XANADU MINES

GOLD-RICH HIGH-GRADE ZONE EXTENDED AT KHARMAGTAI

15 February 2021

Xanadu Mines Ltd (**ASX: XAM, TSX: XAM**) ("Xanadu" or "the Company") is pleased to report the results of diamond drill hole KHDDH559B, located at the Stockwork Hill deposit on the Company's Kharmagtai porphyry copper and gold project in the South Gobi region of Mongolia (**Figures 1 and 2**).

Highlights

- Drill hole KHDDH559B intersects a broad zone of high-grade bornite mineralisation south of the Stockwork Hill resource, expanding the high grade bornite zone beyond the defined resources.
- **KHDDH559B intersects 226.2m @ 0.68% Cu and 1.43g/t Au (1.41% eCu) from 611.8m**

  Including 175m @ 0.84% Cu and 1.83g/t Au (1.78% eCu) from 615m

  Including 61m @ 1.43% Cu and 3.76g/t Au (3.36% eCu) from 651m
- Highest density of bornite mineralisation encountered at Kharmagtai to date.
- Similar mineralisation to that seen at the high-grade Hugo Dummett deposit within the giant Oyu Tolgoi mine, highlighting the potential of Kharmagtai.

Xanadu's Chief Executive Officer, Dr Andrew Stewart, said *"KHDDH559B is a very significant drill hole for the Kharmagtai project. This is the first time we have seen this density of bornite mineralisation at Kharmagtai. This hole provides a snapshot of what the lower zones of mineralisation at Kharmagtai could look like with increasing gold to copper ratios. The tenor of gold within the bornite is impressive, containing two to four grams of gold for every percent copper. This hole materially expands the width of the high-grade bornite zone and will help guide drilling for additional high-grade extensions. Our team is currently designing follow up drilling to test this exciting new target".*

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About KHDDH559B

The purpose of drilling KHDDH599B was to test extensions of Stockwork Hill at depth to inform the second phase of drilling focused on higher grade targets. KHDDH599B was drilled from the northern edge of Stockwork Hill southwards across the deposit and was designed to expand the northern edge of the tourmaline breccia mineralisation and then expand the high-grade bornite zone towards the south (**Figures 1 and 2**).

