

# QUARTERLY ACTIVITIES REPORT

ACTIVITIES FOR THE QUARTER ENDING 31 DECEMBER 2015

## HIGHLIGHTS

### Exploration activities recommence at Kharmagtai copper-gold project

- Exploration drilling and trenching are currently underway at Kharmagtai;
- Six drill holes (2939.75m) test a combination of targets which includes high level gold-rich porphyry mineralisation and deeper tourmaline breccia mineralisation;
- A multi-disciplinary technical review identifies new porphyry drill targets;
- Potentially significant high-grade carbonate-base metal gold mineralisation identified;
- Broad step-out trenching extends the strike (up to 150m) of higher-grade surface mineralisation at Tsagaan Sudal;
- A total of 1200-line-kilometres of detailed infill ground magnetic data collected;
- Reconnaissance exploration, field mapping, and infill geochemical sampling are ongoing.

### Exploration activities recommence at Oyut Ulaan copper-gold project

- Geological mapping and geochemical sampling commence at Oyut Ulaan;
- Exploration work focused understanding shallow high-grade gold-rich copper skarn mineralisation.

### Completion of A\$8.8 million placement and share purchase plan

- Successful placement and share purchase plan offer raises total gross proceeds of A\$8.8 million;
- Strong support received from new and existing sophisticated and institutional shareholders;
  - Cornerstone investors participate in strong support of the Company;
- Xanadu well-funded to continue exploration at its flagship Kharmagtai project.

### Completion of Kharmagtai deferred acquisition consideration

- Balance of the Deferred Acquisition Consideration for the Kharmagtai project reduced by over US\$1 million;
- Full repayment of the deferred consideration at less than budget.

### Financial position

- Cash and equivalents of A\$8.6 million.

ASX XAM

ABN 92 114 249 026

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**Executive Director**

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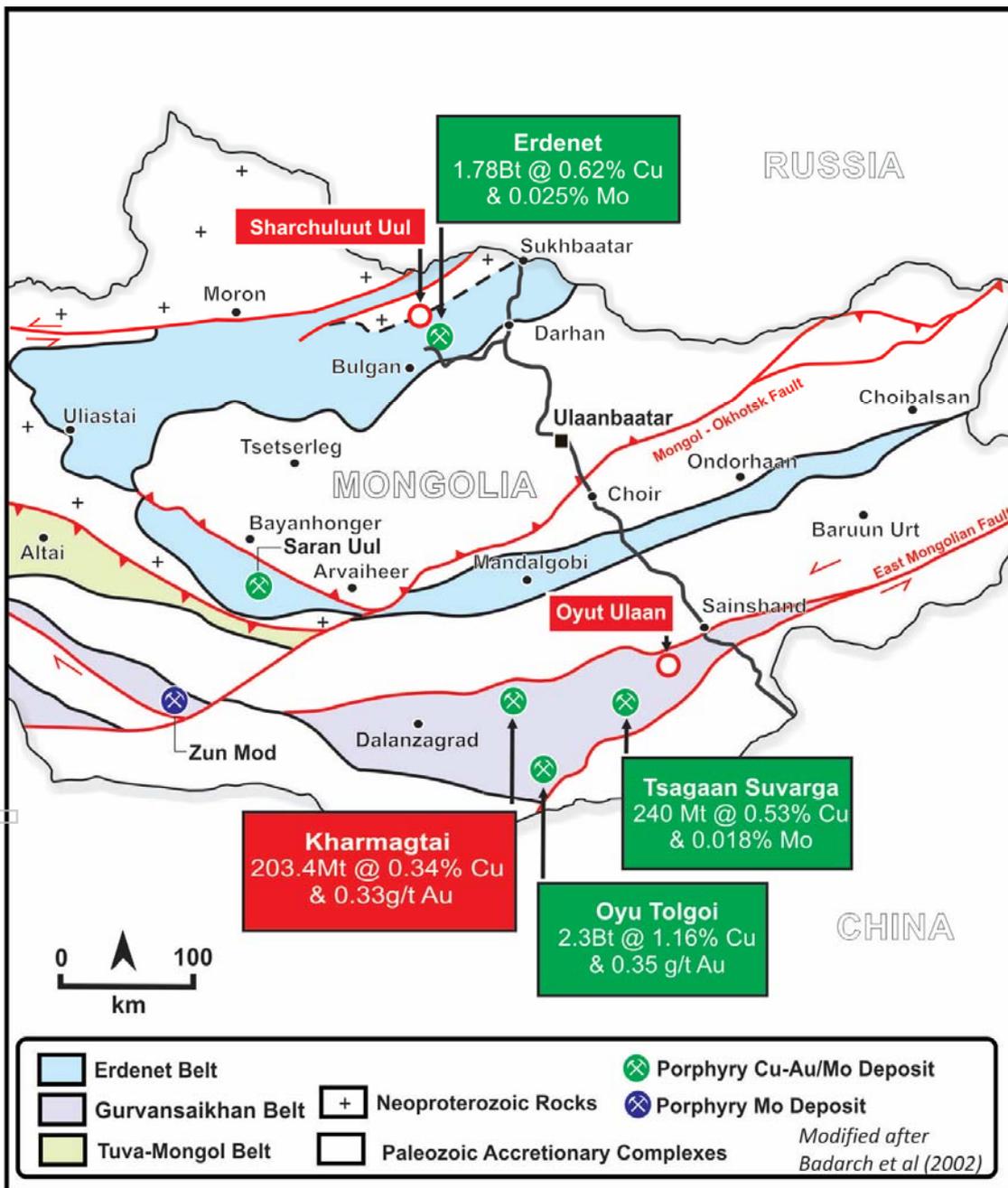
Mongolia

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Xanadu Mines Ltd (ASX: XAM – “Xanadu”) is pleased to provide shareholders with an update of exploration results from a strong fourth quarter.

### EXPLORATION ACTIVITIES

Exploration activities during this quarter focused on the flagship Kharmagtai porphyry copper-gold project (Figure 1), where outstanding results since acquisition are helping refine our geological model and further demonstrate Kharmagtai is currently growing towards a sizeable porphyry deposit, with relatively high gold to copper ratios.

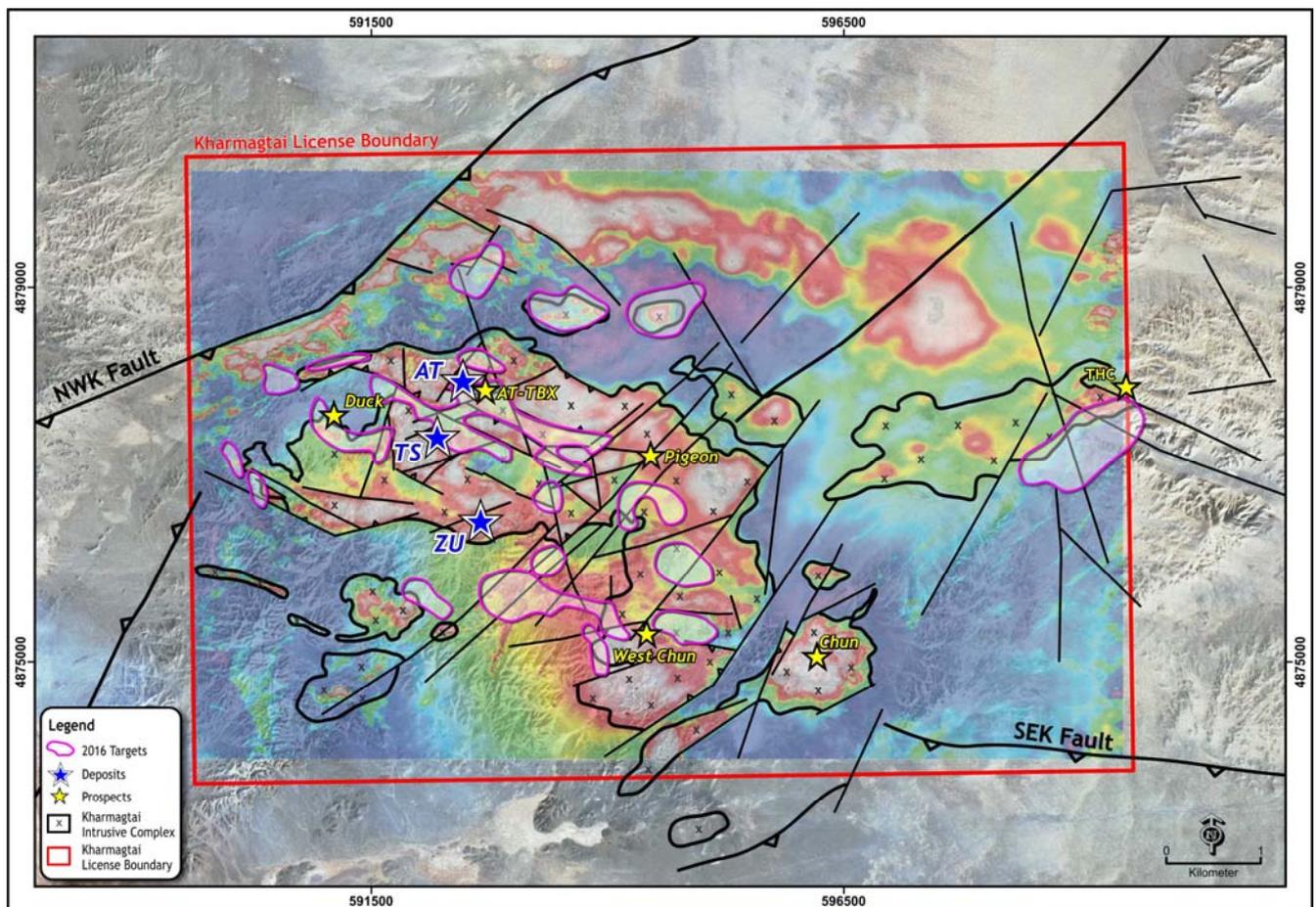


**Figure 1:** Location of Xanadu’s copper projects, with Kharmagtai and Oyu Ulaan within Mongolia’s South Gobi Copper Belt (Gurvansaikhan Belt).

