XANADU MINES

NEW GEOPHYSICS OUTLINE STRUCTURES CONTROLLING HIGH-GRADE MINERALISATION AT KHARMAGTAI

15 September 2020

Xanadu Mines Ltd (**ASX: XAM, TSX: XAM**) (**Xanadu** or the **Company**) is pleased to advise that it has further enhanced the prospectivity of the Kharmagtai copper and gold Project (**Figures 1 and 2**), located within the South Gobi region of Mongolia, following receipt of highly encouraging new geophysical data.

Highlights

- New data from Controlled Source Audio Magneto-Tellurics (**CSAMT**) reveals a large-scale system dissected by a series low-angle faults controlling high-grade mineralisation
- Extensional targets identified adjacent to existing resources at Stockwork Hill and Copper Hill
- New targets identified stretching the full +7km length of the Kharmagtai Intrusive Complex
- Drilling program expanded, with a fourth diamond drill rig added to test new targets

Xanadu's Chief Executive Officer, Dr Andrew Stewart, said *"This new data provides a step-change in unravelling the structural controls and targeting high-grade mineralisation at Kharmagtai. It expands the potential of the system and shows that historical drilling may not have been deep enough to effectively test the extent of mineralisation. We're excited by these findings and are mobilising a fourth drill rig from next week specifically to test these new drill targets in a progressive and systematic manner."*

AUSTRALIA
c/o Company Matters Pty Limited
Level 12, 680 George Street
Sydney NSW 2000
T: +61 2 8280 7497

MONGOLIA
Suite 23, Building 9B
Olympic St, Sukhbaatar District
Ulaanbaatar, Mongolia
T: +967 7012 0211

Xanadu Mines Ltd ACN 114 249 026

www.xanadumines.com

Survey Overview

The objective of the geophysical CSAMT survey was to identify the key low-angle structures across the Project to allow a 3D structural framework to be developed, from which high-grade targets can be easily defined.

These low-angle structures are observed to both offset and control the high-grade mineralisation. Structural analysis of mineralisation from the existing deposits, focusing on high-grade mineralisation has demonstrated that low angle structures not only dislocate zones of mineralisation slightly (up to 100m) but at some stage during their history have acted as feeder zones for the very high-grade copper and gold event (**Figure 3**). Understanding the structural framework for the district has become a key to unlocking the full potential of the Kharmagtai Project.

A total of 60.5-line kilometres of CSAMT has been conducted in 19 lines and 603 stations (**Figure 2**). Receiver spacings were set at mainly 100m spacings to allow a high-resolution product and a depth of investigation up to 1,000m from surface (**Figures 4 and 5**).

All key previously identified faults are visible in the CSAMT data and numerous other structures are visible and are being validated using the existing drilling, surface mapping and other geophysical datasets. Critically, the low angle structures related to high-grade mineralisation at Stockwork Hill and Copper Hill are clearly mapped and can be traced across the lease. From this data, a 3D structural and geological model is being developed and the drill targets in the current drill program refined to target where the mineralised intrusives are bisected by the structures controlling high-grade mineralisation **(Figures 6 and 7)**.

Current Drill Program

Xanadu is focused on expanding known high-grade zones of mineralisation and discovering new, previously undrilled zones of copper and gold, aiming to define Kharmagtai as a world-class copper and gold project. The first phase of this strategy is underway, designed to understand the scale of the mineralised system through extensional drilling with several large step-outs from known zones. This phase will map the mineral system by following broad geological/geochemical trends, allowing for more surgical drill targeting in the second phase.

A project-scale 23,000m drilling programme is underway with drill rigs being expanded to test these new targets, with an extra diamond drill rig scheduled to arrive next week.

Response to COVID-19

Currently, COVID-19 has had minimal impact on the Company's exploration activities in Mongolia. All necessary health and safety precautions are being taken and the Company remains well-funded to continue operations throughout this period.

Correction

Xanadu's ASX | TSX Announcement issued on 31 August 2020, included the following in the 'Highlights' section: *Copper Hill CSAMT geophysical survey has commenced with results expected by early August.* Xanadu advises that this should have read *early September*.

About Xanadu Mines

Xanadu is an ASX and TSX listed Exploration company that discovers and defines globally significant porphyry copper-gold assets in Mongolia. We give investors exposure to large scale copper-gold discoveries and low-cost inventory growth, and we create liquidity events for shareholders at peak value points in the mining life cycle. Xanadu maintains a portfolio of exploration projects and remains one of the few junior explorers on the ASX or TSX who control an emerging Tier 1 copper-gold deposit in our flagship Kharmagtai project. For information on Xanadu visit: www.xanadumines.com.

