28 September 2015

DRILLING CONFIRMS CONTINUITY OF HIGH-GRADE COPPER-GOLD MINERALISATION

HIGHLIGHTS

- **New drilling results add further confidence to the geological model and extends the high-grade tourmaline breccia at depth and along strike;**
- **Diamond drill hole KHDDH379 intersects longest intersection within the tourmaline breccia mineralisation:**
  - **484m grading 0.57% Cu and 0.32g/t Au (0.78 CuEq) from 186m, including;**
  - **158.40 grading 0.80% Cu and 0.24g/t Au (1.25 CuEq) from 342m;**
- **Mineralisation continues for more than 50m below the current Resource;**
- **Broad step-out drilling (KHDDH378) 650m east of current resource around the middle of tourmaline breccia clips the edge of mineralisation;**
- **Drilling and detailed infill mapping demonstrates increased scale of mineralised breccia system with exceptional depth continuity to mineralisation.**

Xanadu Mines Ltd (**ASX: XAM – "Xanadu"**) is pleased to provide an update on recent exploration drilling completed at the Kharmagtai copper-gold project in southern Mongolia (Figure 1). Recent drilling has intersected the longest continuous zone of mineralisation to date, which adds mineralisation and gives further confidence to the geological model and mineralisation controls.

The diamond drilling continues to test a combination of targets which includes high level gold-rich porphyry mineralisation and deeper tourmaline breccia mineralisation within the highly prospective 25 km² area of interest which has yielded outstanding results to date (Figures 2 and 3).

The drill hole details are set out in Table 1 and assay results in Table 2.

Xanadu's Chief Executive Officer, Dr Andrew Stewart, said: "The quality of this project continues to be demonstrated by these positive drill results; these new assay results from drill holes targeting the high-grade tourmaline breccia mineralisation at Kharmagtai reaffirm our belief in the potential for this mineral system to host a large scale high-grade copper-gold deposit. Mineralisation remains open in several directions and we are getting closer to the core of the system with every drill hole. In addition to other targets, continued drilling beneath the zone of chalcopyrite-gold mineralisation is required to test whether the breccia complex has a high-grade bornite-cemented core and/or transitions downwards into high-grade stockwork and/or replacement-style porphyry mineralisation.

Drilling has been paused to allow results from trenching to be finalised, to review all results to date and to update the geological model, allowing prioritisation of drill targets within the 5km-long corridor and elsewhere within the project, prior to deciding on the exciting next steps for Kharmagtai".

Diamond drill hole **KHDDH379** designed to test the northern (down-dip) extension to high-grade mineralisation (see KHDDH371 and KHDDH374) and continuity of breccia mineralisation, intersected 670m of continuous tourmaline breccia from surface, which contained **484m of mineralisation grading 0.57% Cu and 0.32g/t Au (0.78 CuEq) from 186m** (Figure 3). This broad interval included 158.40m of high-grade chalcopyrite cemented breccia grading 0.80% Cu and 0.24g/t Au (1.25 CuEq) from 342m (Figures 4 to 8). The results indicate discrete zones of higher-grade mineralisation continue to more than 50m below the current Resource, and mineralisation remains open at depth and in several directions (Figure 3).

Diamond drill hole **KHDD378** was a 650m step-out along strike from the significant mineralisation encountered recently in diamond drilling and current resources. It was designed to test a geophysical anomaly mid-way along the inferred strike of the mineralised tourmaline breccia complex. The upper part of the hole intersected propylitic (epidote-chlorite-magnetite) altered quartz monzodiorite with anomalous in gold and zinc geochemistry, which transitioned into intensely phyllic altered tourmaline breccia associated with narrow zones of copper-gold mineralisation. This hole clipped the outer edge of the tourmaline breccia complex.

SIGNIFICANCE OF TOURAMLINE BRECCIA MINERALISATION

The discovery of the high-grade tourmaline breccia mineralisation superimposed on an earlier major porphyry copper-gold system has transformed what is a potential mid-scale project into one of the most prospective copper-gold projects in Asia. Tourmaline breccia deposits are a major host of copper mineralisation, and comprise some of the world's largest single most endowed porphyry copper deposit, as exemplified by >5 Gt of ore-grade breccia at Los Bronces-Río Blanco in Chile. The size of the hydrothermal footprint at Kharmagtai is an excellent indicator of the district potential, with porphyry intrusions and tourmaline-cemented breccia's extending over an 8 by 2 kilometre area. The tendency for porphyry copper deposits to constitute clusters or alignments is clearly exemplified by the mineralised centres at Kharmagtai.

Diamond drilling continues to focus on the tourmaline breccia hosted copper-gold mineralisation east of Altan Tolgoi with recent drilling intersecting the longest continuous zone of mineralisation as announced here and the highest grade mineralisation to date (see XAM's ASX announcement - 22 June 2015). It is becoming apparent that the metal content of the tourmaline breccia mineralisation is much higher than those of surrounding porphyry stockwork deposits (reflecting their high intrinsic permeability) elevating it as a priority drill target in the district.