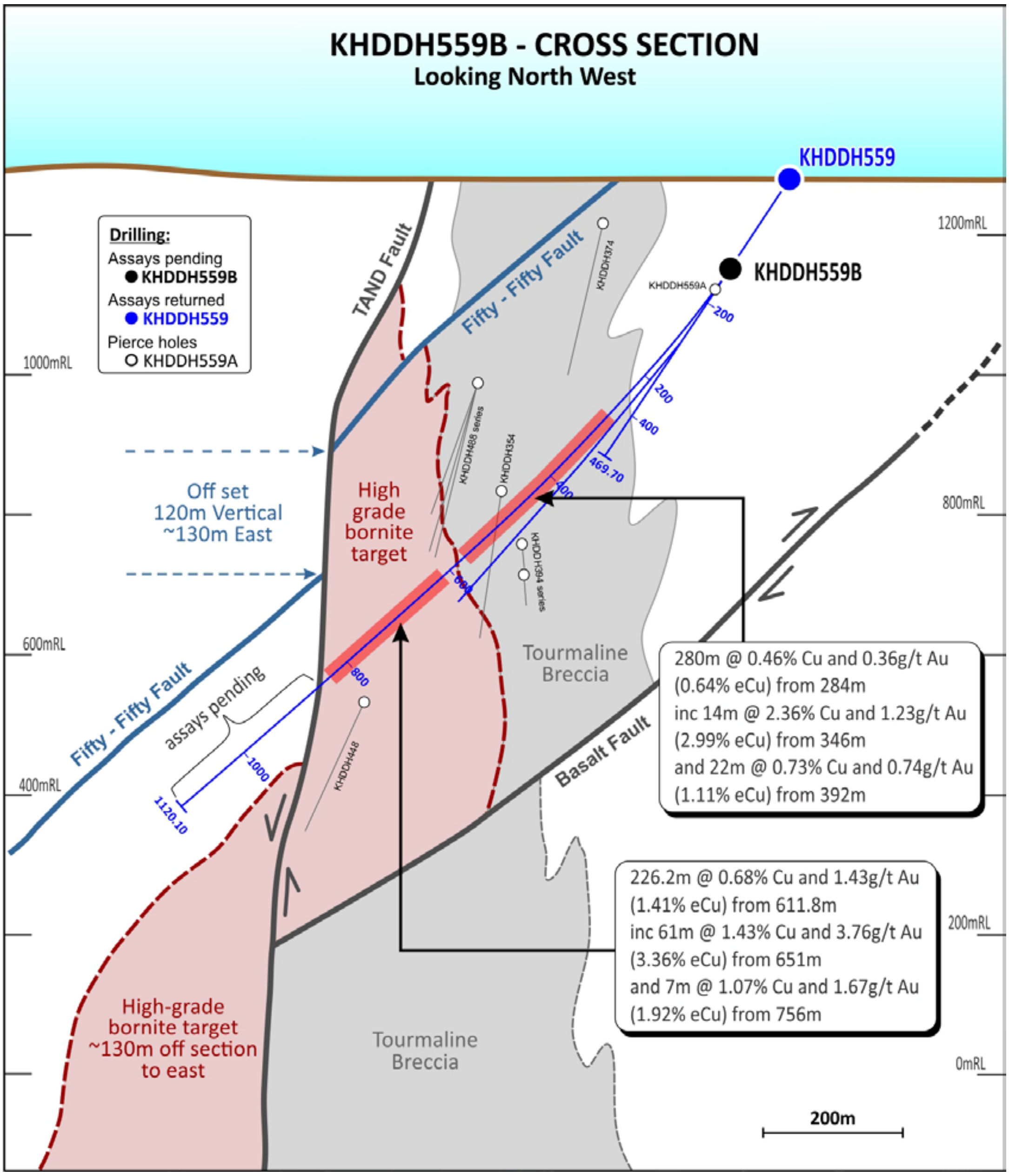

Figure 1. KHDDH559B cross section, intercepts and interpreted geology. Section width is 25m.

KHDDH559B intersected two zones of mineralisation, an upper tourmaline breccia zone and a lower high-grade bornite zone. KHDDH559B entered tourmaline breccia mineralisation at 288m widening the main tourmaline breccia zone by 25m to the north. The drill hole entered high-grade bornite mineralisation at 617m, encountering a wide zone of very high-grade gold rich copper sulphide mineralisation (see **Table 2**) and expanding the bornite zone by 100m in total (50m to the north and 50m to the south) (**Figure 1**).

The upper tourmaline breccia zone in KHDDH559B intersected;

280m @ 0.46% Cu and 0.36g/t Au (0.64%eCu) from 284m

Including 14m @ 2.36% Cu and 1.23 g/t Au (2.99% eCu) from 346m

And 22m 0.73% Cu and 0.74g/t Au (1.11% eCu) from 392m

The lower high-grade bornite zone in KHDDH599B intersected;

226.2m @ 0.68% Cu and 1.43g/t Au (1.41% eCu) from 611.8m

Including 175m @ 0.84% Cu and 1.83g/t Au (1.78% eCu) from 615m

Including 20m @ 1.09% Cu and 2.09g/t Au (2.16% eCu) from 617m

And 134m @ 0.89% Cu and 2.04g/t Au (1.93% eCu) from 649m

Including 61m @ 1.43% Cu and 3.76g/t Au (3.36% eCu) from 651m

And 7m @ 1.07% Cu and 1.67g/t Au (1.92% eCu) from 756m

Of note is the gold tenor of the lower, high-grade bornite mineralisation with between 2-4 g/t Au for each percent in copper, as compared to 1-2 g/t Au observed in the upper, tourmaline breccia mineralisation.

Importantly, structural information from this hole and the surrounding drilling has aided in a new structural interpretation, identifying the potential repeat of high-grade bornite mineralisation south of the current drilling, towards the base of White Hill (**Figure 1**).

Additionally, the understanding of the relationship between grade and geology is advancing. The highest grades appear to be located on the margins of the tourmaline breccia, where larger fragments allow for more space for copper and gold to precipitate. This combined with the advancing structural framework has defined a clear drill target to the south and below White Hill.