Andrew Stewart
CEO
Xanadu Mines Ltd
Andrew.stewart@xanadumines.com
+61 409 819 922

This Announcement was authorised for release by Xanadu's Board of Directors.

Figures and Tables

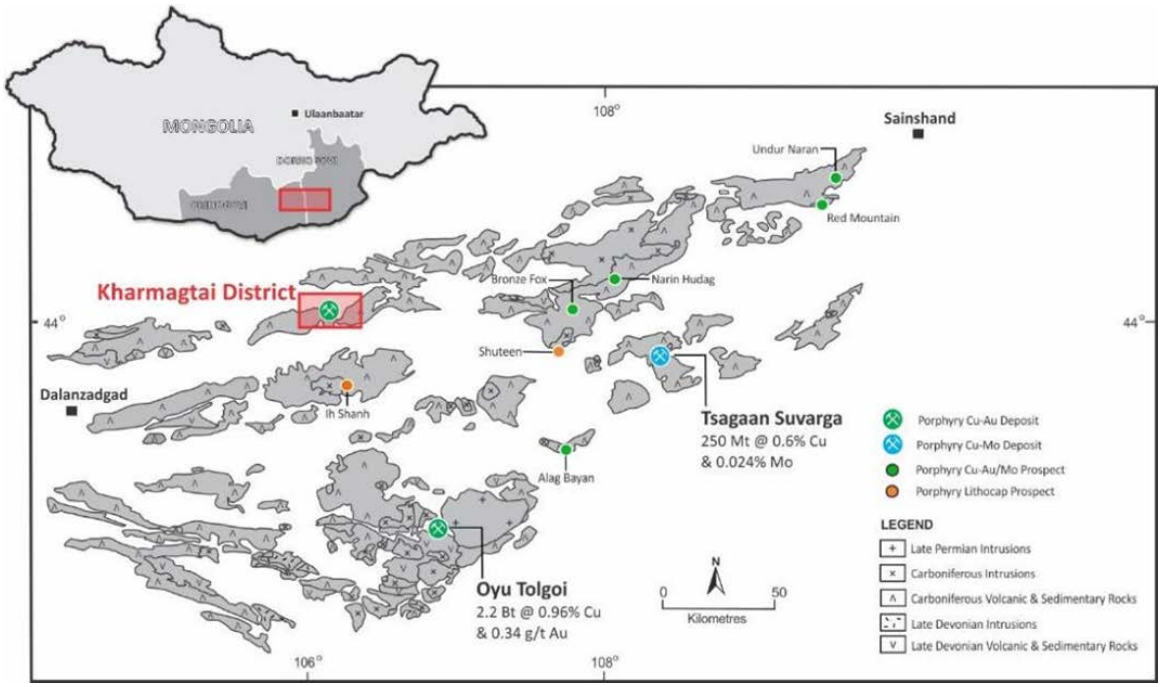

FIGURE 1: Location of the Kharmagtai Project in the South Gobi porphyry copper belt.