Continued exploration success here is evidence of our increasing understanding of mineralisation and reinforces the view that tourmaline breccia has strong potential to host large scale high-grade copper-gold mineralisation.

TARGET GENERATION

In light of recent drilling and trenching results (see XAM's ASX announcement – 21 September 2015) a critical technical evaluation and ranking of all known prospects within the confines of the Kharmagtai Intrusive Complex is currently being conducted and will include assistance by industry leading consultants, thereby allowing the Xanadu exploration team to focus at an early stage on those of highest potential. This holistic approach will be essential to ensure future exploration efforts prioritised the number of high priority targets.

FIGURE 1: South Gobi copper province, showing location of Kharmagtai and Oyut Ulaan.

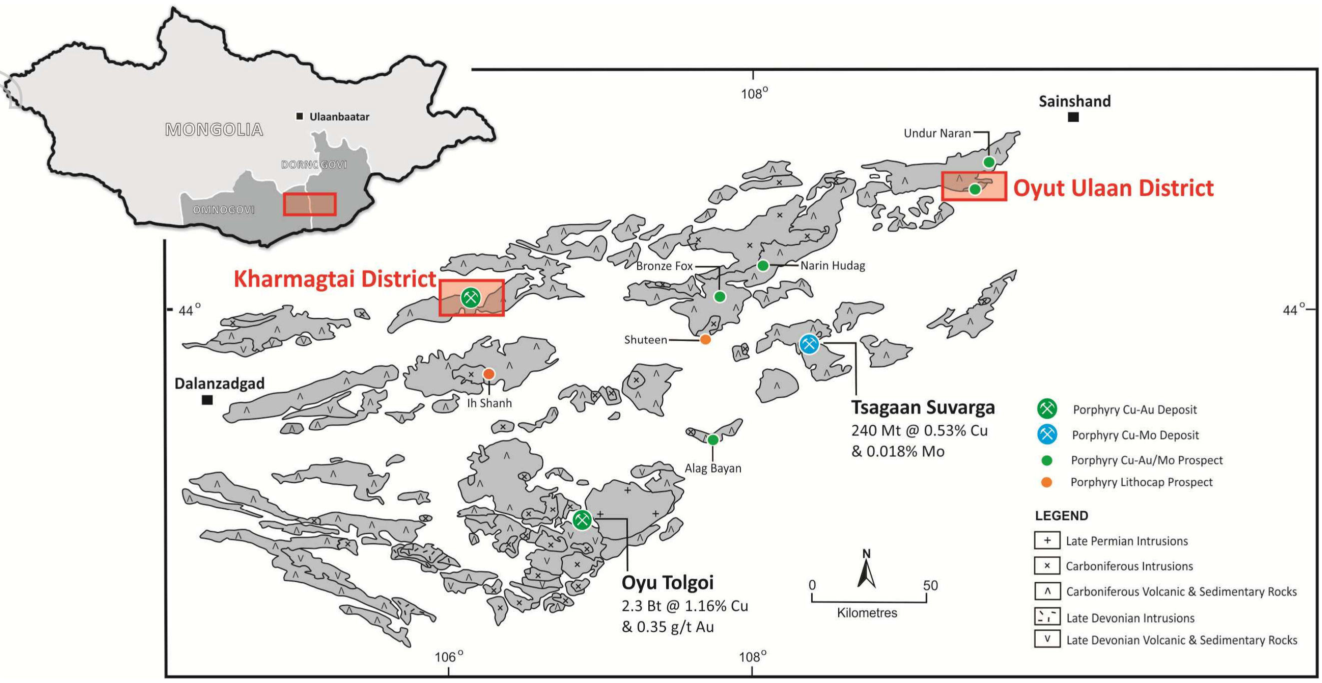

FIGURE 2: Kharmagtai porphyry district.