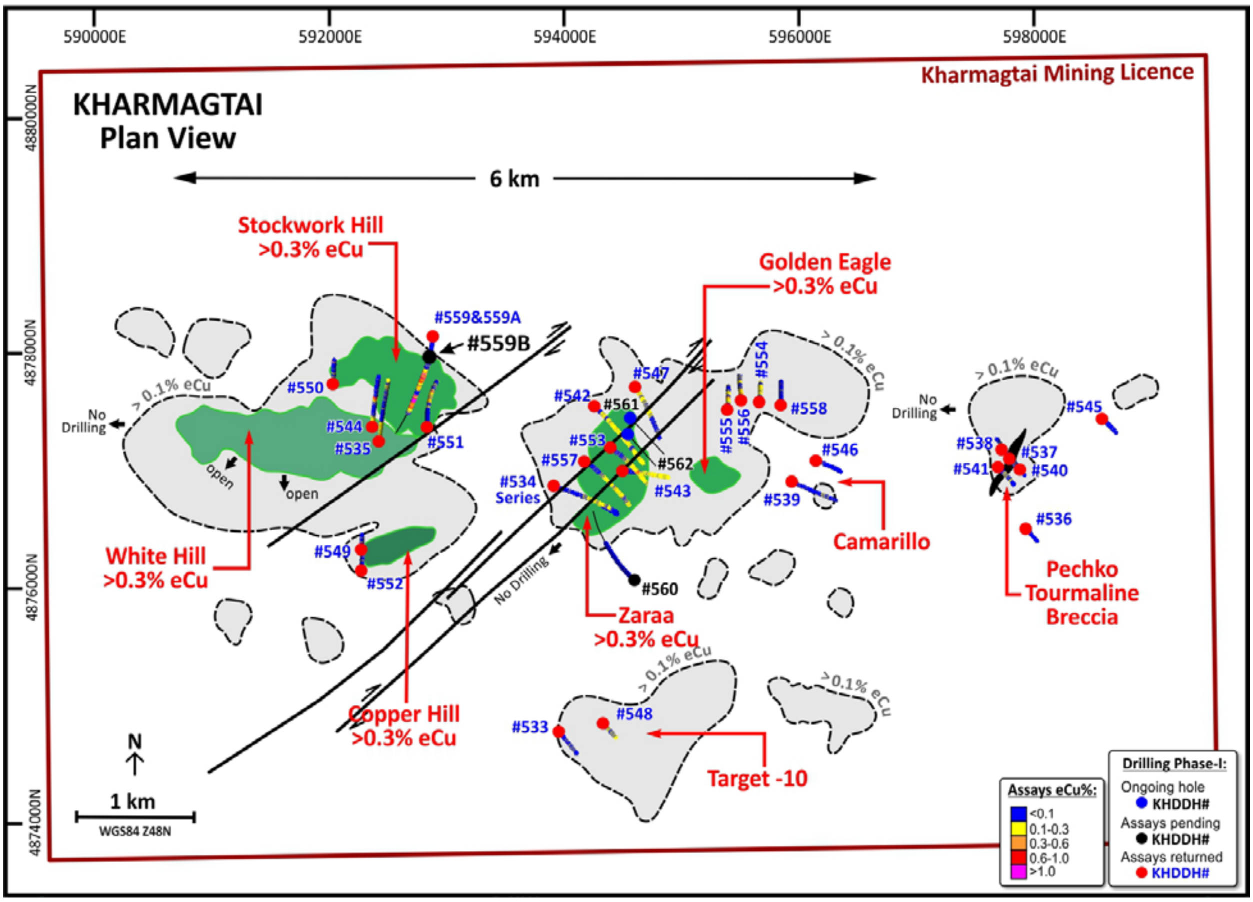

Figure 2. Location of KHDDH559B in Plan View on Kharmagtai Mining Lease

No additional assays have been received since the Quarterly Report published on 28 January 2021.

Next Steps

Phase 1 drilling at Kharmagtai is nearing completion, having significantly increased the scale of mineralisation at Zaraa and having identified a new zone of higher-grade mineralisation beneath Stockwork Hill. To date this included 33 diamond drill holes for approximately 22,933 metres, testing extensions to higher grade mineralisation at Stockwork Hill, Zaraa and Copper Hill and five new prospects for shallow mineralisation. Assay results have been returned for 21,404 metres with 1,529 metres of assays still pending.

Phase 2 will commence with interim drilling to follow up findings at KHDDH559B, and in parallel a detailed program will be designed to target and define higher grade zones. Phase 2 which will be described in further detail in subsequent releases.

In addition to ongoing drilling results, the Company plans to provide the following updates for its flagship Kharmagtai project and the Red Mountain Project.

- Exploration Update (this release)
- Drilling Phase 1 Program Results (February 2021)
- Exploration Target Update (February 2021)
- Mineral Resource Estimate Update (March 2021)
- Red Mountain exploration drilling results (March 2021)
- Drilling Phase 2 Program Structure (March 2021)
- Kharmagtai and Red Mountain exploration drilling results (April 2021)

Red Mountain

Drilling has recommenced at Red Mountain with two diamond drill rigs targeting large scale copper gold porphyry mineralisation. This drilling program totals 4,300m and is expected to be complete mid to late-March.

About Xanadu Mines

Xanadu is an ASX and TSX listed Exploration company operating in Mongolia. We give investors exposure to globally significant, large scale copper-gold discoveries and low-cost inventory growth. 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.