### Kharmagtai Copper-Gold Project

The Kharmagtai copper-gold project is located within the South Gobi porphyry copper province of Mongolia, approximately 420km south-southwest of Ulaanbaatar (Figure 1), and is one of the most advanced porphyry copper-gold projects in Asia.

Exploration drilling at the Kharmagtai project 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 km<sup>2</sup> area of interest (Figure 2) which has yielded outstanding results to date.



**Figure 2:** Kharmagtai porphyry copper-gold district showing Altan Tolgoi, Tsagaan Sudal and Zesen Uul deposits. At a district scale our investigation shows that the emplacement of the known porphyry and tourmaline breccia mineralisation lies on the intersection of NNE-trending arc-parallel faults and WNW-trending transverse (reverse) faults.

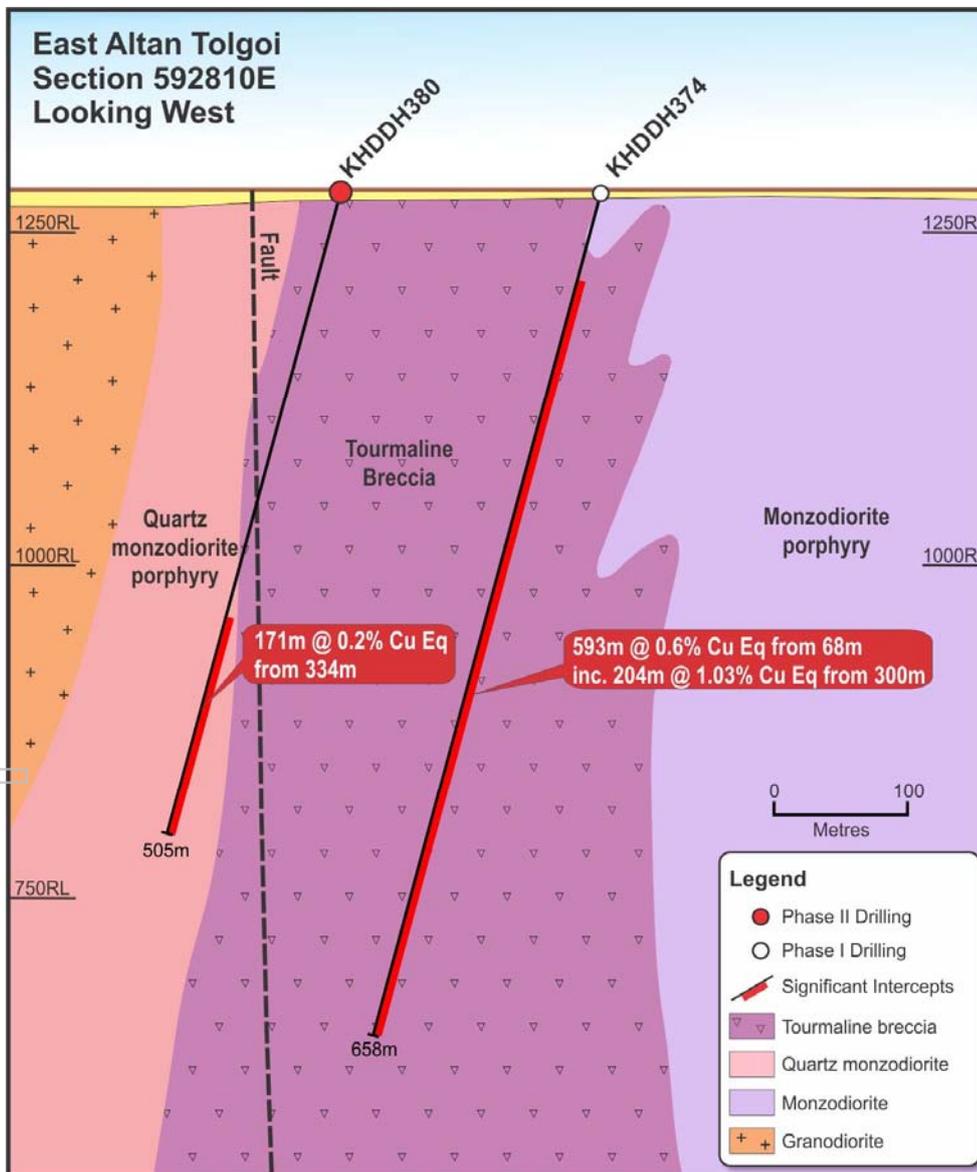
#### ***Exploration drilling and field activities recommence at Kharmagtai copper-gold project***

Exploration drilling continues to provide significant advances in our understanding of the Kharmagtai project and continues to indicate potential for a large-scale mineralised breccia system along-side the established Mineral Resource and is transforming the Company's view of the growth potential of Kharmagtai.

Six diamond holes have been completed for approximately 2939.75m in the last quarter of exploration; bringing the total metres completed in 2015 to 10,460 m at Kharmagtai. Recent drill hole details are set out in Table 1 and significant assay results in Table 2.

Three diamond drill holes (KHDDH380, KHDDH382 and KHDDH383) targeted potential strike extensions of current deposits at Kharmagtai.

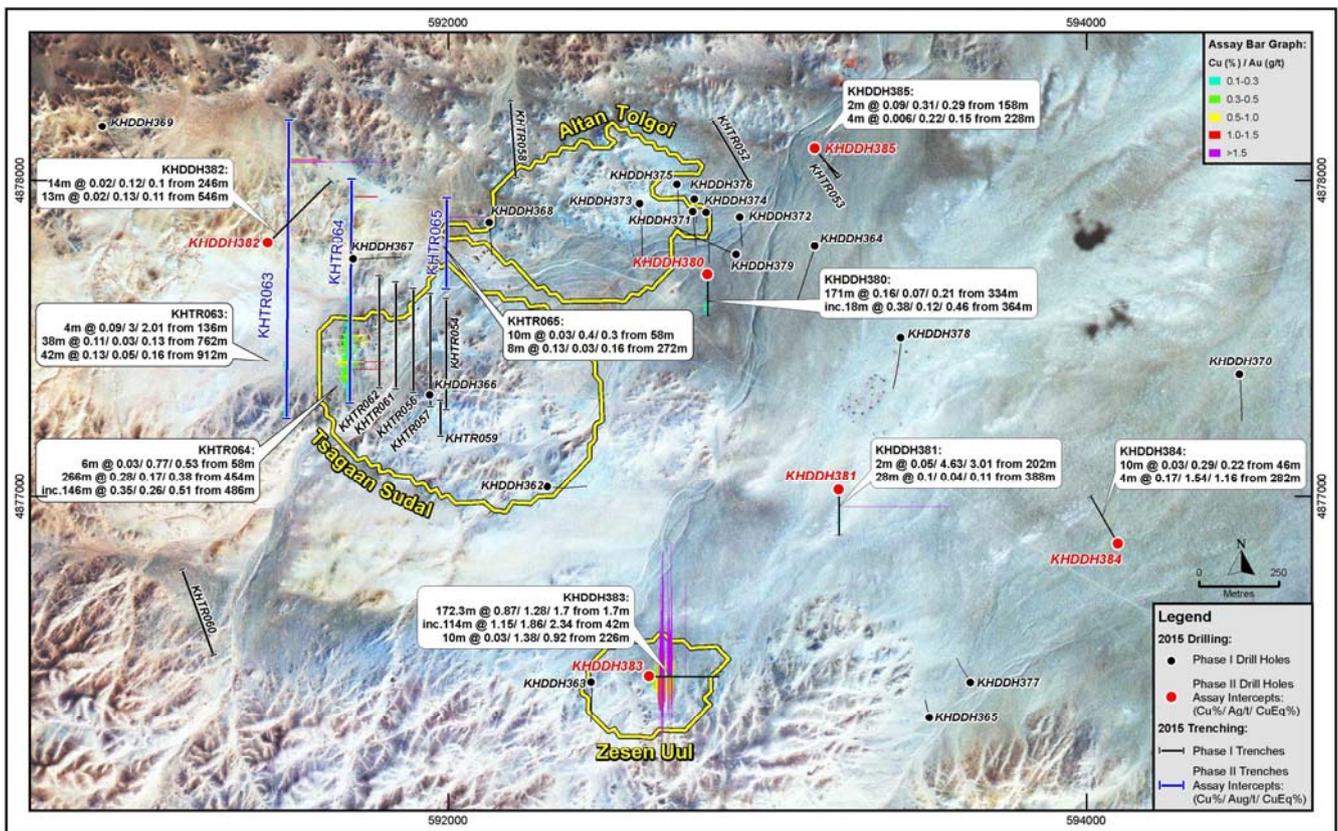
Diamond drill hole KHDDH380 tested the fault offset of the tourmaline breccia, 190m south of KHDDH374 (593m grading 0.6% CuEq from 68m; Figure 3). The hole intersected 171m of low grade mineralisation grading 0.16% Cu and 0.07g/t Au from 334m, associated with moderately phyllic (quartz-sericite-pyrite) altered quartz monzodiorite. Narrow zones of structurally controlled tourmaline breccia mineralisation associated with anomalous zinc mineralisation indicate this hole intersected the upper zone of the tourmaline breccia mineralisation south of the central fault.