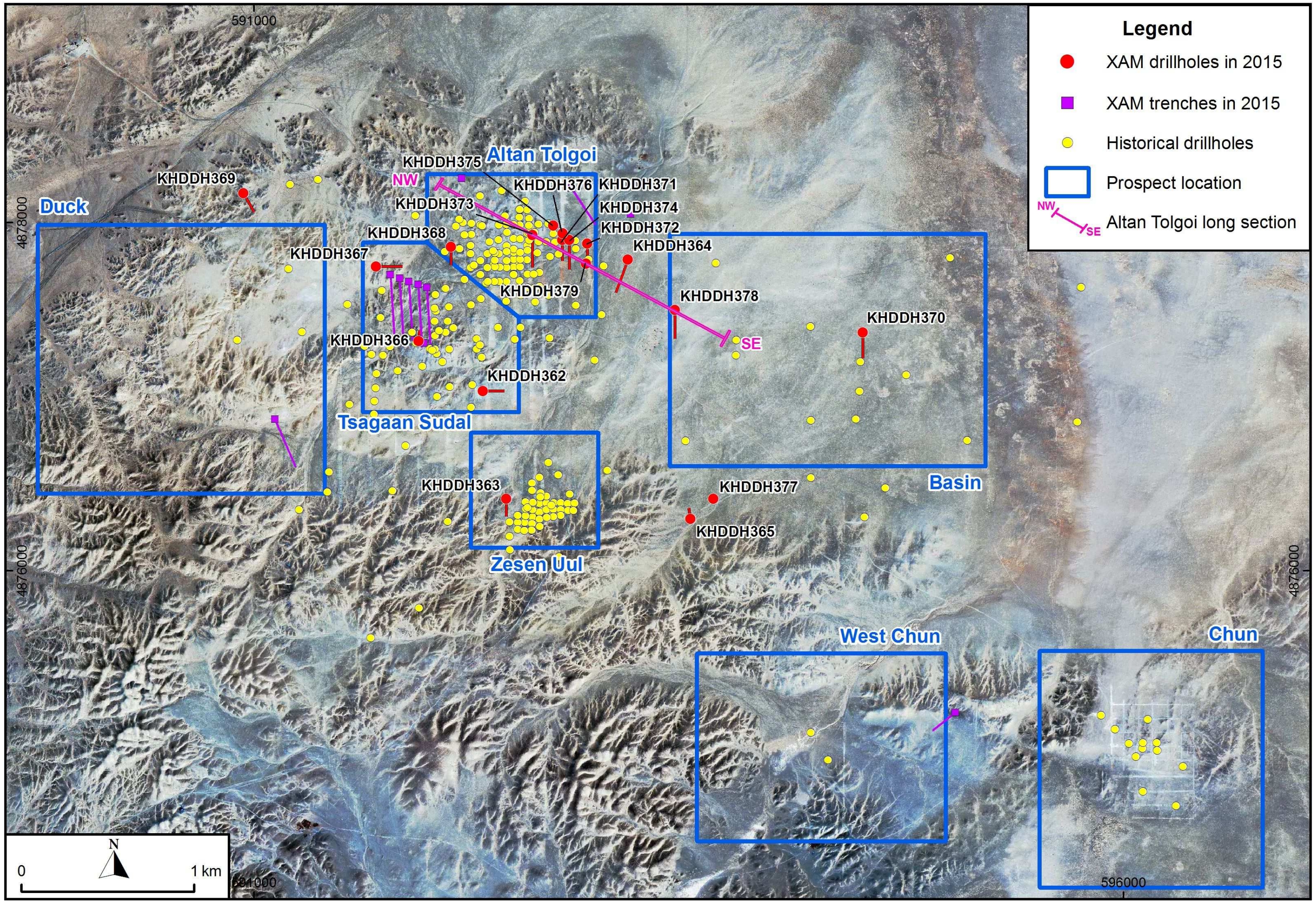

FIGURE 3: Long section showing location of diamond drill holes KHDDH378 and KHDDH379.