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

Appendix 1: Drilling Results

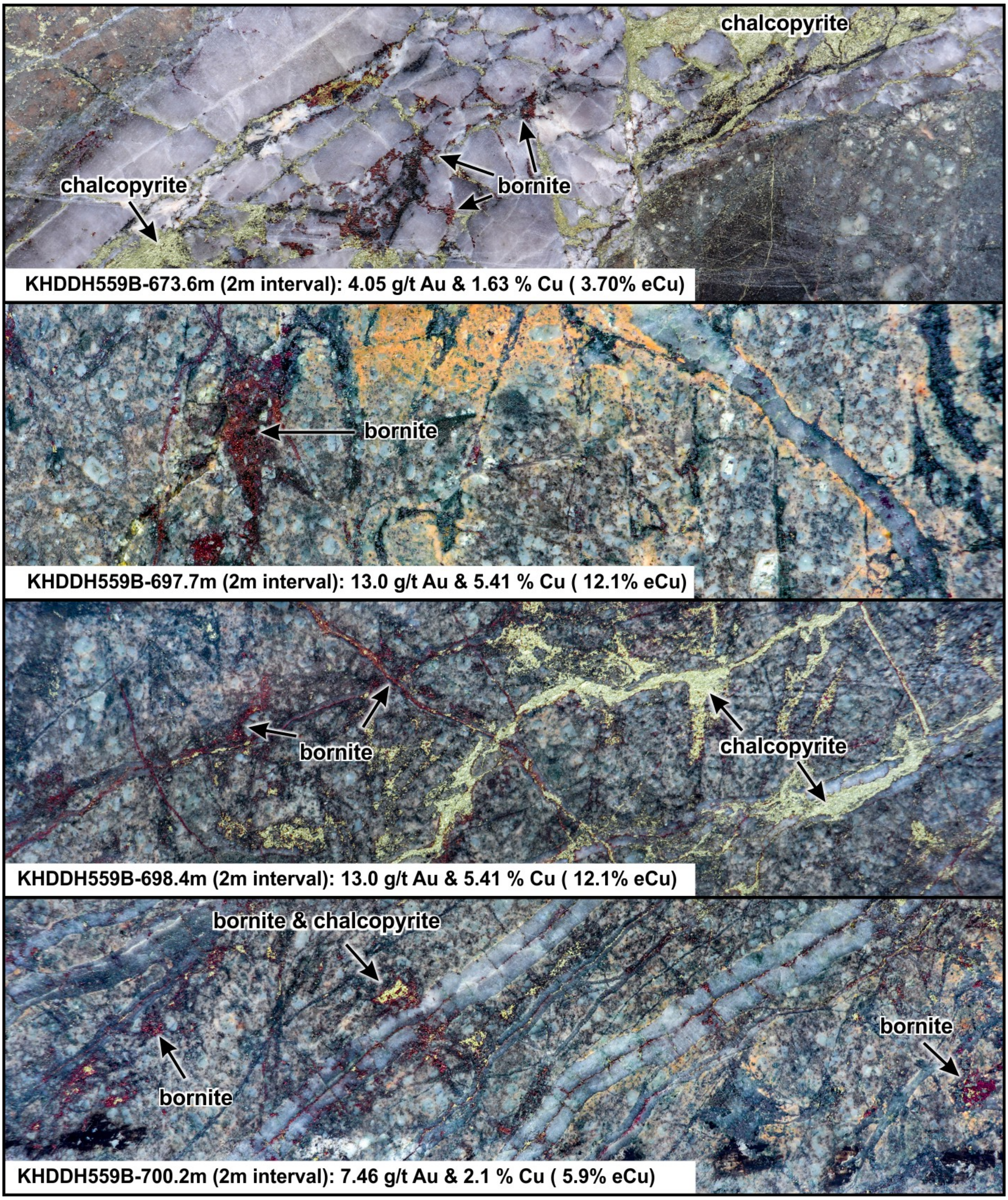

Figure 3 Selected Slab images from the high grade bornite zone. Each image is halved HQ core and 4.36cm tall.

Table 1: Drill hole collar

Hole ID	Prospect	East	North	RL	Azimuth (°)	Inc (°)	Depth (m)
KHDDH559B	Stockwork Hill	592867	4878060	1163	190	-53	1,200.0

Table 2: Selected copper and gold assay results for the high-grade bornite zone

Hole ID	From (m)	To (m)	Au (g/t)	Cu (%)	CuEq (%)	AuEq (g/t)
KHDDH559B	615	617	0.28	0.23	0.38	0.74
KHDDH559B	617	619	**2.60**	**1.06**	2.39	4.67
KHDDH559B	619	621	**5.33**	**2.19**	4.92	9.61
KHDDH559B	621	623	**4.10**	**2.08**	4.18	8.17
KHDDH559B	623	625	**4.13**	**1.98**	4.09	7.99
KHDDH559B	625	627	0.78	0.57	0.96	1.88
KHDDH559B	627	629	1.00	0.94	1.45	2.83
KHDDH559B	629	631	0.97	0.61	1.10	2.16
KHDDH559B	631	633	0.36	0.41	0.60	1.17
KHDDH559B	633	635	1.25	0.54	1.18	2.30
KHDDH559B	635	637	0.41	0.51	0.72	1.41
KHDDH559B	637	639	0.45	0.32	0.55	1.08
KHDDH559B	639	641	0.21	0.45	0.55	1.08
KHDDH559B	641	643	0.19	0.26	0.36	0.71
KHDDH559B	643	645	0.22	0.28	0.39	0.77
KHDDH559B	645	647	0.12	0.17	0.23	0.44
KHDDH559B	647	649	0.37	0.31	0.50	0.97
KHDDH559B	649	651	0.58	0.47	0.77	1.50
KHDDH559B	651	653	0.64	0.75	1.08	2.10
KHDDH559B	653	655	0.46	0.51	0.75	1.46
KHDDH559B	655	657	0.58	0.38	0.68	1.32
KHDDH559B	657	659	0.84	0.56	0.99	1.93
KHDDH559B	659	661	0.87	0.58	1.03	2.01
KHDDH559B	661	663	1.82	0.96	1.89	3.70
KHDDH559B	663	665	**2.14**	**1.05**	2.14	4.19
KHDDH559B	665	667	**1.48**	**0.61**	1.36	2.67
KHDDH559B	667	669	**2.29**	**1.06**	2.23	4.36
KHDDH559B	669	671	**2.04**	**1.07**	2.11	4.13
KHDDH559B	671	673	**4.01**	**2.02**	4.07	7.96
KHDDH559B	673	675	**4.05**	**1.63**	3.70	7.23
KHDDH559B	675	677	**5.06**	**1.81**	4.39	8.59
KHDDH559B	677	679	**8.61**	**2.09**	6.49	12.70
KHDDH559B	679	681	**6.44**	**1.75**	5.04	9.85
KHDDH559B	681	683	**3.69**	**1.92**	3.81	7.44
KHDDH559B	683	685	**4.50**	**1.21**	3.51	6.87
KHDDH559B	685	687	**2.78**	**0.92**	2.34	4.57