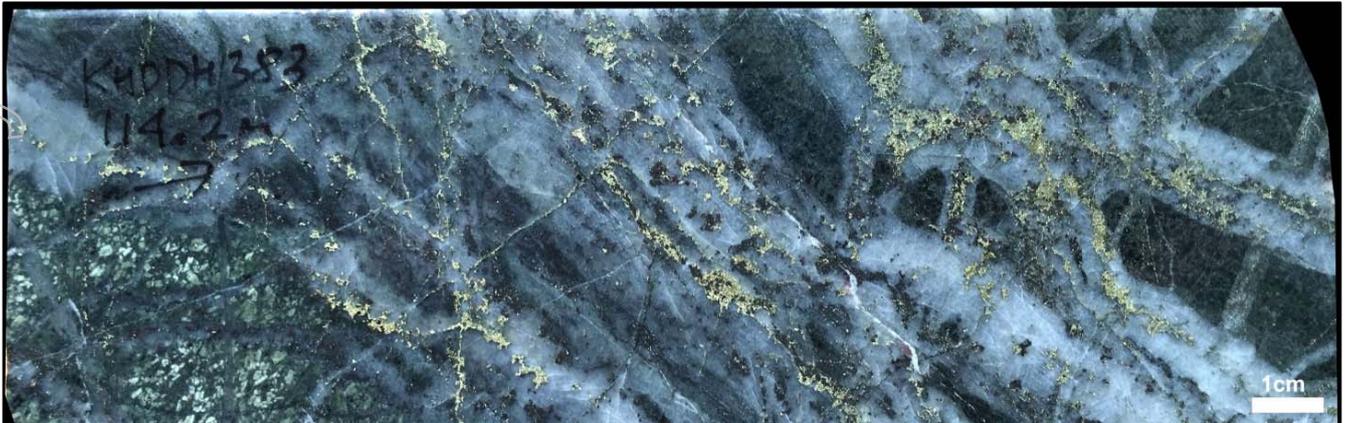
**Figure 3:** East Altan Tolgoi - Section 592810mE (looking west). Section shows drill holes KHDDH374 and KHDDH380.

Diamond drill hole KHDDH382 tested a geophysical anomaly west of Altan Tolgoi and hosted in the same structure (Figure 4). The hole intersected strongly hornfelsed volcanoclastic rocks with weak pervasive porphyritic alteration associated with narrow, weakly mineralised monzodiorite porphyry dykes hosting abundant pyrite-sericite veinlets (D-veins).

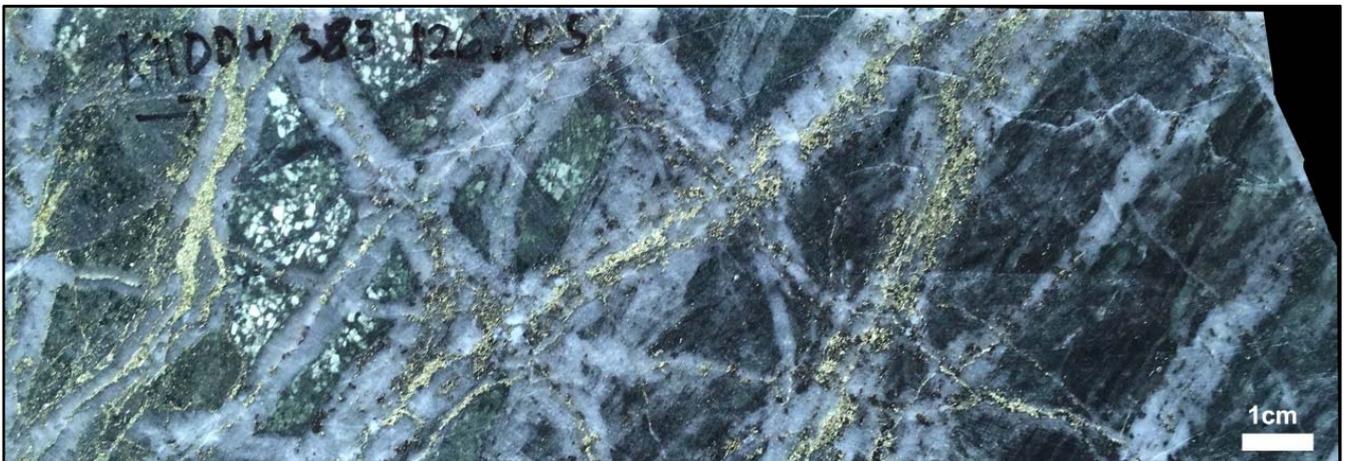
Diamond drill hole KHDDH383 tested potential down-dip extensions to high-grade mineralisation at Zesen Uul (Figure 4). The hole intersected **172.3m grading 0.87% Cu and 1.28g/t Au (1.7% CuEq) from 1.7m depth and included 114 grading 1.15% Cu and 1.86 g/t Au (2.34% CuEq) from 42m** (Figure 5 to 7). The hole extended mineralisation by over 50m outside current resource however failed to intersect a structural offset to high-grade mineralisation at depth.



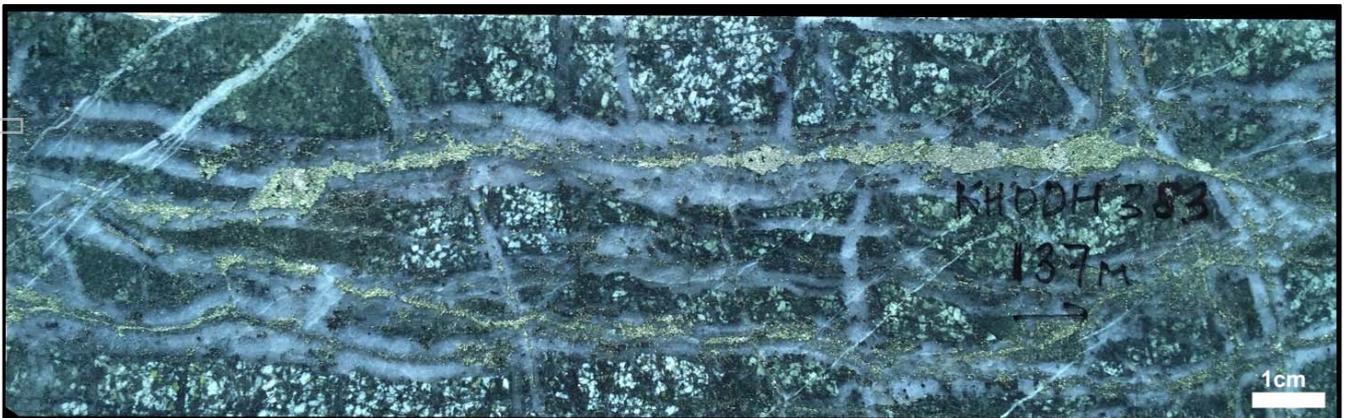
**Figure 4:** Central Kharmagtai porphyry copper-gold district showing location of Altan Tolgoi, Tsagaan Sudal and Zesen Uul deposits, as well as other porphyry targets. The figure also shows location of recently completed diamond drill holes and trenches.



**Figure 5:** Quartz-chalcopyrite-bornite stockwork mineralisation. KHDDH383–114m. from a 2m interval (114 to 116m) which graded 1.62% Cu and 4.53g/t Au (4.51% CuEq).



**Figure 6:** Quartz-chalcopyrite-bornite stockwork mineralisation. KHDDH383–126.05m. From a 2m interval (126 to 128m) which graded 1.61% Cu and 3.86g/t Au (4.07% CuEq).