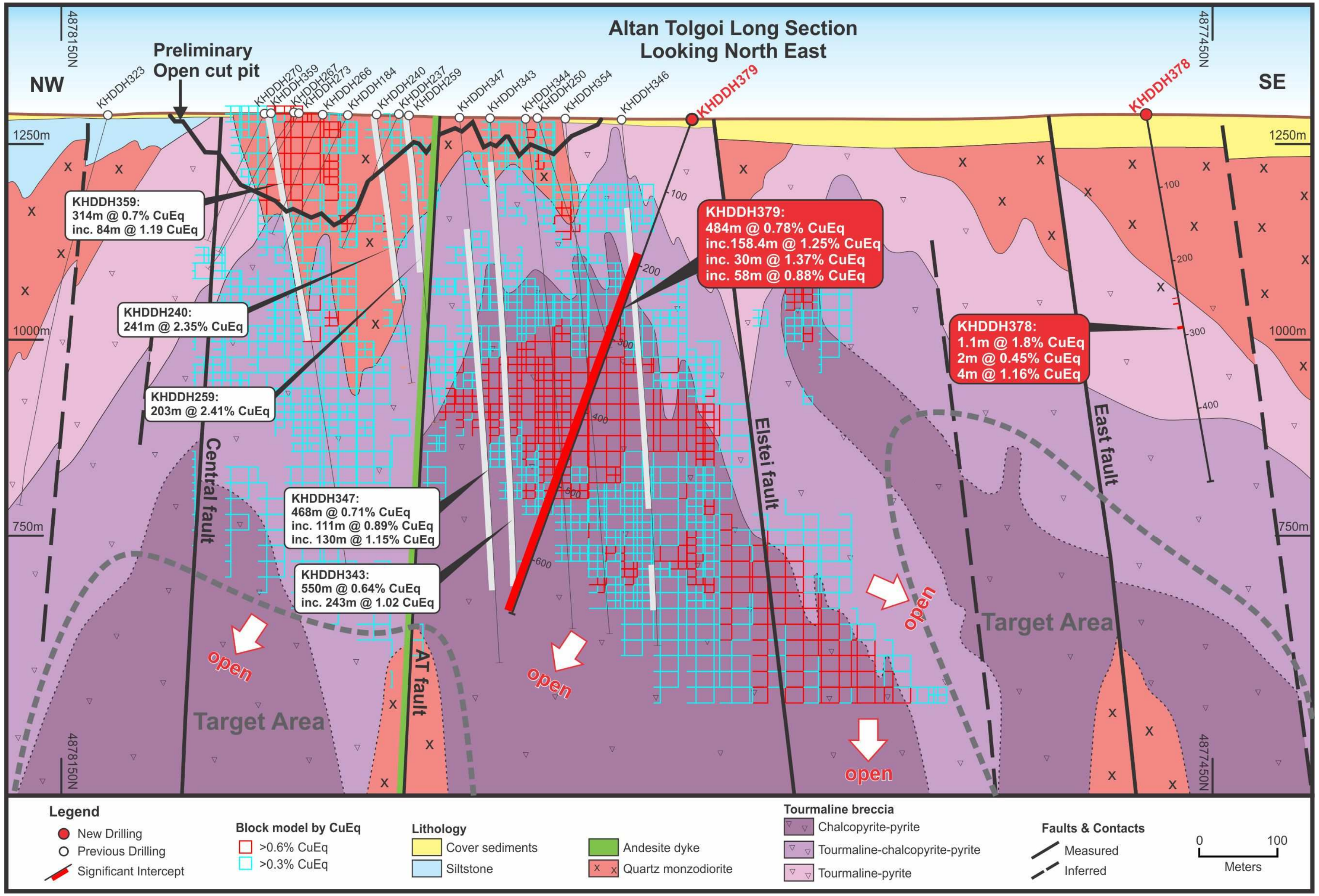

FIGURE 4: Chalcopyrite-pyrite-tourmaline cemented breccia with potassic altered porphyry clasts. KHDDH379 – 448m. From a 1.6m interval (447.4 to 449m) which assayed 1.01% Cu and 0.9g/t Au (1.58% CuEq).

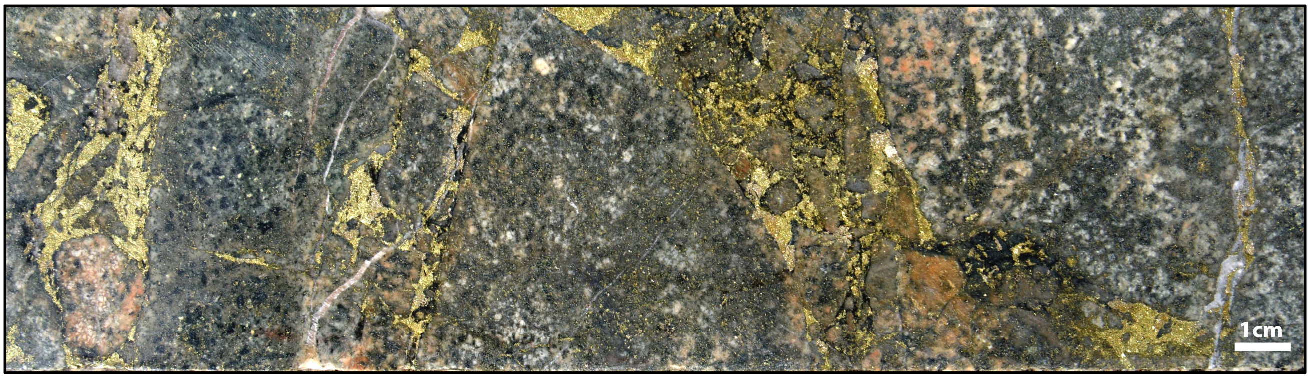

FIGURE 5: Chalcopyrite-pyrite cemented breccia with biotite altered porphyry clasts. KHDDH379 – 369.1m. From a 2.2m interval (369 to 371.2m) which assayed 1.72% Cu and 0.15g/t Au (1.82% CuEq).

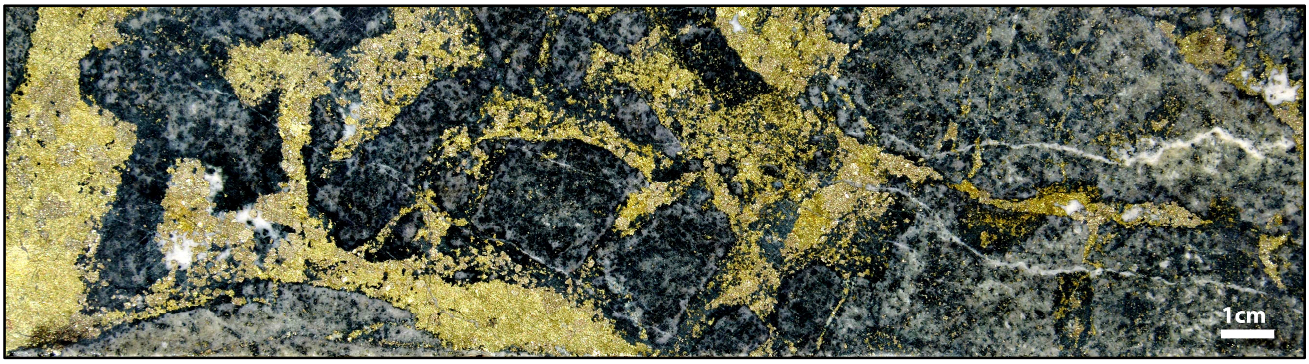

FIGURE 6: Chalcopyrite-pyrite-tourmaline cemented breccia with a clast of altered monzodiorite porphyry. KHDDH379 – 399.5m. From a 2m interval (391 to 393m) which assayed 2.82% Cu and 0.17g/t Au (2.93% CuEq).

