

# QUARTERLY ACTIVITIES REPORT

ACTIVITIES FOR THE QUARTER ENDING 31 MARCH 2015

## HIGHLIGHTS

### **Maiden Mineral Resource Estimate complete for Kharmagtai**

- Total Resource 203 Mt @ 0.34% Cu and 0.33 g/t Au (0.55 % Cu equivalent “CuEq”);
  - Contained metal content of 1,500 Mlb Cu and 2.2 Moz Au;
  - Combined open pit and underground Resource using a 0.3% CuEq cut-off within a Whittle optimised shell and 0.5% CuEq outside;
- High grade core of 56 Mt at 0.47% Cu and 0.59 g/t Au (0.85% CuEq);
  - Contained metal content of 580 Mlb Cu and 1.1 Moz Au;
  - Combined open pit and underground Resource using a 0.6% CuEq cut-off;
- The current Resources occupy only a small portion of the much larger mineralised Kharmagtai Intrusive Complex (KIC) which was first identified from surface outcrops and already partly extended under shallow cover using geophysics and drill testing.

### **Exploration Targeting New Discoveries at Kharmagtai**

- Exploration drilling recommences at Kharmagtai;
- Exploration drilling will test numerous near-surface strike extensions and several high priority targets lying under shallow cover that have the same geophysical response and geometry as existing resources within the Kharmagtai district;
- Drilling to target an increase in the Maiden Resource Estimate.

### **Future growth from exploration success on several fronts**

- Approximately 2000m of exploration drilling recently completed at Oyut Ulaan with full results and analysis to be finalised in the first week of May.

### **Strong financial position and leadership team**

- Strong balance sheet with A\$6.4m cash at 31 March;
- \$15.3m raised from Placement and Rights Issue and Noble Group maintains 9% equity ownership;
- Mark Wheatley was appointed as Executive Chairman (50% basis) and Dr. Andrew Stewart as Chief Executive Officer;
- New appointments are an important step for Xanadu as the Company focuses on its Mongolian copper-gold strategy and continued exploration success.

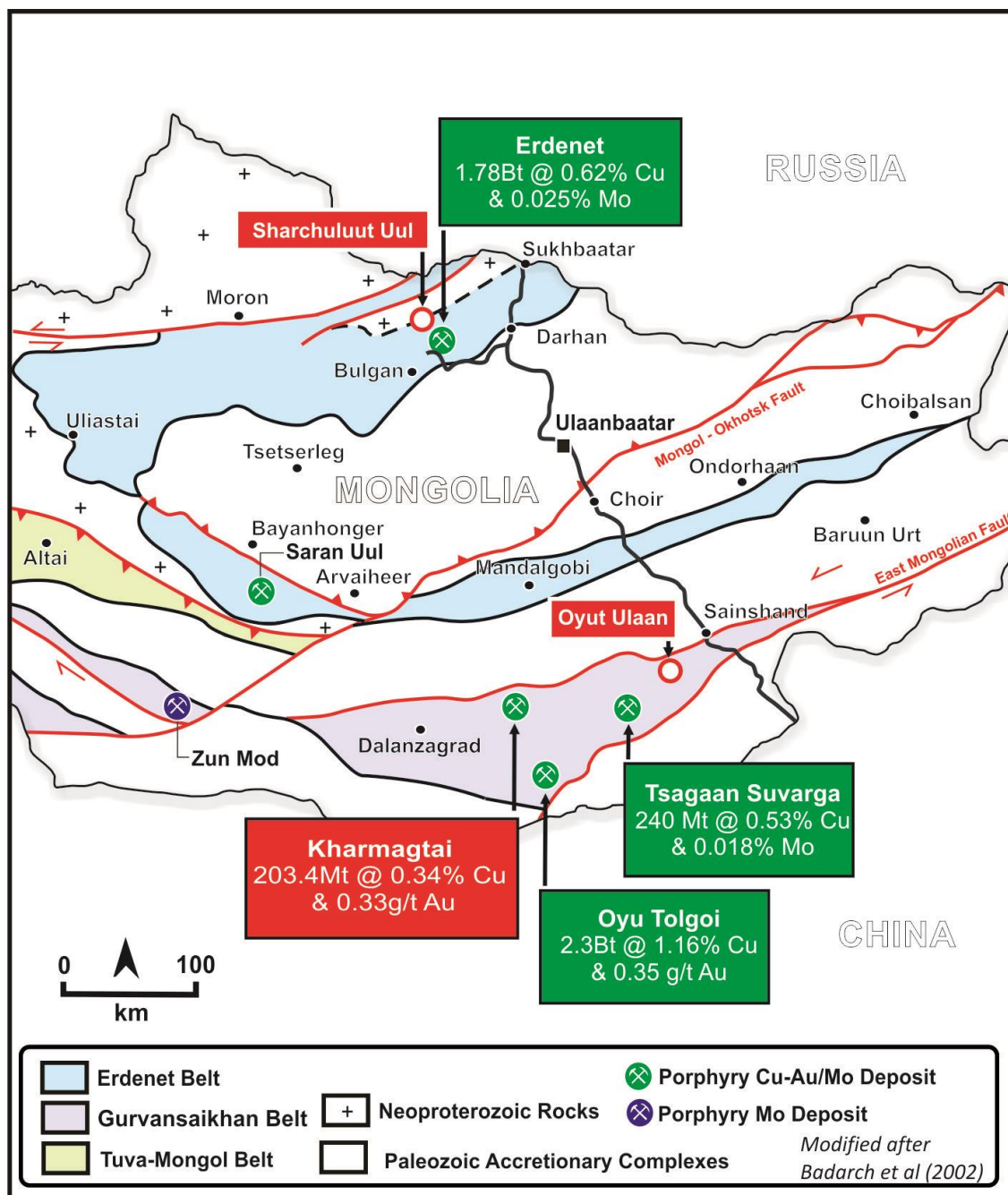
### **Recent success at Kharmagtai recognised as one of the world’s most exciting exploration projects**