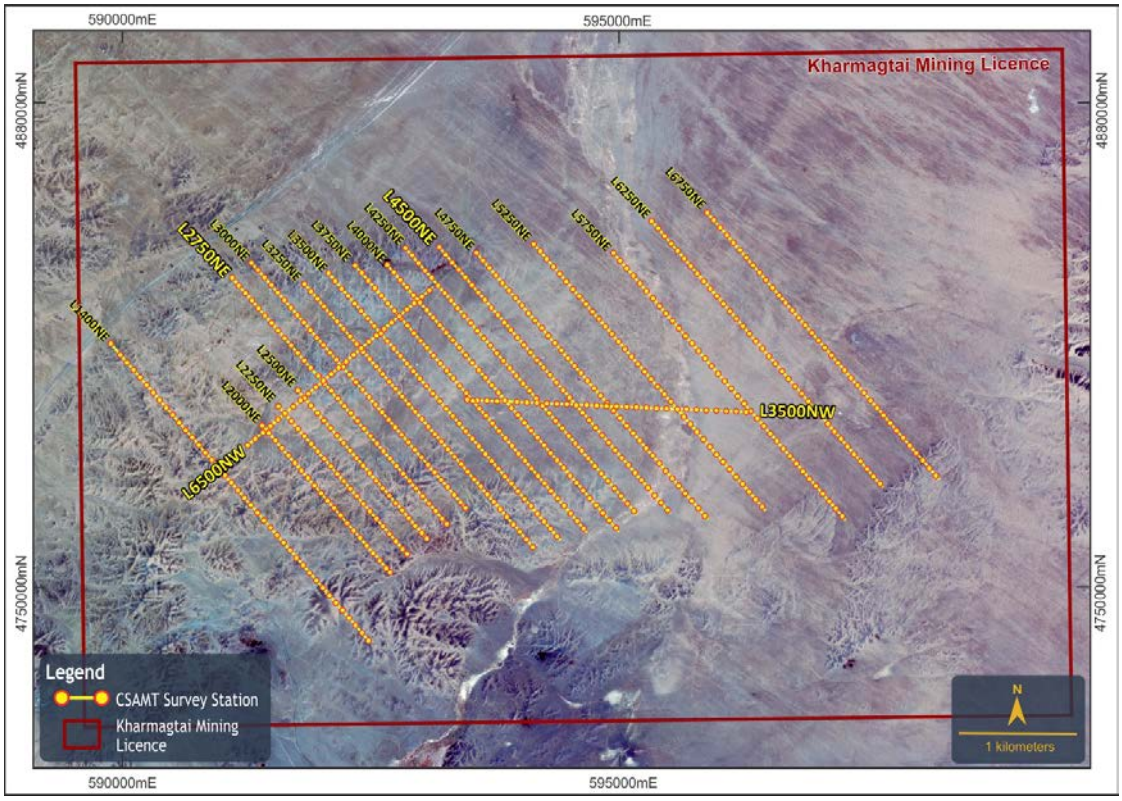

FIGURE 2: The Kharmagtai Mining Licence showing satellite imagery and location of the CSAMT survey lines. The lines labels in Yellow represent the lines seen in Figure 5.

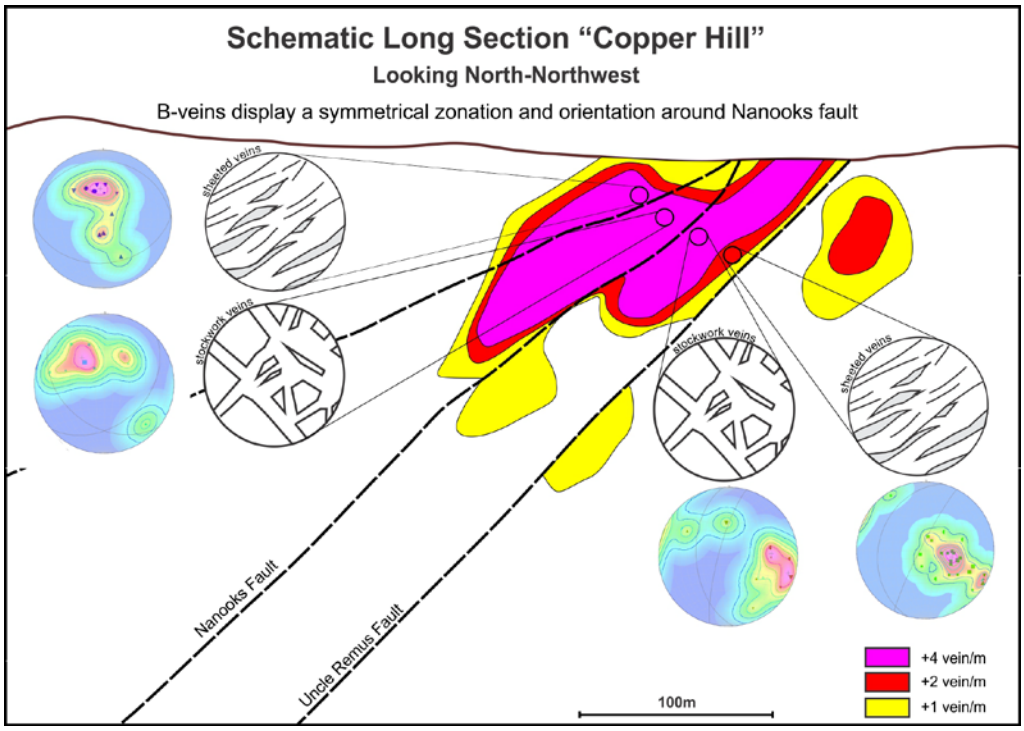

FIGURE 3: Long section through the high-grade Copper Hill deposit demonstrating the relationship between veins hosting the high-grade mineralisation and low angle structures. These b-veins are zoned symmetrically around Nanooks Fault strongly suggesting they formed during movement on that fault. Mapping this fault and others of similar orientation through the Mining lease becomes a critical tool for identifying and expanding high-grade mineralisation.