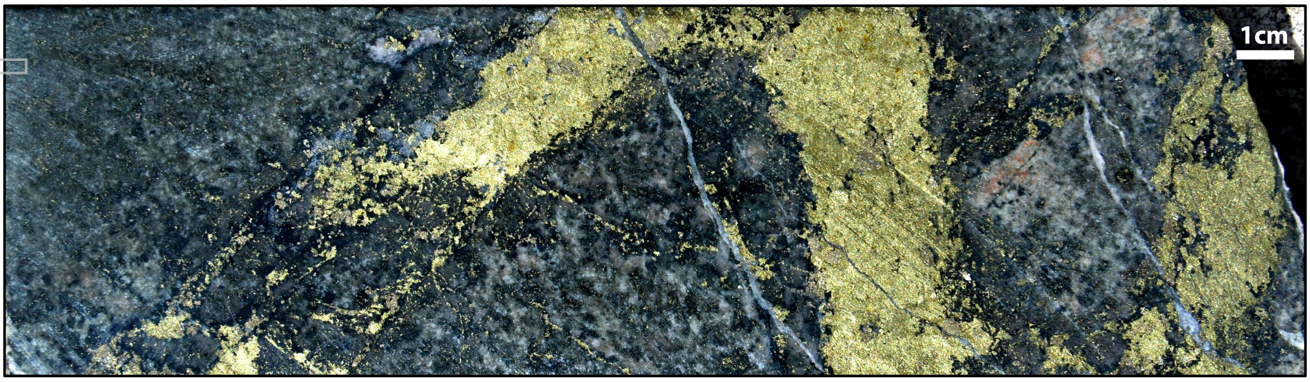

FIGURE 7: Massive chalcopyrite-pyrite mineralisation. KHDDH379 – 405.7m. From a 2m interval (404 to 406m) which assayed 4.39% Cu and 0.91g/t Au (4.97% CuEq).

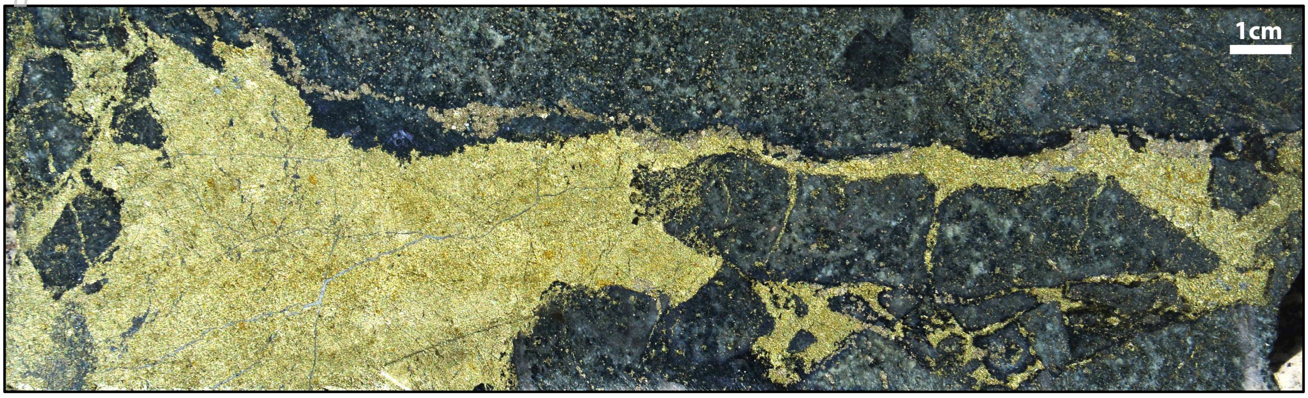

FIGURE 8: Massive chalcopyrite-pyrite mineralisation. KHDDH379 – 124.3m. From a 2m interval (124 to 126m) which assayed 2.44% Cu and 1.68g/t Au (3.51% CuEq).