Hole ID	From (m)	To (m)	Au (g/t)	Cu (%)	CuEq (%)	AuEq (g/t)
KHDDH559B	687	689	**2.74**	**1.29**	2.69	5.26
KHDDH559B	689	691	**5.96**	**2.30**	5.35	10.46
KHDDH559B	691	693	**8.35**	**2.30**	6.57	12.85
KHDDH559B	693	695	**7.13**	**2.15**	5.80	11.33
KHDDH559B	695	697	**9.64**	**3.37**	8.30	16.23
KHDDH559B	697	699	**13.00**	**5.41**	12.06	23.58
KHDDH559B	699	701	**7.46**	**2.08**	5.89	11.53
KHDDH559B	701	703	**1.91**	**0.73**	1.71	3.34
KHDDH559B	703	705.5	**2.82**	**1.16**	2.60	5.08
KHDDH559B	705.5	708	0.86	0.64	1.07	2.10
KHDDH559B	708	710	0.63	0.40	0.72	1.40
KHDDH559B	710	712	1.09	0.58	1.13	2.22
KHDDH559B	712	714	0.34	0.21	0.38	0.74

Appendix 2: 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.

Appendix 3: Kharmagtai 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 11 April 2019.

JORC TABLE 1 - SECTION 1 - SAMPLING TECHNIQUES AND DATA

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• Representative ½ core samples were split from PQ, HQ & NQ diameter diamond drill core on site using rock saws, on a routine 2m sample interval that also honours lithological/intrusive contacts. • The orientation of the cut line is controlled using the core orientation line ensuring uniformity of core splitting wherever the core has been successfully oriented. • Sample intervals are defined and subsequently checked by geologists, and sample tags are attached (stapled) to the plastic core trays for every sample interval. • RC chip samples are ¼ splits from one meter intervals using a 75%:25% riffle splitter to obtain a 3kg sample • RC samples are uniform 2m samples formed from the combination of two ¼ split 1m samples.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type,*	• The Mineral Resource estimation has been based upon diamond drilling of PQ, HQ and NQ diameters with both standard and triple tube core recovery configurations, RC drilling and surface trenching with channel sampling. • All drill core drilled by Xanadu has been

Criteria	JORC Code explanation	Commentary
	whether core is oriented and if so, by what method, etc).	oriented using the “Reflex Ace” tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Diamond drill core recoveries were assessed using the standard industry (best) practice which involves: removing the core from core trays; reassembling multiple core runs in a v-rail; measuring core lengths with a tape measure, assessing recovery against core block depth measurements and recording any measured core loss for each core run. • Diamond core recoveries average 97% through mineralization. • Overall, core quality is good, with minimal core loss. Where there is localized faulting and or fracturing core recoveries decrease, however, this is a very small percentage of the mineralized intersections. • RC recoveries are measured using whole weight of each 1m intercept measured before splitting • Analysis of recovery results vs grade shows no significant trends that might indicate sampling bias introduced by variable recovery in fault/fracture zones.
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All drill core is geologically logged by well-trained geologists using a modified “Anaconda-style” logging system methodology. The Anaconda method of logging and mapping is specifically designed for porphyry Cu-Au mineral systems and is entirely appropriate to support Mineral Resource Estimation, mining and metallurgical studies. • Logging of lithology, alteration and mineralogy is intrinsically qualitative in nature. However, the logging is subsequently supported by 4 Acid ICP-MS (48 element) geochemistry and SWIR spectral mineralogy (facilitating semi-quantitative/calculated mineralogical, lithological and alteration classification) which is integrated with the logging to improve cross section interpretation and 3D geological model development. • Drill core is also systematically logged for both geotechnical features and geological structures. Where drill core has been successfully oriented, the orientation of

Criteria	JORC Code explanation	Commentary
		structures and geotechnical features are also routinely measured. • Both wet and dry core photos are taken after core has been logged and marked-up but before drill core has been cut.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All drill core samples are ½ core splits from either PQ, HQ or NQ diameter cores. A routine 2m sample interval is used, but this is varied locally to honour lithological/intrusive contacts. The minimum allowed sample length is 30cm. • Core is appropriately split (onsite) using diamond core saws with the cut line routinely located relative to the core orientation line (where present) to provide consistency of sample split selection. • The diamond saws are regularly flushed with water to minimize potential contamination. • A field duplicate ¼ core sample is collected every 30th sample to ensure the “representivity of the in situ material collected”. The performance of these field duplicates are routinely analysed as part of Xanadu’s sample QC process. • 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 75% passing 2mm, split to 1kg, pulverised to 85% passing 200 mesh (75 microns) and split to 150g sample pulp. • ALS Mongolia Geochemistry labs quality management system is certified to ISO 9001:2008. • The sample support (sub-sample mass and comminution) is appropriate for the grainsize and Cu-Au distribution of the porphyry Cu-Au mineralization and associated host rocks.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• 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

