td>ZU</td><td>2</td><td>844.25</td></tr><tr><td rowspan="4">2007</td><td>AT</td><td>4</td><td>1,538.30</td></tr><tr><td>TS</td><td>1</td><td>496.20</td></tr><tr><td>ZU</td><td>1</td><td>300.00</td></tr><tr><td>Regional Targets</td><td>9</td><td>2,804.10</td></tr><tr><td rowspan="4">2011</td><td>AT</td><td>7</td><td>5,890.60</td></tr><tr><td>TS</td><td>2</td><td>1,781.20</td></tr><tr><td>ZU</td><td>1</td><td>549.70</td></tr><tr><td>Regional Targets</td><td>9</td><td>6,824.10</td></tr><tr><td>Total</td><td></td><td>171</td><td>63,893.45</td></tr></table>			Diamond Drilling		Year	Prospect	No. of Holes	Metres	2002	AT	18	6,234.90	TS	17	6,233.80	ZU	41	10,175.50	Regional Targets	7	2,429.60	2003	AT	18	5,127.00	2004	AT	22	8,519.25	Regional Targets	6	2,234.00	2005	AT	2	495.55	TS	4	1,415.40	ZU	2	844.25	2007	AT	4	1,538.30	TS	1	496.20	ZU	1	300.00	Regional Targets	9	2,804.10	2011	AT	7	5,890.60	TS	2	1,781.20	ZU	1	549.70	Regional Targets	9	6,824.10	Total		171	63,893.45
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Data Aggregation methods	<p><input type="checkbox"/> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</p> <p><input type="checkbox"/> Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <p><input type="checkbox"/> The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p><input type="checkbox"/> A nominal cut-off of 0.1% Cu is used for identification of potentially significant intercepts for reporting purposes.</p> <p><input type="checkbox"/> Most of the reported intercepts are shown in sufficient detail to allow the reader to make an assessment of the balance of high and low grades in the intercept.</p> <p><input type="checkbox"/> Samples have been composited to two metre lengths honouring the geological domains and adjusted where necessary to ensure that no residual sample lengths have been excluded (best fit).</p> <p><input type="checkbox"/> No metal equivalent values are used.</p>																																																																								

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<b>Relationship between mineralisation on widths and intercept lengths</b>	<input type="checkbox"/> These relationships are particularly important in the reporting of Exploration Results. <input type="checkbox"/> If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. <input type="checkbox"/> If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	<input type="checkbox"/> Mineralised structures are variable in orientation, and therefore drill orientations have been adjusted from place to place in order to allow intersection angles as close as possible to true widths. <input type="checkbox"/> Exploration results have been reported as an interval with 'from' and 'to' stated in tables of significant economic intercepts. Tables clearly indicate that true widths will generally be narrower than those reported.
<b>Diagrams</b>	<input type="checkbox"/> Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	<input type="checkbox"/> See figures above.
<b>Balanced reporting</b>	<input type="checkbox"/> Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	<input type="checkbox"/> Exploration results have been reported at a range of grades, predominantly above a minimum for potentially significant intercepts for reporting purposes.
<b>Other substantive exploration data</b>	<input type="checkbox"/> Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<input type="checkbox"/> Extensive work in this area has been done in the past. <input type="checkbox"/> Detailed geological mapping and rock chip, geochemistry (2,960 rock-chip samples). <input type="checkbox"/> A total of 119 trenches (65,636m) were completed. <input type="checkbox"/> Geophysics included gradient array IP (289 km <sup>2</sup> ), ground magnetics (589 km <sup>2</sup> ), ground gravity (39 km <sup>2</sup> ) and aerial magnetics and aerial gravity. <input type="checkbox"/> A total of 208 Reverse Circulation drill holes were completed (27,747m) regionally.
<b>Further work</b>	<input type="checkbox"/> The nature and scale of planned further work. <input type="checkbox"/> Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	<input type="checkbox"/> The mineralisation is open at depth and along strike. <input type="checkbox"/> Proposed exploration activities designed to test the validity of the exploration target and increase the current drill density comprises between 15,000 to 20,000m of diamond drilling. An increase in drilling density would be

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Criteria	JORC Code Explanation	Commentary
		likely to improve the current level of understanding of the overall morphology of the mineralisation and may support estimation of a Mineral Resource.