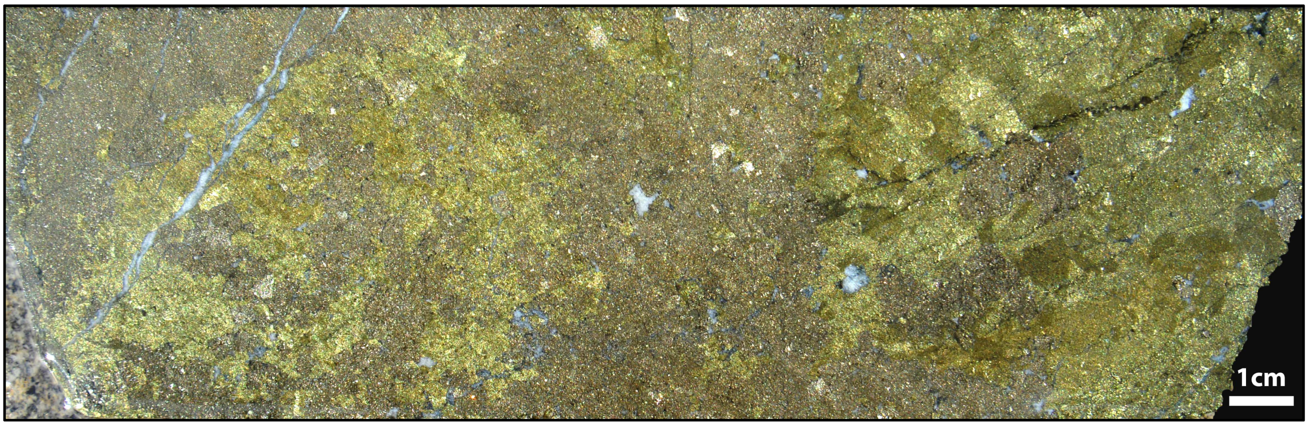

FIGURE 9: Kharmagtai porphyry district, showing exploration targets.

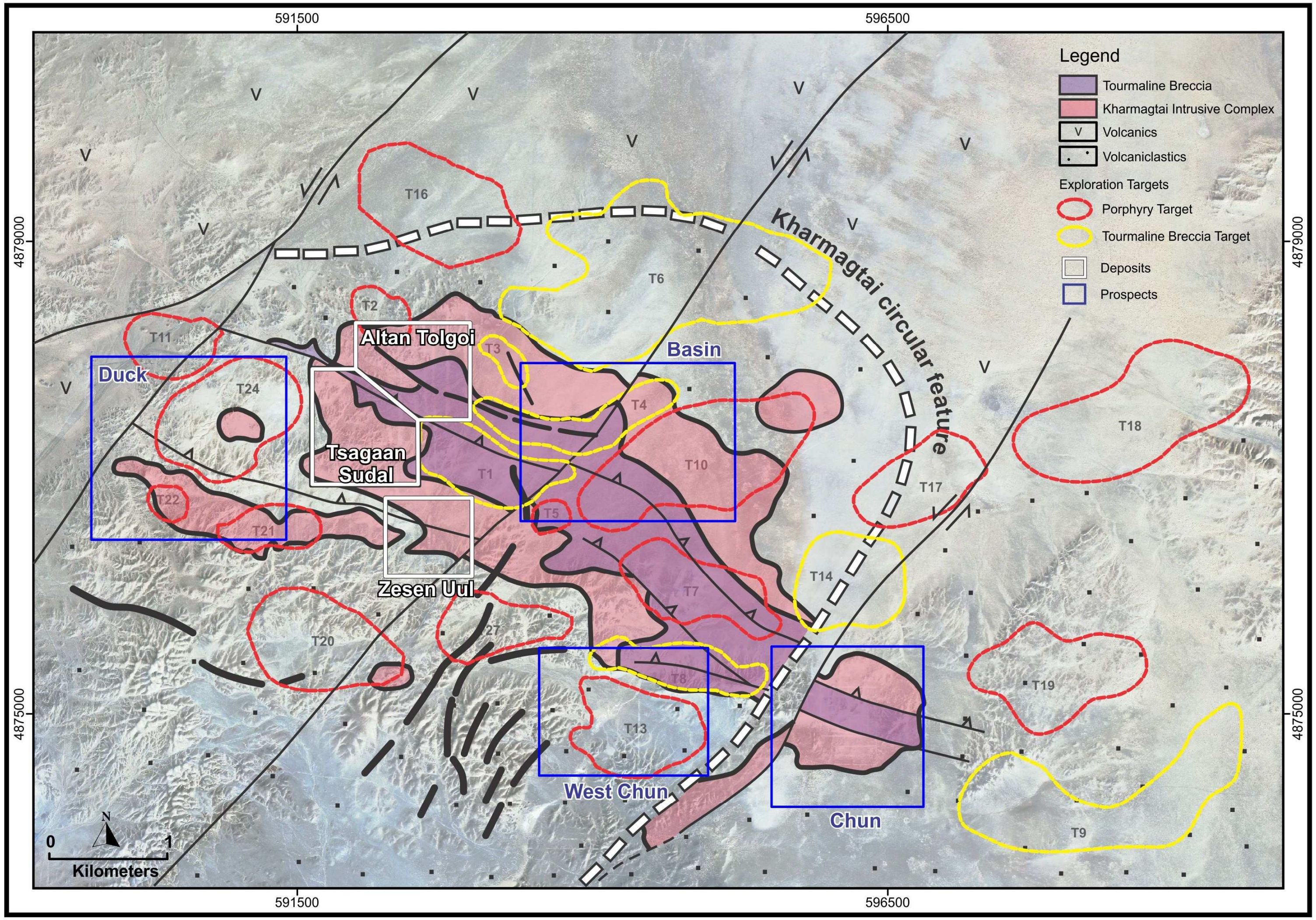

TABLE 1: Drill hole details

Hole ID	East	North	RL	Azi (°)	Inc	Depth (m)
KHDDH378	593420	4877500	1280	180	-70	499
KHDDH379	592909	4877765	1282	298	-70	670