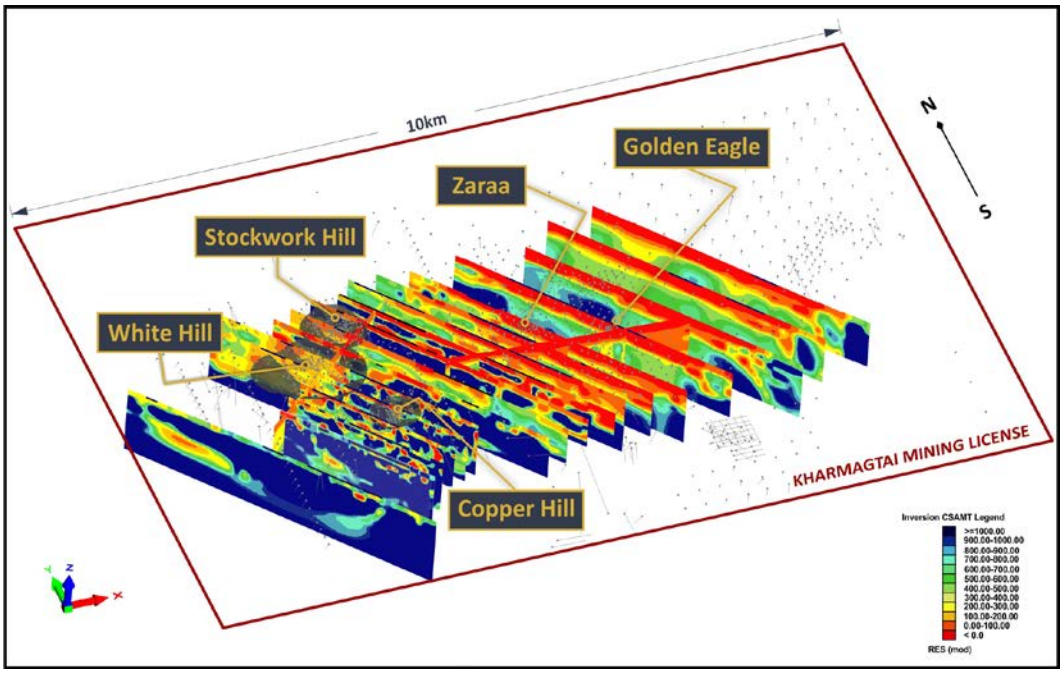

FIGURE 4: Oblique view of the Kharmagtai Mining Licence showing processed CSAMT data in 3D.