Criteria	JORC Code explanation	Commentary
	• *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.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	atomic absorption spectroscopy (AAS) finish, with a lower detection (LDL) of 0.01 ppm. • All samples were also submitted to ALS Mongolia for the 48 element package ME-ICP61 using a four acid digest (considered to be an effective total digest for the elements relevant to the MRE). 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 has been managed by insertion of appropriate Standards (1:30 samples – suitable Ore Research Pty Ltd certified standards), Blanks (1:30 samples), Duplicates (1:30 samples – ¼ core duplicate) by XAM. • 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 QC procedures, as well as coarse and pulp blanks, and certified matrix matched copper-gold standards. • QC monitoring is an active and ongoing processes on batch by batch basis by which unacceptable results are re-assayed as soon as practicable. • Prior to 2014: 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) at SGS Mongolia. Samples were 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 was over-range (>1% Cu), it was analysed by a second analytical technique (AAS22S), which has a higher upper detection limit (UDL) of 5% copper. Gold analysis method was essentially unchanged.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• All assay data QAQC is checked prior to loading into XAM's Geobank data base. • The data is managed by XAM geologists. • The data base and geological interpretation is managed by XAM. • Check assays are submitted to an umpire lab (SGS Mongolia) for duplicate analysis. • No twinned drill holes exist. • There have been no adjustments to any of the assay data.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Diamond drill holes have been surveyed with a differential global positioning system (DGPS) to within 10cm accuracy. • The grid system used for the project is UTM WGS-84 Zone 48N • Historically, Eastman Kodak and Flexit electronic multi-shot downhole survey tools have been used at Kharmagtai to collect down hole azimuth and inclination information for the majority of the diamond drill holes. Single shots were typically taken every 30m to 50m during the drilling process, and a multi-shot survey with readings every 3-5m are conducted at the completion of the drill hole. As these tools rely on the earth's magnetic field to measure azimuth, there is some localised interference/inaccuracy introduced by the presence of magnetite in some parts of the Kharmagtai mineral system. The extent of this interference cannot be quantified on a reading-by-reading basis. • More recently (since September 2017), a north-seeking gyro has been employed by the drilling crews on site (rented and operated by the drilling contractor), providing accurate downhole orientation measurements unaffected by magnetic effects. Xanadu have a permanent calibration station setup for the gyro tool, which is routinely calibrated every 2 weeks (calibration records are maintained and were sighted) • The project DTM is based on 1 m contours from satellite imagery with an accuracy of ±0.1 m.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• 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 porphyry Cu-Au, tourmaline breccia and epithermal target types. • Holes have been drilled to a maximum of 1,300m vertical depth. • The data spacing and distribution is sufficient to establish geological and grade continuity, and to support the Mineral Resource classification.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Drilling is conducted in a predominantly regular grid to allow unbiased interpretation and targeting. • Scissor drilling, as well as some vertical and oblique drilling, has been used in key mineralised zones to achieve unbiased sampling of interpreted structures and mineralised zones, and in particular to assist in constraining the geometry of the mineralised hydrothermal tourmaline-sulphide breccia domains.
Sample security	• *The measures taken to ensure sample security.*	• Samples are delivered from the drill rig to the core shed twice daily and are never left unattended at the rig. • Samples are dispatched from site in locked boxes transported on XAM company vehicles to ALS lab in Ulaanbaatar. • Sample shipment receipt is signed off at the Laboratory with additional email confirmation of receipt. • Samples are then stored at the lab and returned to a locked storage site.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Internal audits of sampling techniques and data management are undertaken on a regular basis, to ensure industry best practice is employed at all times. • External reviews and audits have been conducted by the following groups:

Criteria	JORC Code explanation	Commentary
		• 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. • 2013: 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 practice. • 2018: CSA Global reviewed the entire drilling, logging, sampling, sample shipping and laboratory processes during the competent persons site visit for the 2018 MRe, and found the systems and adherence to protocols to be to an appropriate standard.

JORC TABLE 1 - SECTION 2 - REPORTING OF EXPLORATION RESULTS

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

Criteria	Commentary
Mineral tenement and land tenure status	• The Project comprises 2 Mining Licences (MV-17129A Oyut Ulaan and (MV-17387A Kharmagtai): o Xanadu now owns 90% of Vantage LLC, the 100% owner of the Oyut Ulaan mining licence. o 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.
Exploration done by other parties	• Previous exploration at Kharmagtai was conducted by Quincunx Ltd, Ivanhoe Mines Ltd and Turquoise Hill Resources Ltd including extensive drilling, surface geochemistry, geophysics, mapping. • Previous exploration at Red Mountain (Oyut Ulaan) was conducted by Ivanhoe Mines.
Geology	• 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 deposits at Kharmagtai are atypical in that they are associated with intermediate intrusions