**Figure 7:** Quartz-chalcopyrite-bornite stockwork mineralisation. KHDDH383–137m. from a 2m interval (136 to 138m) which assayed 2.15% Cu and 5.67g/t Au (5.77% CuEq).

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Three diamond drill holes (KHDDH381, KHDDH384 and KHDDH385) test several high priority targets laying under shallow cover that have the same geophysical response and geometry as existing deposits within the Kharmagtai project. All holes intersected multiphase porphyritic intrusions with moderate to strong porphyry-related alteration and are variably mineralised, indicating they are within the outer halo of the porphyry system. Although no economic intervals of mineralisation were intersected, the holes provide valuable geological information to help vector future drilling under cover at Kharmagtai.

### **Trenching continues to extends surface mineralisation at Tsagaan Sudal**

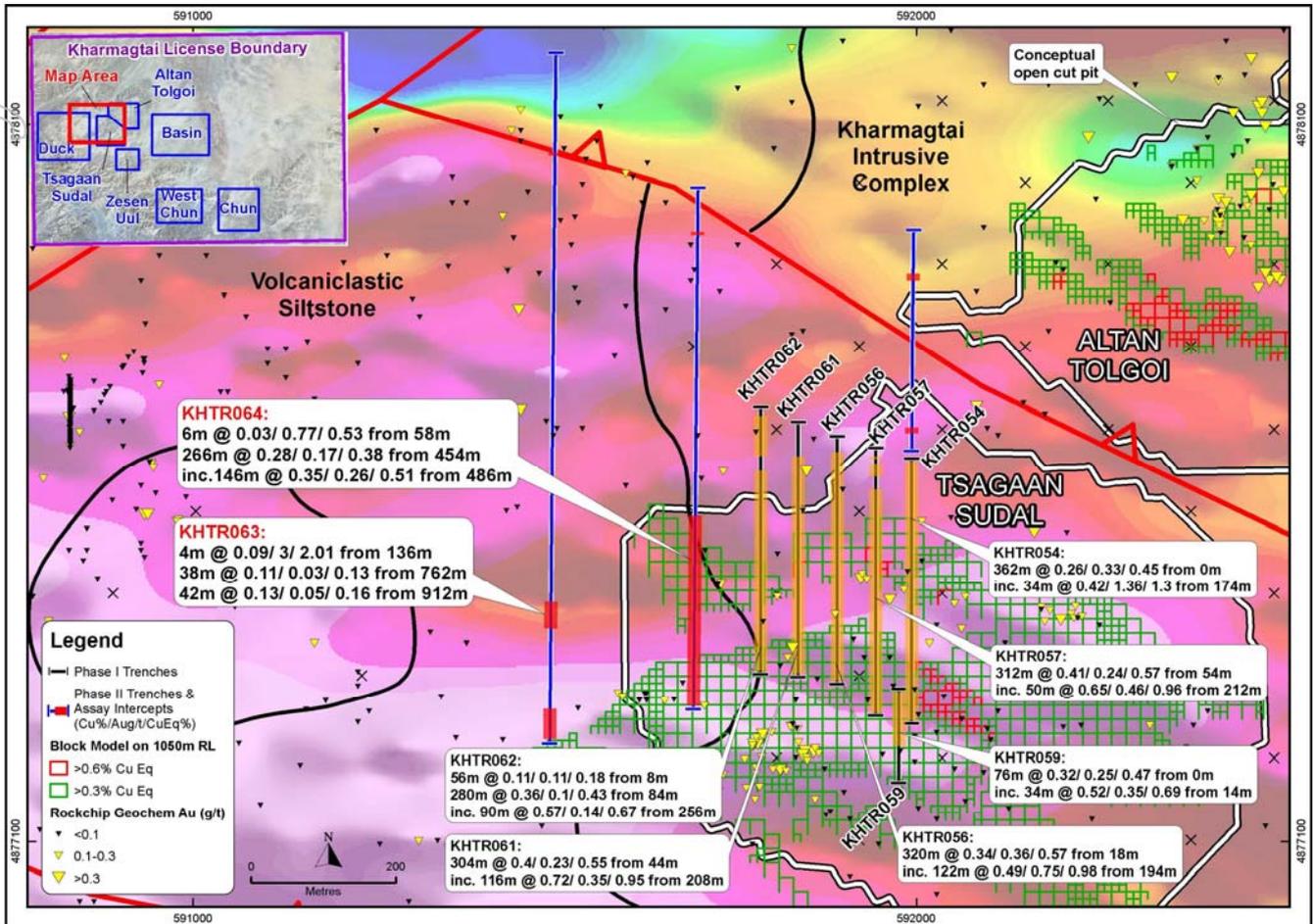
Three trenches have been excavated for approximately 1,976m (Figure 4 and 8). Trenching within the margins of the current Resource Pit Shell at Tsagaan Sudal continues to intersected significant surface mineralisation consistent with or better than the resource estimate providing further confidence to the geological interpretation, mineralisation controls, and resource model.

Assay results from all trenches are reported in Table 3 and significant results are reported in Table 4.

All trenches (Figure 8) were designed to test extensions to previously reported resources at Tsagaan Sudal (115mt grading 0.29% Cu and 0.23g/t Au; see XAM's ASX announcement - 19 March 2015) intersected broad zones of weak to moderate stockwork copper-gold mineralisation.

The best examples of this shallow stockwork mineralisation at Tsagaan Sudal is Trench KHTR064 which intersected 146m grading 0.35% Cu and 0.26g/t Au (0.51 CuEq).

Based on field observations the stockwork mineralisation in all trenches contain visible chalcopyrite and only minor copper and iron oxides, as has been observed in previous trenching and drilling at Kharmagtai, where there is no obvious depletion or enrichment of gold and copper in the oxide zone.



**Figure 8:** Tsagaan Sudal prospect showing current trenches and results, with resource blocks in the back ground.

### Newly acquired detailed ground magmatic date help refines new exploration targets

During the quarter a total of 1200-line-kilometres of new detailed infill ground magnetic data collected over the eastern portion of the Kharmagtai Intrusive Complex (KIC) that lies under shallow sedimentary cover. This new data is currently being processed and will be integrated in a new inversion model to assist with future drill hole targeting under cover.

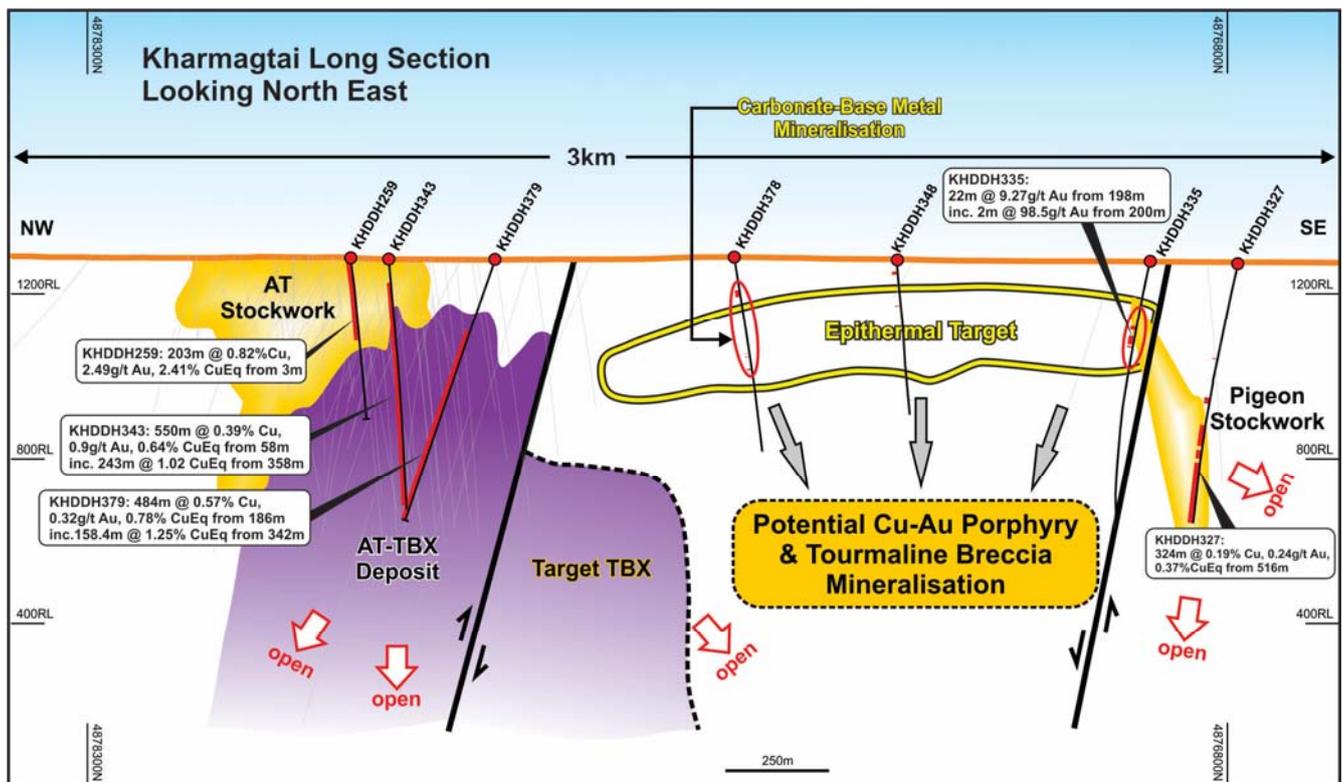
### Broadening range of targets

The recent intersection in diamond drill hole KHDDH378 of potentially significant carbonate-base metal (CBM) gold vein/breccia epithermal mineralisation (Figures 9 and 12) broadens the range of targets at Kharmagtai and opens up a whole new area for exploration. The gold mineralisation is associated with sheeted quartz-carbonate +/- pyrite-sphalerite-chalcopryrite and mineralogical similar breccia's with some fracture-related dissemination in wall-rocks (Figures 9 to 12).