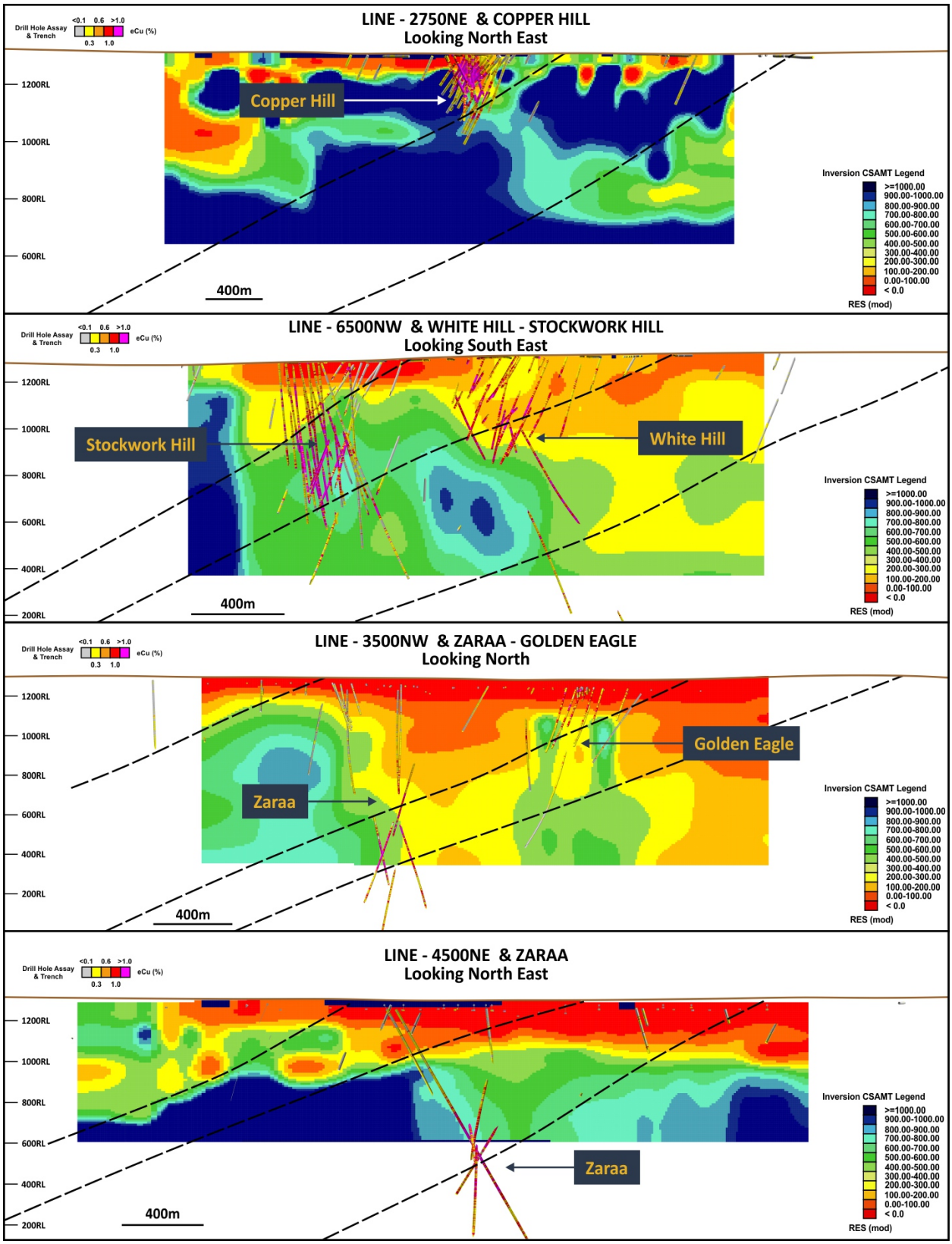

FIGURE 5: Selected CSAMT survey lines.

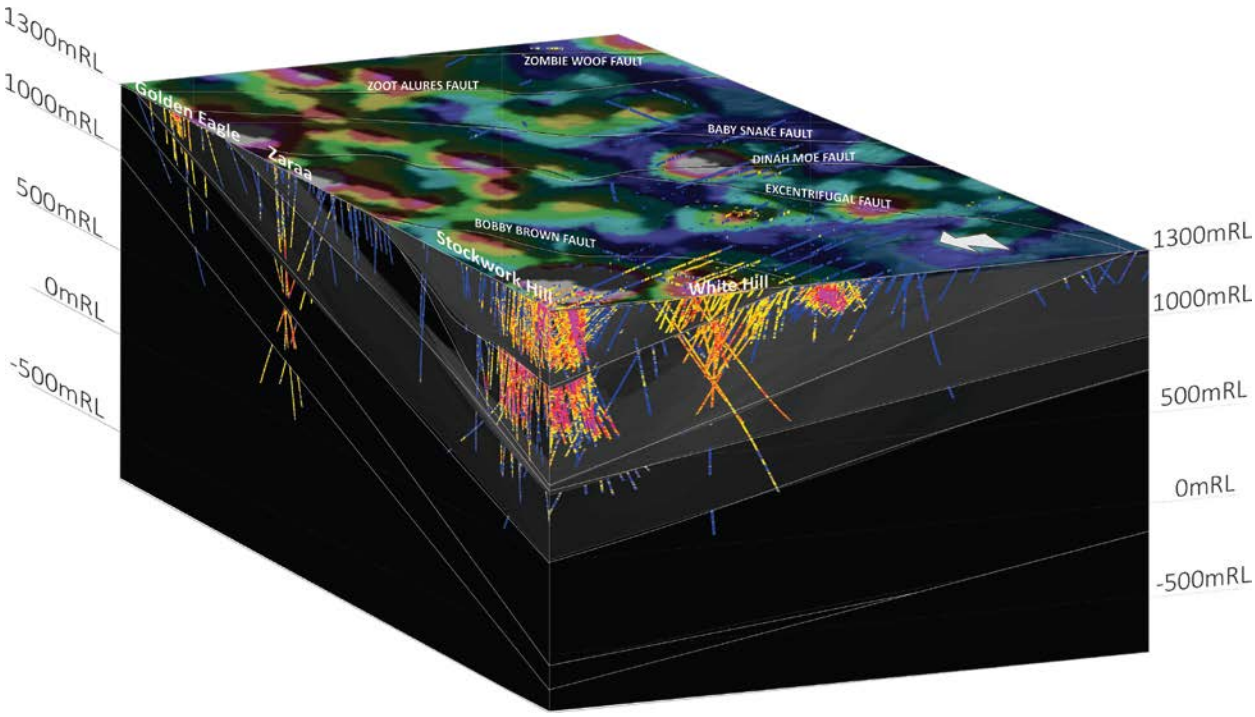

FIGURE 6: 3D model of part of the Kharmagtai lease showing the newly identified low angle structures. Note the majority of high-grade mineralisation is nested around these structures and that reactivation on these structures has jostled mineralisation slightly.