TABLE 2: Significant intercepts

Hole ID	From (m)	To (m)	Interval (m)	Cu %	Au g/t	CuEq %**
KHDDH378*	44	54	10	0.01	0.11	0.09
and	60	64	4	0.02	0.21	0.16
and	84	102	18	0.03	0.25	0.2
and	230	234	4	0.04	0.12	0.13
and	248.9	250	1.1	0.64	1.8	1.8
and	256	258	2	0.05	0.61	0.45
and	287.4	291.4	4	0.29	1.36	1.16
and	332	338	6	0.03	0.23	0.19
KHDDH379*	186	670	484	0.57	0.32	0.78
Including	342	500.4	158.4	1	0.36	1.25
Including	508	522	14	0.8	0.24	0.96
Including	560	590	30	0.74	0.97	1.37
Including	612	670	58	0.47	0.63	0.88

KHARMAGTAI PROJECT & THE MONGOL METALS JV

Xanadu and its joint venture partner, Mongol Metals LLC, announced the acquisition of a 90% interest in the Kharmagtai porphyry copper-gold project from Turquoise Hill Resources in February 2014. Under the Mongol Metals LLC joint venture terms, Xanadu has the right to earn an 85% interest in the Kharmagtai project, equivalent to a 76.5% effective interest, by funding acquisition and exploration costs.

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

The Kharmagtai project is an advanced exploration project consisting of multiple co-genetic gold-rich porphyry copper centres and tourmaline breccia pipes occurring within the Lower Carboniferous Kharmagtai Igneous Complex. Exploration has identified significant shallow high-grade porphyry copper gold mineralisation. A majority of the mineralised porphyry complex lies under un-explored shallow sediments. The large license area has only been partially explored and the potential for further discoveries remains high.

COMPETENT PERSON STATEMENT

The information in this report 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, which is incorporated in the database that was provided to Mining Associates for undertaking the mineral resource estimate. Dr Stewart, who is an employee of Xanadu and is a Member of the Australasian Institute of Geoscientists. Dr 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 Stewart consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

COPPER EQUIVALENT CALCULATIONS

The copper equivalent (CuEq) calculation represents the total metal value for each metal, multiplied by the conversion factor, summed and expressed in equivalent copper percentage. Grades have not been adjusted for metallurgical or refining recoveries and the copper equivalent grades are of an exploration nature only and intended for summarising grade. The copper equivalent calculation is intended as an indicative value only. The following copper equivalent conversion factors and long term price assumptions have been adopted: Copper Equivalent Formula (CuEq) = Cu% + (Au (ppm) x 0.6378). Based on a copper price of $2.60/lb and a gold price of $1300/oz.

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APPENDIX 1: 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 21 September 2015.

1.1 JORC TABLE 1 - SECTION 1 - SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code (Section 1) Explanation	Commentary
Sampling techniques	• Nature and quality of sampling and assaying. • 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.	• The resource estimate is based on drill samples only. • Representative 2 meter samples were taken from ½ NQ or HQ diamond core. • Only assay results from recognised, independent assay laboratories were used in Resource calculation after QAQC was verified.
Drilling techniques	• Drill type and details.	• DDH drilling has been the primary drilling method.
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.	• DDH core recoveries have been very good, averaging between 97% and 99% for all of the deposits. In localized 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 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	• 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.	• Drill 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.
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.	• 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 a constant 2m interval down-hole in length.. • Routine sample preparation and analyses of DDH samples were carried out by SGS Mongolia LLC (SGS Mongolia), who operates an independent sample preparation and analytical laboratory in

Criteria	JORC Code (Section 1) Explanation	Commentary
	• 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.	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	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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.	• All samples were routinely assayed by SGS Mongolia for gold, copper, silver, lead, zinc, arsenic and molybdenum. • 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. • 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 (>1% Cu), it is analysed by a second analytical technique (AAS22S), 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 QAQC 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	• The verification of significant intersections by either independent or alternative company personnel.	• All assay data QAQC is checked prior to loading into the Geobank data base. • The data is managed XAM geologists.

Criteria	JORC Code (Section 1) Explanation	Commentary
assaying	• 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.	• The data base and geological interpretation is collectively managed by XAM.
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. • 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 DTM is based on 1 m contours with an accuracy of ±0.01 m.
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.	• Drilling has been completed on nominal north-south sections, commencing at 120m spacing and then closing to 40m for resource estimation. • Vertical spacing of intercepts on the mineralised zones similarly commences at 100m spacing and then closing to 50m for resource estimation. • 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. • Holes have been drilled to 1000m vertical depth • The data spacing and distribution is sufficient to establish geological and grade continuity appropriate for the Mineral Resource estimation procedure and has been taken into account in 3D space when determining the classifications to be applied.
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 has been predominantly completed on north-south section lines along the strike of the known mineralised zones and from either the north or the south depending on the dip. • Vertical to South dipping ore bodies were predominantly drilled to the north. • 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. •
Sample security	• The measures taken to ensure sample security.	• Samples are dispatched from site through via company employees and secure company vehicles to the Laboratories.