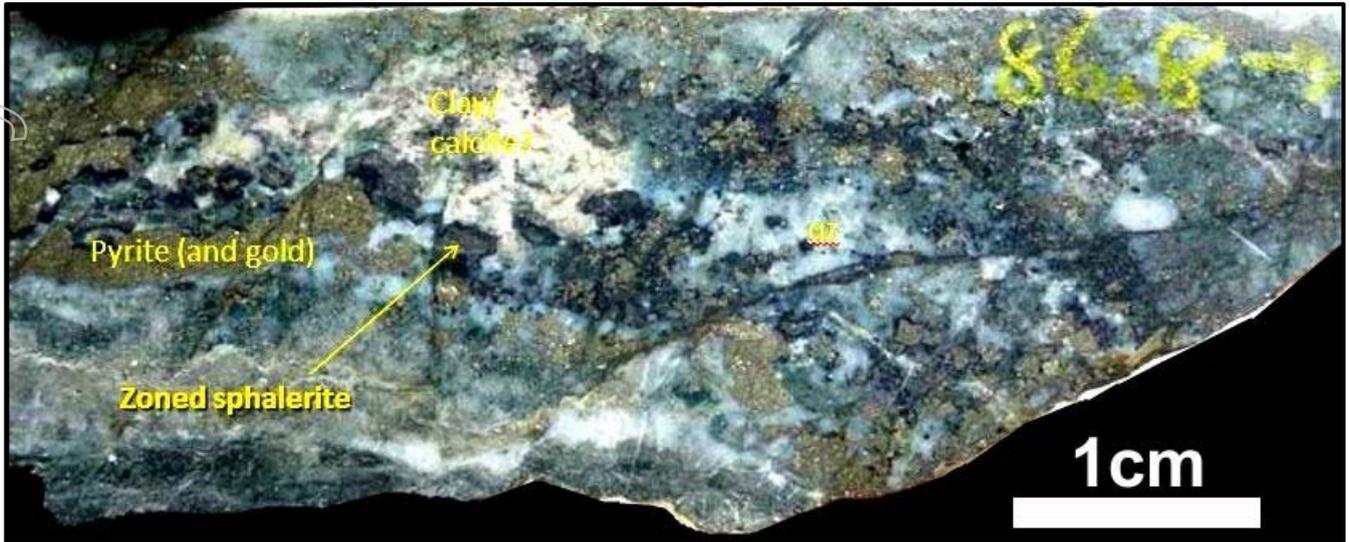
The carbonate-base metal gold vein/breccia epithermal mineralisation appears to be telescoped upon deeper level tourmaline copper-gold breccia mineralisation, indicating a link between CBM mineralisation and the adjacent porphyry/breccia alteration and mineralisation that provides a conceptual model that can aid exploration zones of mineralisation. This recent intersection of CBM mineralisation in KHDDH378 correlates with another intersection of high-grade CBM gold mineralisation previously intersected in KHDDH335 (2m interval which assayed 1.68% Cu, 98.5g/t

**Au, 1240ppm Pb, 5310ppm Zn and 10ppm Mo from 200m)** approximately one kilometre to the east and along strike (Figure 9).

Given the potential for bonanza grades and significant strike; this style of mineralisation is considered to be a very attractive target. The zonation seen world-wide for this association includes upwards transitions from copper-gold porphyry veins, to CBM, to shallow level Ag-Au systems (e.g. Corbett, 2002). Around the KIC and the region, there are zonation's apparent in these metals also that will provide invaluable exploration guides for ongoing exploration. These models also permit potential for discovery of shallow low sulphidation Au-Ag variants and replacement style of gold mineralisation.



**Figure 9:** Schematic long section showing location of Altan Tolgoi stockwork and tourmaline breccia copper-gold deposit. The main reverse faults drop rocks down to the east and may have introduced surface fluids into the unroofing porphyry-breccia system suggesting a link between CBM mineralisation and the adjacent porphyry/breccia alteration and mineralisation that provides a conceptual model.



**Figure 10:** Newly identified quartz carbonate-base metal gold mineralisation (CBM) in the upper part of KHDDH378. KHDDH378 – 86.8m. From a 2m interval (86 to 88m) which assayed 0.02% Cu, 0.18g/t Au, 214ppm Pb and 2670ppm Zn.



**Figure 11:** A series of gold-rich quartz-carbonate veins, with patchily elevated Cu and (minor) Zn. KHDDH378 – 256.8m. From a 2m interval (256 to 258m) which assayed 0.05% Cu, 0.61g/t Au, 5ppm Pb and 226ppm Zn.

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**Figure 12:** Strongly mineralised quartz carbonate base vein on the margins of a hydrothermal breccia. KHDDH335: 194-208m. From a 2m interval (200 to 202m) which assayed 1.68% Cu, 98.5g/t Au, 1240ppm Pb, 5310ppm Zn and 10ppm Mo.

### A multi-disciplinary technical review identifies new porphyry drill targets

The known porphyry deposits at the undeveloped Kharmagtai copper-gold project outcrop around the margin of the large Kharmagtai intrusive complex (covering approximately 25 square kilometres; Figure 2); with shallow sand covering over 70% of the Kharmagtai porphyry district. A review conducted with external consultants has helped delineate the most prospective structural corridors to focus ongoing exploration under shallow cover and provide a predictive structural model to prioritise target areas (Figures 2).

At a district scale our investigation shows that the emplacement of the known porphyry and tourmaline breccia mineralisation lies on the intersection of NNE-trending arc-parallel faults and

WNW-trending (reverse) transverse. The intersections of these faults formed dilatational conduits that facilitated the ascent and shallow emplacement of strongly mineralised stockwork and tourmaline breccia. Elsewhere in the world there is a strong spatial relationship between porphyry copper mineralisation and reverse faults and similar ore targeting methods were successful in the discovery of the giant Oyu Tolgoi copper-deposit located in the same porphyry belt approximately 120 kilometres to the south of the Kharmagtai project.

Based on the new structural model and 3D modelling, a number of distinct geophysical anomalies are located within these prospective structural corridors under shallow cover which are drill ready.

### **Exploration implications and forward plan**

Continued exploration success at Kharmagtai is evidence of our evolving and increasing understanding of the mineral system and reinforces the view that the district has strong potential to host large scale high-grade copper-gold mineralisation and potentially shallow high-grade epithermal gold mineralisation.

Blind porphyry copper centres may occur anywhere in the Kharmagtai district beneath the sedimentary cover and not necessarily confined to the Kharmagtai intrusive complex of deposits. If a true cluster of deposits exists, then magnetic anomalies underlying the sedimentary package east as well as south of the known deposit cluster could prove prospective.

The conceptual geological model for CBM gold mineralisation at Kharmagtai is well supported by geological observations in drill core and represents a new and exciting target.

Overall, Kharmagtai has sufficient prospects with exciting geology that it could easily develop into a district comparable to other porphyry districts in the in south Gobi region such as Oyu Tolgoi (located 120 kilometres to the south).

A comprehensive work program, comprising diamond and reverse circulation (RC) drilling is currently being finalised to incorporate new data to expand the limits and grade of the current deposits not included in the current resource inventory and to follow-up on recent trenching success at Tsagaan Sudal (refer ASX announcement 22 October 2015).

### **Oyut Ulaan Copper-Gold Project**

Geological mapping and geochemical sampling commence at Oyut Ulaan during the quarter. Oyut Ulaan is a large and underexplored porphyry district (covering approximately 40km<sup>2</sup>) and consists of multiple co-genetic porphyry copper-gold centres, mineralised tourmaline breccia pipes and copper-gold/base metal magnetite skarns, which occur within the central part of Mining Licence 17129A (Oyut Ulaan; Figure 1).

Previous exploration at Oyut Ulaan delivered good results from several different prospects with a spectrum of mineralisation styles, any combination of which could possibly transform Oyut Ulaan into a significant mining camp.