Criteria	Commentary
	of diorite to quartz diorite composition; however the deposits are in terms of contained gold significant, and similar gold-rich porphyry deposits.
Drill hole Information	• Diamond drill holes are the principal source of geological and grade data for the Project. • See figures in this ASX/TSX Announcement.
Data Aggregation methods	• The CSAMT data was converted into 2D line data using the Zonge CSAMT processing software and then converted into 3D space using a UBC inversion process. Inversion fit was acceptable, and error was generally low. • A nominal cut-off of 0.1% eCu is used in copper dominant systems for identification of potentially significant intercepts for reporting purposes. Higher grade cut-offs are 0.3%, 0.6% and 1% eCu. • A nominal cut-off of 0.1g/t eAu is used in gold dominant systems like Golden Eagle for identification of potentially significant intercepts for reporting purposes. Higher grade cut-offs are 0.3g/t, 0.6g/t and 1g/t eAu. • Maximum contiguous dilution within each intercept is 9m for 0.1%, 0.3%, 0.6% and 1% eCu. • Most of the reported intercepts are shown in sufficient detail, including maxima and subintervals, to allow the reader to make an assessment of the balance of high and low grades in the intercept. • Informing 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). 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%)

Criteria	Commentary
	The copper equivalent formula was based on the following parameters (prices are in USD): o Copper price - 3.1 $/lb (or 6834 $/t) o Gold price - 1320 $/oz o Copper recovery - 85% o Gold recovery - 70% o Relative recovery of gold to copper = 70% / 85% = 82.35%.
Relationship between mineralisation on 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 the body of the 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.
Other substantive exploration data	• Extensive work in this area has been done and is reported separately.
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 RLl) shows widths and grades potentially suitable for underground extraction. • Exploration on going.

JORC TABLE 1 - SECTION 3 - ESTIMATION AND REPORTING OF MINERAL RESOURCES

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	Commentary
Database integrity	• The database is a Geobank data base system. • Data is logged directly into an Excel spread sheet logging system with drop down field lists. • Validation checks are written into the importing program ensures all data is of high quality. • Digital assay data is obtained from the Laboratory, QAQC checked and imported • Geobank exported to Access and connected directly to the GemcomSurpac Software. • Data was validated prior to resource estimation by the reporting of basic statistics for each of the grade fields, including examination of maximum values, and visual checks of drill traces and grades on sections and plans.
Site visits	• Andrew Vigar of Mining Associates Pty Ltd visited the site from 24 and 25 October 2014.

Criteria	Commentary
	• The site visit included a field review of the exploration area, an inspection of core, sample cutting and logging procedures and discussions of geology and mineralisation with exploration geologists.
Geological interpretation	• Mineralisation resulted in the formation of comprises quartz-chalcopyrite-pyrite-magnetite stockwork veins and minor breccias. • The principle ore minerals of economic interest are chalcopyrite, bornite and gold, which occur primarily as infill within these veins. Gold is intergrown with chalcopyrite and bornite. • The ore mineralised zones at Stockwork Hill, White HIll and Copper Hill are associated with a core of quartz veins that were intensely developed in and the quartz diorite intrusive stocks and/or dykes rocks. These vein arrays can be described as stockwork, but the veins have strong developed preferred orientations. • Sulphide mineralisation is zoned from a bornite-rich core that zone outwards to chalcopyrite-rich and then outer pyritic haloes, with gold closely associated with bornite. • Drilling indicates that the supergene profile has been oxidised to depths up to 60 metres below the surface. The oxide zone comprises fracture controlled copper and iron oxides; however there is no obvious depletion or enrichment of gold in the oxide zone.
Dimensions	• Stockwork Hill comprises two main mineralised zones, northern and southern stockwork zones (SH-N and SH-S) which are approximately 100 metres apart and hosted in diorite and quartz diorite porphyries. • The SH-S is at least 550 metres long, 600 metres deep and contains strong quartz-chalcopyrite-pyrite stockwork veining and associated high grade copper-gold mineralisation. The stockwork zone widens eastward from a 20 to 70 metres wide high-grade zone in the western and central sections to a 200 metres wide medium-grade zone in the eastern most sections. Mineralisation remains open at depth and along strike to the east. • The SH-N consists of a broad halo of quartz that is 250 metres long, 150 metres wide long and at least 350 metres deep. • WH consists of a broad halo of quartz veins that is 850 metres long, 550 metres wide long and at least 500 metres deep, and forms a pipe like geometry. • CH forms a sub vertical body of stockwork approximately 350 × 100 metres by at least 200 metres and plunges to the southeast.
Estimation and modelling techniques	• The estimate Estimation Performed using Ordinary Kriging. • Variograms are reasonable along strike. • Minimum & Maximum Informing samples is 5 and 20 (1st pass), Second pass is 3 and 20. • Copper and Gold Interpreted separately on NS sections and estimated as separate domains. • Halo mineralisation defined as 0.12% Cu and 0.12g/t Au Grade. • The mineralised domains were manually digitised on cross sections defining mineralisation. Three-dimensional grade shells (wireframes) for each of the metals to be estimated were created from the sectional interpretation. Construction of the grade shells took into account prominent lithological and structural features. For copper, grade shells were constructed for each deposit at a cut-off of 0.12% and 0.3% Cu. For gold, wireframes were constructed at a