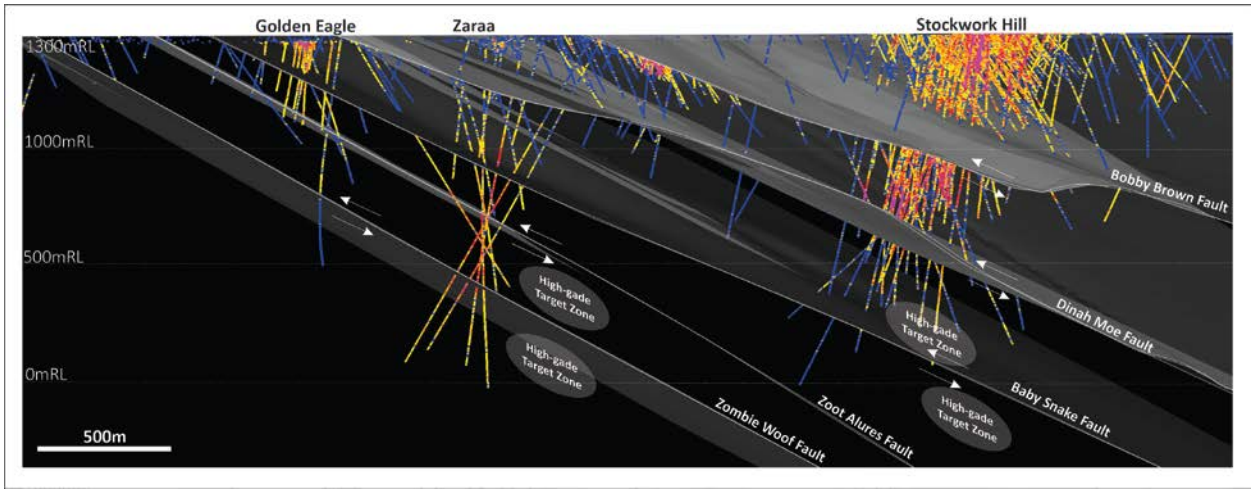

FIGURE 7: Cross section through Golden Eagle, Zaraa and Stockwork Hill showing newly modelled structures and the locations of predicted extensions to high-grade zones.

Statements and Disclaimers

Mineral Resources and Ore Reserves Reporting Requirements

The 2012 Edition of 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.

Competent Person Statement

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.

Copper Equivalent Calculations

The copper equivalent (**eCu**) 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. The copper equivalent calculation used is based off the eCu calculation defined by CSA in the 2018 Mineral Resource Upgrade.

Copper equivalent (**eCu**) grade values were calculated using the following formula:

eCu = Cu + Au * 0.62097 * 0.8235,

Where Cu = copper grade (**%**); Au = gold grade (gold per tonne (**g/t**)); 0.62097 = conversion factor (gold to copper); and 0.8235 = relative recovery of gold to copper (82.35%).

The copper equivalent formula was based on the following parameters (prices are in USD): Copper price = 3.1 $/lb (or 6,834 $ per tonne (**$/t**)); Gold price = 1,320 $ per ounce (**$/oz**); Copper recovery = 85%; Gold recovery = 70%; and Relative recovery of gold to copper = 70% / 85% = 82.35%.

Forward-Looking Statements

Certain statements contained in this Announcement, 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 Announcement 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 Announcement are qualified by the foregoing cautionary statements. Investors are cautioned that 'forward-looking statements' are not guarantee of future performance and accordingly investors are cautioned not to put undue reliance on 'forward-looking statements' due to the inherent uncertainty therein.

For further information please visit the Xanadu Mines' Website at www.xanadumines.com.

Kharmagtai JORC Table 1 (JORC 2012)

Set out below is Section 1 and Section 2 of Table 1 under the JORC Code, 2012 Edition for the Kharmagtai project. Data provided by Xanadu. This Table 1 updates the JORC Table 1 disclosure dated 18 September 2017.