Exploration work is currently focused understanding shallow high-grade gold-rich copper skarn mineralisation. This work will investigate the potential shallow high-grade resources that could support a small-scale development.

The area defined by the current shallow and widely spaced drilling and number of prospects with exciting geology is relatively large and further reconnaissance exploration will assist in our search for shallow high-grade options within this large well mineralised porphyry district. Further reconnaissance

exploration, geophysics, field mapping, and infill soil-sampling are ongoing, and Xanadu expects to drill test these new targets in the next 6 months.

## **CORPORATE ACTIVITIES**

Corporate activities during the quarter focused on a capital raise to fund on-going exploration and successfully negotiating a reduction of the balance of the Deferred Acquisition Consideration for the advanced Kharmagtai copper-gold project with Turquoise Hill Resources Ltd (TSX: TRQ).

Discussions were also initiated with numerous strategic investors resulting in the signing of a number of confidentiality agreements and completion of several site visits. Continued exploration success at Kharmagtai over the past year indicates it is one of the most promising copper-gold projects globally, and recent discovery of the tourmaline breccia mineralisation ranks it as one of the highest grade porphyry discoveries in last 12 months. Xanadu is funded to progress exploration but our strategy is also to keep a healthy dialogue open with potential strategic partners as an option for future collaboration.

### **Successful placement and a share purchase plan**

During the quarter the Company successfully completed a placement of 70.6 million ordinary fully paid shares in the Company at \$0.125 per share to raise \$8.8 million (Placement). The Placement was completed in two tranches with Tranche 1 consisting of 56.2 million shares issued under Xanadu's 15% placement capacity in accordance with ASX Listing Rule 7.1. Tranche 2 consisted of 10.3 million shares issued to shareholder following approval at a general meeting convened on the 23 December 2015.

Bell Potter Securities Limited acted as Lead Manager.

The successful placement was achieved through strong support received from new and existing sophisticated and institutional shareholders. ACA associates participated and remain at 26.6% equity position in strong support of the Company.

The Company advises that 4.1 million fully paid ordinary shares under the SPP were issued and allotted at \$0.125 per share, the same price that applied to the placement announced by Xanadu on 12 November 2015. The shares issued under the SPP ranked equally with existing Xanadu shares. The total funds raised under the SPP was \$0.5 million.

The funds raised from this Placement will be used to reduce the Kharmagtai deferred acquisition consideration and advance the Company's exploration program at our Kharmagtai project.

### **Reduction and full repayment of Kharmagtai deferred acquisition consideration**

Shortly after the end of the quarter, the Company reached agreement with Turquoise Hill Resources Ltd (TSX: TRQ) to reduce the balance of the Deferred Acquisition Consideration for the advanced Kharmagtai copper-gold project by over US\$1 million. This reduction is subject to the remaining balance of US\$2.8 million (A\$4 million) (the New Balance) of the Deferred Consideration being paid by March 2016.

Prior to the renegotiation with TRQ, the outstanding balance of the Deferred Consideration was US\$3.84 million and payable by July 2016. Based on the requirement to reduce the balance by 50% of net capital raise proceeds, Xanadu had budgeted an outflow of A\$4.15 million from the recent (December 2015) net \$A8.3 million capital raise. The revised agreement with TRQ allows us to achieve the important milestone of full repayment of the deferred consideration at less than budget.

The Company is very pleased to be able to complete the acquisition of the Kharmagtai project and Xanadu is now able to enter 2016 with its main asset fully secured and an improved balance sheet.

### **Share Capital**

As at 31 December 2015, the Company had 445,285,489 fully paid shares, 6,500,000 performance rights and 38,000,000 unlisted options on issue, of which 35,000,000 options issued pursuant to the restructure of the Oyut Ulaan Acquisition terms.

### **Financial position**

As at 31 December 2015, the Company's cash position was A\$8.6m.

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## **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 Mongol Metals LLC, equivalent to a 76.5% effective project 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 south southwest 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 licence area has only been partially explored and the potential for further discoveries remains high.

## **COMPETENT PERSON STATEMENTS**

### **Exploration Results**

*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 a 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.*

### **Kharmagtai Mineral Resource Estimate**

*The information in this report that relates to Kharmagtai Mineral Resource Estimate is extracted from an ASX announcements dated 19 March 2015 and is available to view at <http://www.xanadumines.com>. The information that relates to Mineral Resources is based on information compiled by Mr Andrew J. Vigar, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Vigar is employed by Mining Associates Limited in Hong Kong. Mr Vigar has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a "Competent Person" as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Vigar consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

**Table 1:** Kharmagtai drill hole details from fourth quarter.

Hole ID	Prospect	East	North	RL	Azi (°)	Dip	Depth (m)
KHDDH380	East AT	592813	4877700	1282	180	-75	505
KHDDH381	Basin	593225	4877020	1280	180	-75	551
KHDDH382	Duck	591435	4877800	1304	45	-60	559
KHDDH383	ZU	592630	4876430	1300	90	-60	439.5
KHDDH384	Basin	594100	4876850	1285	330	-70	509.25
KHDDH385	East AT	593150	4878100	1280	143	-72	376

**Table 2:** Kharmagtai significant drill results from fourth quarter.

Hole ID	Prospect	From (m)	To (m)	Interval (m)	Cu %	Au g/t	CuEq %**
KHDDH380	East AT	96	100	4	0.16	0.02	0.18
	<i>and</i>	174	176	2	0.16	0.03	0.18
	<i>and</i>	184	186	2	0.13	0.04	0.16
	<i>and</i>	218	222	4	0.14	0.03	0.17
	<i>and</i>	250	252	2	0.19	0.03	0.21
	<i>and</i>	322	324.2	2.2	0.1	0.03	0.12
	<i>and</i>	334	505	171	0.16	0.07	0.21
	<i>Including</i>	364	382	18	0.38	0.12	0.46
KHDDH381	Basin	70	74	4	0.12	0.01	0.13
	<i>and</i>	202	204	2	0.05	4.63	3.01
	<i>and</i>	266	268	2	0.05	0.16	0.16
	<i>and</i>	276	278	2	0.22	0.03	0.24
	<i>and</i>	350	352	2	0.11	0.03	0.13
	<i>and</i>	366	368	2	0.2	0.03	0.22
	<i>and</i>	372	374	2	0.1	0.02	0.12
	<i>and</i>	388	416	28	0.1	0.04	0.11
	<i>and</i>	454	456	2	0.1	0.02	0.11
KHDDH382	Duck	96	98	2	0.01	0.48	0.32
	<i>and</i>	156	158	2	0.03	0.16	0.14
	<i>and</i>	159.8	162	2.2	0.01	0.16	0.12
	<i>and</i>	246	260	14	0.02	0.12	0.1
	<i>and</i>	328	332	4	0.006	0.2	0.14
	<i>and</i>	482	484	2	0.02	0.26	0.19

Hole ID	Prospect	From (m)	To (m)	Interval (m)	Cu %	Au g/t	CuEq %**
<i>and</i>		496	498	2	0.007	0.39	0.26
<i>and</i>		540	542	2	0.1	0.05	0.14
<i>and</i>		546	559	13	0.02	0.13	0.11
KHDDH383	Zesen Uul	1.7	174	172.3	0.87	1.28	1.7
<i>Including</i>		42	156	114	1.15	1.86	2.34
<i>and</i>		226	236	10	0.03	1.38	0.92
KHDDH384	Basin	46	56	10	0.03	0.29	0.22
<i>and</i>		170	172	2	0.03	0.11	0.11
<i>and</i>		282	286	4	0.17	1.54	1.16
<i>and</i>		326	328	2	0.11	0.08	0.17
<i>and</i>		372	376	4	0.06	0.11	0.14
<i>and</i>		412	414	2	0.03	0.39	0.28
KHDDH385	East AT	42	44	2	0.04	0.22	0.19
<i>and</i>		86	88	2	0.09	0.29	0.28
<i>and</i>		158	160	2	0.09	0.31	0.29
<i>and</i>		228	232	4	0.006	0.22	0.15
<i>and</i>		292	294	2	0.01	0.27	0.19

**Table 3:** Kharmagtai trench details from fourth quarter.

Trench ID	Prospect	Start East	Start North	RL	Azi (°)	Length (m)
KHTR063	Tsagan Sudal	591503	4878231	1279	184	956
KHTR064	Tsagan Sudal	591698	4878008	1279	184	720
KHTR065	Altan Tolgoi	591996	4877949	1285	184	300

**Table 4:** Kharmagtai significant trench results from fourth quarter.

Trench ID	Prospect	From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	CuEq (%)**
KHTR063	Tsagan Sudal	18	20	2	0.13	0.04	0.16
<i>and</i>		126	132	6	0.03	0.6	0.42
<i>and</i>		136	140	4	0.09	3	2.01
<i>and</i>		150	152	2	0.01	0.97	0.64
<i>and</i>		582	584	2	0.13	0.09	0.19
<i>and</i>		762	800	38	0.11	0.03	0.13
<i>and</i>		840	844	4	0.11		0.11