- Xanadu was nominated for both “Exploration Deal of the Year” and “Discovery of the Year” at the annual Mines and Money Conference in Hong Kong in March.

Xanadu Mines Ltd (ASX: XAM – “Xanadu”) is pleased to provide shareholders with an update for the three months to 31 March 2015.

Xanadu has achieved a significant milestone this quarter by completing a maiden Mineral Resource Estimate in accordance with the JORC 2012 Code for the Kharmagtai copper-gold project within 12 months since acquisition. The Kharmagtai project is one of the most advanced copper-gold projects in northern Asia and Xanadu’s exploration activities continue to increase the potential viability of the project through focused exploration.

**Figure 1:** Location of the Kharmagtai and Oyut Ulaan copper-gold projects within Mongolia’s South Gobi Copper Belt.





## KHARMAGTAI PROJECT

The Kharmagtai project is located within the South Gobi porphyry copper province of Mongolia, approximately 420km south-southwest of Ulaanbaatar (Figure 1). The project is strategically located 120km north of the giant Oyu Tolgoi porphyry copper-gold operation and 100km west of the Tsagaan Suvarga porphyry copper-molybdenum development.

The Kharmagtai project is a joint venture between Xanadu Mines and Mongol Metals LLC. 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.

## KHARMAGTAI JORC RESOURCE

Exploration at Kharmagtai over the past decade has delineated numerous shallow gold-rich Cu-Au porphyry systems and the project is presently growing towards a moderate-size porphyry deposit, with relatively high Au (ppm) to Cu (%) ratios.