JORC Table 1 - Section 1 – Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• The CSAMT Survey at Kharmagtai was conducted by OGC LLC, an external Geophysical Contractor. • The transmitter system used was a Zonge GGT-30 transmitter and GDP-32 receiver. • Transmitter was set up +10km from the survey grid and receiver stations were spaced at 200m and 100m along oblique lines roughly perpendicular to the geological trend. Line locations and lengths can be seen in the text of the document. • The relevant QAQC was conducted to ensure measurements give a representative sample for this type of survey. • Representative 2 metre samples were taken from ½ HQ diamond core for assay. • Only assay result results from recognised, independent assay laboratories were used after QAQC was verified.
Drilling techniques	• Diamond Drill Hole (“DDH”) drilling has been the primary drilling method. Some RC (reverse circulation) is conducted. RC holes are denoted by the KHRC prefix. Diamond Drill Holes are denoted by the KHDDH prefix.
Drill sample recovery	• DDH core recoveries have been very good, averaging between 95% and 99% for all of the deposits. In localised areas of faulting and/or fracturing the recoveries decrease; however, this is a very small percentage of the overall mineralised zones. • Recovery measurements were collected during all DDH and RC programs. The methodology used for measuring recovery is standard industry practice. • Analysis of recovery results vs. grade indicates no significant trends. Indicating bias of grades due to diminished recovery and / or wetness of samples.
Logging	• Drill and trench samples are logged for lithology, mineralisation and alteration and geotechnical aspects using a standardised logging system, including the recording of visually estimated volume percentages of major minerals. • Drill core was photographed after being logged by a geologist. • The entire interval drilled and trenched has been logged by a geologist.

Criteria	Commentary
Sub-sampling techniques and sample preparation	• DDH Core is cut in half with a diamond saw, following the line marked by the geologist. The rock saw is regularly flushed with fresh water. • Sample intervals are generally a constant 2m interval down-hole in length unless subdivided at geological contacts. • Routine sample preparation and analyses of DDH samples were carried out by ALS Mongolia LLC ("ALS Mongolia"), who operates an independent sample preparation and analytical laboratory in Ulaanbaatar. • 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. • Certified reference materials (CRMs), blanks and pulp duplicate were randomly inserted to manage the quality of data. • Sample sizes are well in excess of standard industry requirements.
Quality of assay data and laboratory tests	• All samples were routinely assayed by ALS Mongolia for gold • Au is determined using a 25g 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 limit ("LDL") of 0.01 ppm. • All samples were submitted to ALS Mongolia for the package ME-ICP61 using a four acid digest. Where copper is over-range (>1% Cu), it is analysed by a second analytical technique (Cu-OG62), which has a higher upper detection limit (UDL) of 5% copper. • Quality assurance was provided by introduction of known certified standards, blanks and duplicate samples on a routine basis. • Assay results outside the optimal range for methods were re-analysed by appropriate methods. • Ore Research Pty Ltd certified copper and gold standards have been implemented as a part of QA/QC procedures, as well as coarse and pulp blanks, and certified matrix matched copper-gold standards. • QAQC monitoring is an active and ongoing processes on batch by batch basis by which unacceptable results are re-assayed as soon as practicable.
Verification of sampling and assaying	• All assay data QA/QC is checked prior to loading into the Geobank data base. • The data is managed by Xanadu geologists. • The database and geological interpretation is collectively managed by Xanadu.
Location of data points	• CSAMT transmitter and receivers were located using a handheld GPS • Diamond drill holes have been surveyed with a differential global positioning system ("DGPS") to within 10cm accuracy.

Criteria	Commentary
	• All diamond 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. • UTM WGS84 48N grid. • The digital terrain model ("DTM") is based on 1m contours with an accuracy of ±0.01m.
Data spacing and distribution	• CSAMT receiver nodes were place at 100m and 200m spacings to allow a potential maximum depth penetration of 1000m. • Holes spacings range from 50m spacings within the core of mineralization to +500m spacings for exploration drilling. Hole spacings can be determined using the sections and drill plans provided • Holes range from vertical to an inclination of -60 degrees depending on the attitude of the target and the drilling method. • The data spacing and distribution is sufficient to establish anomalism and targeting for both porphyry, tourmaline breccia and epithermal target types.
Orientation of data in relation to geological structure	• Drilling is conducted in a predominantly regular grid to allow unbiased interpretation and targeting. • Sample lines for the CSAMT survey were conducted roughly perpendicular to the gross geological trend.
Sample security	• Samples are dispatched from site through via company employees and secure company vehicles to the Laboratories. • Samples are signed for at the Laboratory with confirmation of receipt emailed through. • Samples are then stored at the lab and returned to a locked storage site.
Audits or reviews	• CSAMT data from the survey was reviewed and audited by Barry de Wet, an external consultant and an expert in the field. • Internal audits of sampling techniques and data management on a regular basis, to ensure industry best practice is employed at all times.