Trench ID	Prospect	From (m)	To (m)	Interval (m)	Cu (%)	Au (g/t)	CuEq (%) **
<i>and</i>		878	896	18	0.1	0.14	0.16
<i>and</i>		912	954	42	0.13	0.05	0.16
KHTR064	Tsagan Sudal	58	64	6	0.03	0.77	0.53
<i>and</i>		88	90	2		0.87	0.56
<i>and</i>		294	296	2	0.1	0.01	0.11
<i>and</i>		374	400	26	0.14	0.05	0.15
<i>and</i>		408	416	8	0.1	0.04	0.11
<i>and</i>		438	446	8	0.31	0.03	0.32
<i>and</i>		454	720	266	0.28	0.17	0.38
<i>including</i>		486	632	146	0.35	0.26	0.51
KHTR065	Altan Tolgoi	34	36	2	0.14	0.05	0.17
<i>and</i>		58	68	10	0.03	0.4	0.30
<i>and</i>		82	84	2	0.11	0.34	0.33
<i>and</i>		162	164	2	0.12	0.06	0.16
<i>and</i>		168	170	2	0.11	0.02	0.13
<i>and</i>		272	280	8	0.13	0.03	0.16
<i>and</i>		284	288	4	0.05	0.14	0.15
<i>and</i>		296	300	4	0.05	0.17	0.17

**TABLE 5: TENEMENTS HELD AS AT 31 DECEMBER 2015**

Set out below is the relevant information in relation to Xanadu's mining tenements as required under ASX Listing Rule 5.3.3.

Tenement No.	Tenement Name	Location	Change in % Interest	% Interest as at 31 December
MV17387A <sup>1</sup>	Kharmagtai	Umnugovi Province	-	64%
MV017129	Oyut Ulaan	Dornogovi Province	-	90%
13670x	Sharchuluut	Bulgan Province	-	100%

<sup>1</sup> The Kharmagtai project has been funded through Xanadu's interest in Mongol Metals LLC by a combination of equity and shareholder advances converted to equity periodically. Xanadu's interest in Mongol Metals LLC is equivalent to approximately 71.3% as at 31 December 2015 (an effective 64.2% interest in the Kharmagtai project).

**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 30 October 2015.

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

Criteria	JORC Code (Section 1) Explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling and assaying.</li> <li>Measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> </ul>	<ul style="list-style-type: none"> <li>The resource estimate is based on drill samples only.</li> <li>Representative 2 metre samples were taken from ½ NQ or HQ diamond core and chip channel samples from trenches.</li> <li>Only assay result results from recognised, independent assay laboratories were used in Resource calculation after QAQC was verified.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type and details.</li> </ul>	<ul style="list-style-type: none"> <li>DDH drilling has been the primary drilling method.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>DDH core recoveries have been very good, averaging between 97% and 99% for all of the deposits. In localised areas of faulting and/or fracturing the recoveries decrease; however this is a very small percentage of the overall mineralised zones.</li> <li>Recovery measurements were collected during all DDH programs. The methodology used for measuring recovery is standard industry practice.</li> <li>Analysis of recovery results vs. grade indicates no significant trends. Indicating bias of grades due to diminished recovery and / or wetness of samples.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Drill and trench samples are logged for lithology, mineralisation and alteration and geotechnical aspects using a standardised logging system, including the recording of visually estimated volume percentages of major minerals.</li> <li>Drill core was photographed after being logged by a geologist.</li> <li>The entire interval drilled and trenched has been logged by a geologist.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>Sample intervals are a constant 2m interval down-hole in length.</li> <li>Trench chip channel samples taken close to the base of the trench wall (about 10cm above the floor). Samples are about 3kg.</li> </ul>

Criteria	JORC Code (Section 1) Explanation	Commentary
	<p>sub-sampling stages to maximiserepresentivity of samples.</p> <ul style="list-style-type: none"> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Trench Sample collected with a plastic sheet or tray.</li> <li>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 Ulaanbaatar.</li> <li>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.</li> <li>Certified reference materials (CRMs), blanks and pulp duplicate were randomly inserted to manage the quality of data.</li> <li>Sample sizes are well in excess of standard industry requirements.</li> </ul>
<p><b>Quality of assay data and laboratory tests</b></p>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All samples were routinely assayed by SGS Mongolia for gold, copper, silver, lead, zinc, arsenic and molybdenum.</li> <li>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.</li> <li>Cu, Ag, Pb, Zn, As and Mo were routinely determined using a three-acid-digestion of a 0.3g sub-sample followed by an AAS finish (AAS21R). Samples are digested with nitric, hydrochloric and perchloric acids to dryness before leaching with hydrochloric acid to dissolve soluble salts and made to 15ml volume with distilled water. The LDL for copper using this technique was 2ppm. Where copper is over-range (&gt;1% Cu), it is analysed by a second analytical technique (AAS22S), which has a higher upper detection limit (UDL) of 5% copper.</li> <li>Quality assurance was provided by introduction of known certified standards, blanks and duplicate samples on a routine basis.</li> <li>Assay results outside the optimal range for methods were re-analysed by appropriate methods.</li> <li>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</li> </ul>

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Criteria	JORC Code (Section 1) Explanation	Commentary
		<p>matched copper-gold standards.</p> <ul style="list-style-type: none"> <li>• QAQC monitoring is an active and ongoing processes on batch by batch basis by which unacceptable results are re-assayed as soon as practicable.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>• All assay data QAQC is checked prior to loading into the Geobank data base.</li> <li>• The data is managed XAM geologists.</li> <li>• The data base and geological interpretation is collectively managed by XAM.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• Diamond drill holes and trenches have been surveyed with a differential global positioning system (DGPS) to within 10cm accuracy.</li> <li>• 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.</li> <li>• UTM WGS84 48N grid.</li> <li>• The DTM is based on 1m contours with an accuracy of <math>\pm 0.01</math>m.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• 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.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• Drilling and trenching has been completed on nominal north-south sections, commencing at 120m spacing and then closing to 40m for resource estimation.</li> <li>• Vertical spacing of intercepts on the mineralised zones similarly commences at 100m spacing and then closing to 50m for resource estimation.</li> <li>• 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.</li> <li>• Holes have been drilled to 1000m vertical depth</li> <li>• 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.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key</li> </ul>	<ul style="list-style-type: none"> <li>• Drilling and trenching 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.</li> <li>• Vertical to South dipping ore bodies were</li> </ul>

Criteria	JORC Code (Section 1) Explanation	Commentary
	mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	<p>predominantly drilled to the north.</p> <ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples are dispatched from site through via company employees and secure company vehicles to the Laboratories.</li> <li>Samples are signed for at the Laboratory with confirmation of receipt emailed through.</li> <li>Samples are then stored at the lab and returned to a locked storage site.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data</li> </ul>	<ul style="list-style-type: none"> <li>Internal audits of sampling techniques and data management on a regular basis, to ensure industry best practice is employed at all times.</li> <li>External review and audit have been conducted by the following groups.</li> <li>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.</li> <li>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.</li> </ul>

## 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
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The Project comprises 1 Mining Licence (MV 17387A).</li> <li>100% owned by Oyut Ulaan LLC.</li> <li>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.</li> <li>The Mongolian Minerals Law (2006) and Mongolian Land Law (2002) govern exploration, mining and land use rights for</li> </ul>

Criteria	JORC Code (Section 2) Explanation	Commentary
		the project.
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation is characterised as porphyry copper-gold type.</li> <li>Porphyry copper-gold deposits are formed from magmatic hydrothermal fluids typically associated with felsic intrusive stocks that have deposited metals as sulphides both within the intrusive and the intruded host rocks. Quartz stockwork veining is typically associated with sulphides occurring both within the quartz veinlets and disseminated throughout the wall rock. Porphyry deposits are typically large tonnage deposits ranging from low to high grade and are generally mined by large scale open pit or underground bulk mining methods. The 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.</li> </ul>
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>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:               <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar.</li> <li>elevation or RL Reduced Level – elevation above sea level in metres) of the drill hole collar .</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Diamond drill holes are the principal source of geological and grade data for the Project.</li> <li>See figures in main report.</li> </ul>
<b>Data Aggregation methods</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the</li> </ul>	<ul style="list-style-type: none"> <li>A nominal cut-off of 0.1% Cu is used for identification of potentially significant intercepts for reporting purposes.</li> <li>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.</li> </ul>

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Criteria	JORC Code (Section 2) Explanation	Commentary
	<p>procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>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).</li> <li>Metal equivalents used the following formula:  <math display="block">\text{CuEq} = \text{Cu\%} \times (\text{Aug/t} \times 0.6378)</math> </li> </ul> <p>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.</p>
<b>Relationship between mineralisation on widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>Resource estimation, as reported later, was done in 3D space.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>See figures in main report.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Extensive work in this area has been done, and is reported separately.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation is open at depth and along strike.</li> <li>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</li> </ul>