Criteria	JORC Code (Section 1) Explanation	Commentary
		• 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	• The results of any audits or reviews of sampling techniques and data	• Internal audits of sampling techniques and data management on a regular basis, to ensure industry best practice is employed at all times. • External review and audit have been conducted by the following groups • 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 appropriate for use in resource estimation including that required by the NI 43-101 standards. • 2013 - Mining Associates Ltd. was engaged to conduct an Independent Technical Report to review drilling, sampling techniques, QAQC and previous resource estimates. Methods were found to conform to international best practice.

1.2 JORC TABLE 1 - SECTION 2 - REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code (Section 2) Explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • 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.	• The Project comprises 1 Mining License (MV 17387A). • 100% owned by Oyut Ulaan LLC. • Xanadu and its joint venture partner, Mongol Metals can earn a 90% interest in the Kharmagtai porphyry copper-gold project. The remaining 10% is owned by Quincunx Ltd, which in turn is owned by an incorporated joint venture between Kerry Holdings Ltd. and MCS Holding LLC. • 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	• Acknowledgment and appraisal of exploration by other parties.	• Previous exploration was conducted by Quincunx Ltd, Ivanhoe Mines Ltd and Turquoise Hill Resources Ltd including extensive drilling, surface geochemistry, geophysics, mapping and mineral resource estimation to NI 43-101 standards.

Criteria	JORC Code (Section 2) Explanation	Commentary
Geology	• Deposit type, geological setting and style of mineralisation.	• 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 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	• A summary of all information material to the understanding of the exploration results including a tabulation 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. • 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.	• Diamond drill holes are the principal source of geological and grade data for the Project. • See figures in main report.
Data Aggregation methods	• 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• A nominal cut-off of 0.1% Cu is used for identification of potentially significant intercepts for reporting purposes. • 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). • Metal equivalents used the following

Criteria	JORC Code (Section 2) Explanation	Commentary
		formula: CuEq = Cu% x(Aug/t x 0.6378 Formula is based on a $2.60/lb copper price and a $1,300/oz gold price. A gold recovery factor of 78.72% was used.
Relationship between mineralisation on widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • 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').	• 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. • Resource estimation, as reported later, was done in 3D space.
Diagrams	• 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.	• See figures in main report.
Balanced reporting	• 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.	• 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	• 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.	• Extensive work in this area has been done, and is reported separately.
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• 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 on going.

1.3 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	JORC Code (Section 3) Explanation	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. • Data validation procedures used.	• 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 Gemcom Surpac 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	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	• Andrew Vigar of Mining Associates visited site from 24 and 25 October 2014. • 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	• Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit. • Nature of the data used and of any assumptions made. • The effect, if any, of alternative interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource estimation. • The factors affecting continuity both of grade and geology.	• 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 Altan Tolgoi, Tsagaan Sudal and Zesen Uul 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

Criteria	JORC Code (Section 3) Explanation	Commentary
		comprises fracture controlled copper and iron oxides; however there is no obvious depletion or enrichment of gold in the oxide zone.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• Altan Tolgoi comprises two main mineralised zones, northern and southern stockwork zones (AT-N and AT-S) which are approximately 100 metres apart and hosted in diorite and quartz diorite porphyries. The AT-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 AT-N consists of a broad halo of quartz that is 250 metres long, 150 metres wide long and at least 350 metres deep. • TS 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. • ZU 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 nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• 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

Criteria	JORC Code (Section 3) Explanation	Commentary
	• Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	constructed at a 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 were 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 4428 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/m^3. In detail there are some differences in density between different rock types, but since the model does not include geological domains a single pass ID^2 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; CuEq = Cu% x(Aug/t x 0.6378

Criteria	JORC Code (Section 3) Explanation	Commentary
		Formula is based on a $2.60/lb copper price and a $1,300/oz gold price. A gold recovery factor of 78.72% was used
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• All tonnages are reported on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• 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	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	• No mining factors have been applied to the in situ grade estimates for mining dilution or loss as a result of 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	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• No metallurgical factors have been applied to the in situ grade estimates.
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental	• 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).

Criteria	JORC Code (Section 3) Explanation	Commentary
	assumptions made.	
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	A total of 4428 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/m^3. In detail there are some differences in density between different rock types, but since the model does not include geological domains a single estimation pass (ID^2) 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 basis for the classification of the Mineral Resources into varying confidence categories. • Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). • Whether the result appropriately reflects the Competent Person's view of the deposit.	• 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 Main Report 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	• The results of any audits or reviews of Mineral Resource estimates.	• XAM'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 were observed • 2013 - Mining Associates Ltd. was engaged to conduct an Independent Technical Report to review drilling, sampling techniques, QAQC and previous resource estimates. Methods were found to conform to international best practice.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or	• 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,

Criteria	JORC Code (Section 3) Explanation	Commentary
	geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available	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 resource 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.

1.4 JORC TABLE 1 – SECTION 4 – ESTIMATION AND REPORTING OF ORE RESERVES

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