Criteria	Commentary
	threshold of 0.12g/t and 0.3 g/t. These grade shells took into account known gross geological controls in addition to broadly adhering to the above mentioned thresholds. • Cut off grades applied are copper-equivalent (CuEq) cut off values of 0.3% for appropriate for a large bulk mining open pit and 0.5% for bulk block caving underground. • A set of plans and cross-sections that displayed colour coded drill holes were plotted and inspected to ensure the proper assignment of domains to drill holes. • The faulting interpreted to have had considerable movement, for this reason, the fault surface was used to define two separate structural domains for grade estimation. • Six metre down-hole composites were chosen for statistical analysis and grade estimation of Cu and Au. Compositing was carried out downhole within the defined mineralisation halos. Composite files for individual domains were created by selecting those samples within domain wireframes, using a fix length and 50% minimum composite length. • A total of 4,428 measurements for specific gravity are recorded in the database, all of which were determined by the water immersion method. The average density of all samples is 2.74 t/m3. In detail there are some differences in density between different rock types, but since the model does not include geological domains a single pass Inverse Distance (**ID2**) interpolation was applied. • Primary grade interpolation for the two metals was by ordinary kriging of capped 6m composites. A two-pass search approach was used, whereby a cell failing to receive a grade estimate in a previous pass would be resubmitted in a subsequent and larger search pass. • The Mineral Resource Estimate meets the requirements of JORC 2012 and has been reported considering geological characteristics, grade and quantity, prospects for eventual economic extraction and location and extents. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories using relevant copper-equivalent cut-off values. • 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):

Criteria	Commentary
	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%.
Moisture	• All tonnages are reported on a dry basis.
Cut-off parameters	• Cut off grades applied are copper-equivalent (**CuEq**) cut off values of 0.3% for possible open pit and 0.5% for underground.
Mining factors or assumptions	• No mining factors have been applied to the in-situ grade estimates for mining dilution or loss due to the grade control or mining process. • The deposit is amenable to large scale bulk mining. • The Mineral Resource is reported above an optimised pit shell. (Lerch Grossman algorithm), mineralisation below the pit shell is reported at a higher cut-off to reflect the increased costs associated with block cave underground mining
Metallurgical factors or assumptions	• No metallurgical factors have been applied to the in-situ grade estimates.
Environmental factors or assumptions	• An environmental baseline study was completed in 2003 by Eco Trade Co. Ltd. of Mongolia in cooperation with Sustainability Pty Ltd of Australia. The baseline study report was produced to meet the requirements for screening under the Mongolian Environmental Impact Assessment (**EIA**) Procedures administered by the Mongolian Ministry for Nature and Environment (**MNE**).
Bulk density	• A total of 4,428 measurements for specific gravity are recorded in the database, all of which were determined by the water immersion method. • The average density of all samples is approximately 2.74 t/m3. In detail there are some differences in density between different rock types, but since the model does not include geological domain, an ID2 was applied to a density attribute. • There is no material impact on global tonnages, but it should be noted that density is a function of both lithology and alteration (where intense magnetite/sulphide is present).
Classification	• The Mineral Resource classification protocols, for drilling and sampling, sample preparation and analysis, geological logging, database construction, interpolation, and estimation parameters are described in the ASX/TSX Announcement above have been used to classify the 2015 resource. • The Mineral Resource statement relates to global estimates of in situ tonnes and grade • The Mineral Resource Estimate has been classified in accordance with the JORC Code, 2012 Edition using a qualitative approach. The classifications reflect the competent person's view of the Kharmagtai Copper Gold Project.
Audits or reviews	• Xanadu's internal review and audit of the Mineral Resource Estimate consisted of data analysis and geological interpretation of individual cross-sections, comparing drill-hole data with the resource estimate block model. • Good correlation of geological and grade boundaries was observed • 2013 - Mining Associates Ltd. was engaged to conduct an Independent Technical Report to review drilling, sampling techniques, QA/QC and previous Resource estimates. Methods were found to conform to international best practice.

Criteria	Commentary
Discussion of relative accuracy/ confidence	• An approach to the resource classification was used which combined both confidence in geological continuity (domain wireframes) and statistical analysis. The level of accuracy and risk is therefore reflected in the allocation of the measured, indicated, and inferred resource categories. • Resource categories were constrained by geological understanding, data density and quality, and estimation parameters. It is expected that further work will extend this considerably. • Resources estimates have been made on a global basis and relates to in situ grades. • Confidence in the Indicated Mineral Resources is sufficient to allow application of Modifying Factors within a technical and economic study. The confidence in Inferred Mineral Resources is not sufficient to allow the results of the application of technical and economic parameters. • The deposits are not currently being mined. • There is surface evidence of historic artisanal workings. • No production data is available.

JORC TABLE 1 - SECTION 4 - ESTIMATION AND REPORTING OF ORE RESERVES

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