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Criteria	JORC Code (Section 2) Explanation	Commentary
	geological interpretations and future drilling areas, provided this information is not commercially sensitive.	potentially suitable for underground extraction. <ul style="list-style-type: none"> <li>• Exploration on going.</li> </ul>

### 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
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>• The database is a Geobank data base system.</li> <li>• Data is logged directly into an Excel spreadsheet logging system with drop down field lists.</li> <li>• Validation checks are written into the importing program ensures all data is of high quality.</li> <li>• Digital assay data is obtained from the Laboratory, QAQC checked and imported</li> <li>• Geobank exported to Access, and connected directly to the GemcomSurpac Software.</li> <li>• 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.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>• If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• Andrew Vigar of Mining Associates visited site from 24 and 25 October 2014.</li> <li>• 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.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>• Confidence in (or conversely, the uncertainty of the geological interpretation of the mineral deposit.</li> <li>• Nature of the data used and of any assumptions made.</li> <li>• The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>• The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>• The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>• Mineralisation resulted in the formation of comprises quartz-chalcopyrite-pyrite-magnetite stockwork veins and minor breccias.</li> <li>• 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.</li> <li>• 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.</li> <li>• Sulphidemineralisation is zoned from a</li> </ul>

Criteria	JORC Code (Section 3) Explanation	Commentary
		<p>bornite-rich core that zone outwards to chalcopyrite-rich and then outer pyritic haloes, with gold closely associated with bornite.</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• ZU forms a sub vertical body of stockwork approximately 350 × 100 metres by at least 200 metres and plunges to the southeast.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>• The assumptions made regarding recovery of by-products.</li> </ul>	<ul style="list-style-type: none"> <li>• The estimate Estimation Performed using Ordinary Kriging.</li> <li>• Variograms are reasonable along strike.</li> <li>• Minimum &amp; Maximum Informing samples is 5 and 20 (1st pass), Second pass is 3 and 20.</li> <li>• Copper and Gold Interpreted separately on NS sections and estimated as separate domains.</li> <li>• Halo mineralisation defined as 0.12% Cu and 0.12g/t Au Grade.</li> <li>• 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</li> </ul>

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Criteria	JORC Code (Section 3) Explanation	Commentary
	<ul style="list-style-type: none"> <li>• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>• Any assumptions behind modelling of selective mining units.</li> <li>• Any assumptions about correlation between variables.</li> <li>• Description of how the geological interpretation was used to control the resource estimates.</li> <li>• Discussion of basis for using or not using grade cutting or capping.</li> <li>• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>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 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.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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<sup>3</sup>. 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<sup>2</sup> interpolation was applied.</li> <li>• 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.</li> <li>• 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</li> </ul>

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Criteria	JORC Code (Section 3) Explanation	Commentary
		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; $CuEq = Cu\% \times (Aug/t \times 0.6378)$ 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.
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>All tonnages are reported on a dry basis.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Cut off grades applied are copper-equivalent (CuEq) cut off values of 0.3% for possible open pit and 0.5% for underground.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>The deposit is amenable to large scale bulk mining.</li> <li>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</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No metallurgical factors have been applied to the in situ grade estimates.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>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</li> </ul>

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Criteria	JORC Code (Section 3) Explanation	Commentary
	<p>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 assumptions made.</p>	<p>administered by the Mongolian Ministry for Nature and Environment (MNE).</p>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>• A total of 4428 measurements for specific gravity are recorded in the database, all of which were determined by the water immersion method.</li> <li>• The average density of all samples is approximately 2.74 t/m<sup>3</sup>. 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<sup>2</sup>) was applied to a density attribute.</li> <li>• 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).</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>• 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).</li> <li>• Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The Mineral Resource statement relates to global estimates of in situ tonnes and grade</li> <li>• 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.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Good correlation of geological and grade boundaries were observed</li> <li>• 2013 - Mining Associates Ltd. was engaged to conduct an Independent Technical Report to review drilling, sampling techniques, QAQC and previous</li> </ul>

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Criteria	JORC Code (Section 3) Explanation	Commentary
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li>• 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 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.</li> <li>• 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.</li> <li>• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<p>resource estimates. Methods were found to conform to international best practice.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Resource categories were constrained by geological understanding, data density and quality, and estimation parameters. It is expected that further work will extend this considerably.</li> <li>• Resources estimates have been made on a global basis and relates to in situ grades.</li> <li>• 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.</li> <li>• The deposits are not currently being mined.</li> <li>• There is surface evidence of historic artisanal workings.</li> <li>• No production data is available.</li> </ul>

#### 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.

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## Appendix 5B

### Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/2013

Name of entity

**XANADU MINES LIMITED**

ABN

92 114 249 026

Quarter ended ("current quarter")

31 December 2015

#### Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (12 months) \$A'000
1.1 Receipts from product sales and related debtors	-	-
1.2 Payments for (a) exploration & evaluation	(1,480)	(4,286)
(b) development	-	-
(c) production	-	-
(d) administration	(566)	(3,010)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	2	37
1.5 Interest and other costs of finance paid	(81)	(81)
1.6 Income taxes paid	-	-
1.7 Other (provide details if material)	-	-
<b>Net Operating Cash Flows</b>	<b>(2,125)</b>	<b>(7,340)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of: (a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.9 Proceeds from sale of: (a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other (provide details if material)	-	(838)
<b>Net investing cash flows</b>	<b>-</b>	<b>(838)</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(2,125)</b>	<b>(8,178)</b>

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## Appendix 5B

### Mining exploration entity and oil and gas exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	(2,125)	(8,178)
<b>Cash flows related to financing activities</b>			
1.14	Proceeds from issues of shares, options, etc.	8,826	9,736
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other (share issue costs)	(473)	(496)
<b>Net financing cash flows</b>		8,353	9,240
<b>Net increase (decrease) in cash held</b>		6,228	1,062
1.20	Cash at beginning of quarter/year to date	2,524	7,508
1.21	Exchange rate adjustments to item 1.20	(113)	69
1.22	<b>Cash at end of quarter</b>	8,639	8,639

### Payments to directors of the entity, associates of the directors, related entities of the entity and associates of the related entities

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	152
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

N/A

### Non-cash financing and investing activities

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

N/A

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

N/A

+ See chapter 19 for defined terms.

### Financing facilities available

Add notes as necessary for an understanding of the position.

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities	\$5,488 <i>(US\$4,000)</i>	\$3,430 <i>(US\$2,500)</i>
3.2 Credit standby arrangements	-	-

### Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	804
4.2 Development	-
4.3 Production	-
4.4 Administration	543
<b>Total</b>	<b>1,347</b>

### Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.	Current quarter \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank	8,639	2,524
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Total: cash at end of quarter (item 1.22)</b>	<b>8,639</b>	<b>2,524</b>

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## Appendix 5B

### Mining exploration entity and oil and gas exploration entity quarterly report

#### Changes in interests in mining tenements and petroleum tenements

	Tenement reference and location	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements and petroleum tenements relinquished, reduced or lapsed	N/A		
6.2	Interests in mining tenements and petroleum tenements acquired or increased	N/A		

#### Issued and quoted securities at end of current quarter

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	<b>Preference securities</b> (description)	N/A		
7.2	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions			
7.3	<b>*Ordinary securities</b>	445,285,489	445,285,489	
7.4	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs	70,607,263 ordinary shares	70,607,263 ordinary shares	\$0.125 \$8,825,908
7.5	<b>*Convertible debt securities</b> (description)	N/A		

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## Mining exploration entity and oil and gas exploration entity quarterly report

7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7	<b>Options</b> (description and conversion factor)	<i>Options</i> 1,000,000 1,000,000 1,000,000  15,000,000 20,000,000  <i>Share Rights</i> 1,250,000 1,200,000 700,000 1,000,000 1,350,000 1,000,000		<i>Exercise price</i> \$0.60 \$1.20 \$1.80  Nil subject to share price and tenure hurdles  Nil subject to share price and tenure hurdles	<i>Expiry date</i> 31/12/2016 31/12/2016 31/12/2016  14/1/2019 14/1/2019  28/2/2016 21/5/2016 01/6/2017 18/9/2017 1/2/2018 16/6/2018
7.8	Issued during quarter	<i>Share Rights</i> 1,000,000		Nil subject to share price and tenure hurdles	16/6/2018
7.9	Exercised during quarter	N/A			
7.10	Expired during quarter	N/A			
7.11	<b>Debentures</b> (totals only)	N/A			
7.12	<b>Unsecured notes</b> (totals only)	N/A			

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## Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 5).
- 2 This statement does ~~does not~~\* (*delete one*) give a true and fair view of the matters disclosed.

Sign here:



Date: 29 January 2016

Print name:

Company secretary  
Janine Rolfe

## Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements and petroleum tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement or petroleum tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Financial Reporting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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