JORC Table 1 – Section 2 – Reporting of Exploration Results

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

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td>Mineral tenement and land tenure status</td><td>• The Project comprises 1 Mining Licence (MV-17387A).
• The Kharmagtai mining license MV-17387A is 100% owned by Oyut Ulaan LLC. Xanadu has an 85% interest in Mongol Metals LLC, which has 90% interest in Oyut Ulaan LLC. The remaining 10% in Oyut Ulaan LLC is owned by Quincunx (BVI) Ltd (Quincunx).
• The Mongolian Minerals Law (2006) and Mongolian Land Law (2002) govern exploration, mining and land use rights for the project.</td></tr>
<tr><td>Exploration done by other parties</td><td>• Detailed exploration was conducted by Quincunx Ltd, Ivanhoe Mines Ltd and Turquoise Hill Resources Ltd including extensive surface mapping, trenching, diamond drilling, surface geochemistry and geophysics.</td></tr>
<tr><td>Geology</td><td>• The mineralisation is characterised as porphyry copper-gold type.
• 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 thought out 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 significant in terms of gold:copper ratio, and similar to other gold-rich porphyry deposits.</td></tr>
<tr><td>Drill hole Information</td><td>• Diamond holes, RC holes and trenches are the principal source of geological and grade data for the Project.
<table><tr><th>Timing</th><th>RC Holes</th><th>Metre</th><th>DDH Holes</th><th>Metre</th><th>RC & DDH</th><th>Metre</th><th>Trench</th><th>Metre</th></tr><tr><td>Drilling <2015</td><td>155</td><td>24553</td><td>252</td><td>88511</td><td>0</td><td>0</td><td>106</td><td>39774</td></tr><tr><td>Drilling >2015</td><td>68</td><td>13107</td><td>116</td><td>57876</td><td>22</td><td>5323</td><td>17</td><td>5618</td></tr><tr><td>Total</td><td>223</td><td>37660</td><td>368</td><td>146387</td><td>22</td><td>5323</td><td>123</td><td>45392</td></tr></table>• See figures in main report.</td></tr>
<tr><td>Data aggregation methods</td><td>• Weighted averages have not been used in this work.
• Some compositing has been used in this resource but with statistically relevant techniques that do not include internal dilution.</td></tr>
</table>

Criteria	Commentary
	The copper equivalent (**eCu**) 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. The copper equivalent calculation used is based off the eCu calculation defined by CSA in the 2018 Mineral Resource Upgrade. Copper equivalent (CuEq or eCu) grade values were calculated using the following formula: eCu or CuEq = Cu + Au * 0.62097 * 0.8235, Gold Equivalent (**eAu**) grade values were calculated using the following formula: eAu = Au + Cu / 0.62097 * 0.8235. Where: Cu - copper grade (%) Au - gold grade (g/t) 0.62097 - conversion factor (gold to copper) 0.8235 - relative recovery of gold to copper (82.35%) The copper equivalent formula was based on the following parameters (prices are in USD): Copper price - 3.1 $/lb (or 6834 $/t) Gold price - 1320 $/oz Copper recovery - 85% Gold recovery - 70% Relative recovery of gold to copper = 70% / 85% = 82.35%.
Relationship between mineralisation widths and intercept lengths	• 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. • 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.
Diagrams	• See figures in main report.
Balanced reporting	• Resources have been reported at a range of cut-off grades, above a minimum suitable for open pit mining, and above a minimum suitable for underground mining.

Criteria	Commentary
Other substantive exploration data	• Extensive work in this area has been done and is reported separately. See the company website for significant announcements and milestones. Work that has been done includes; relogging of core, structural studies, alteration studies, geotechnical studies and preliminary metallurgical test works. The project has been subject to various geophysical studies including aeromagnetic, radiometric surveys and electromagnetic surveys over discrete targets.
Further work	• The mineralisation is open at depth and along strike. • Current estimates are restricted to those expected to be reasonable for open pit mining. Limited drilling below this depth (- 300m rl) shows widths and grades potentially suitable for underground extraction. • Exploration is on-going.

JORC Table 1 - Section 3 Estimation of Reporting of Mineral Resources

Mineral Resources are not reported so this is not applicable to this report.

JORC Table 1 - Section 4 Estimation and Reporting of Ore Reserves

Ore Reserves are not reported so this is not applicable to this report.