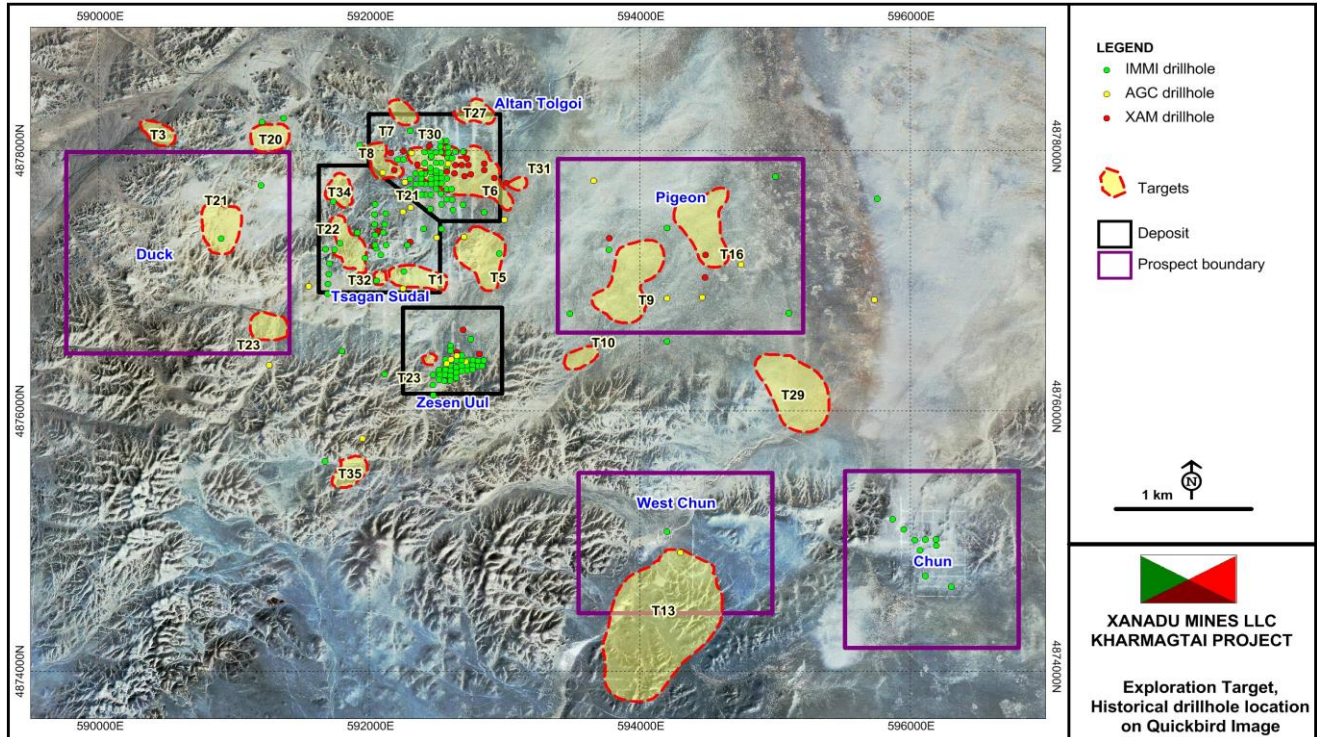
Xanadu announced on a Maiden JORC Mineral Resource Estimate on 19 March 2015. The Mineral Resource Estimate amounts to **203 Mt @ 0.34% Cu and 0.33 g/t Au (0.55% CuEq) for a contained metal content of 1,500 Mlb Cu and 2.2 Moz Au**. This Mineral Resource, based on a total of 108,130 metres of drilling (83,577 metres of diamond and 24,553 metres of Reverse Circulation) and includes indicated resource categories as well as inferred classified material, is reported at a 0.3% CuEq cut-off constrained within Whittle optimised pit shells and CuEq cut-off 0.5% CuEq applied to the underground resources (Tables 1 & 4).

The Resource Estimate also includes a higher grade core of **56 Mt @ 0.47% Cu and 0.59 g/t Au (0.85% Cu equivalent) for a contained metal content of 580 Mlb Cu and 1.1 Moz Au**. The higher grade core is reported at a 0.6% CuEq cut-off and split between open pit within a Whittle optimised pit shell and underground outside of the pit shell (Tables 2 & 5).

Mineralisation is open along strike and at depth with high grade tourmaline breccia hosted mineralisation intersections open at depth and along strikes (Figures 3 & 4). Significant potential exists to increase the current Resource Estimate through additional drilling which will target near-surface strike extensions and several high priority targets lying under shallow cover that have the same geophysical response and geometry as existing deposits.

Xanadu is very proud to be delivering a maiden Mineral Resource estimate within a year of its acquisition. Recent exploration and the rapid conversion to a maiden Mineral Resource is the result of a great team effort.

**Figure 2:** Kharmagtai porphyry copper-gold district showing location of Altan Tolgoi, Tsagaan Sudal and Zesen Uul deposits, as well as other porphyry targets.



**Table 1:** Summary Mineral Resource Estimate tabulation for Kharmagtai Deposit, March 2015. Reported at a 0.3% CuEq cut-off constrained within optimised pit shells, and CuEq cut-off 0.5% CuEq applied to the underground. Refer to Table 4 for the detailed Mineral Resource Estimate.

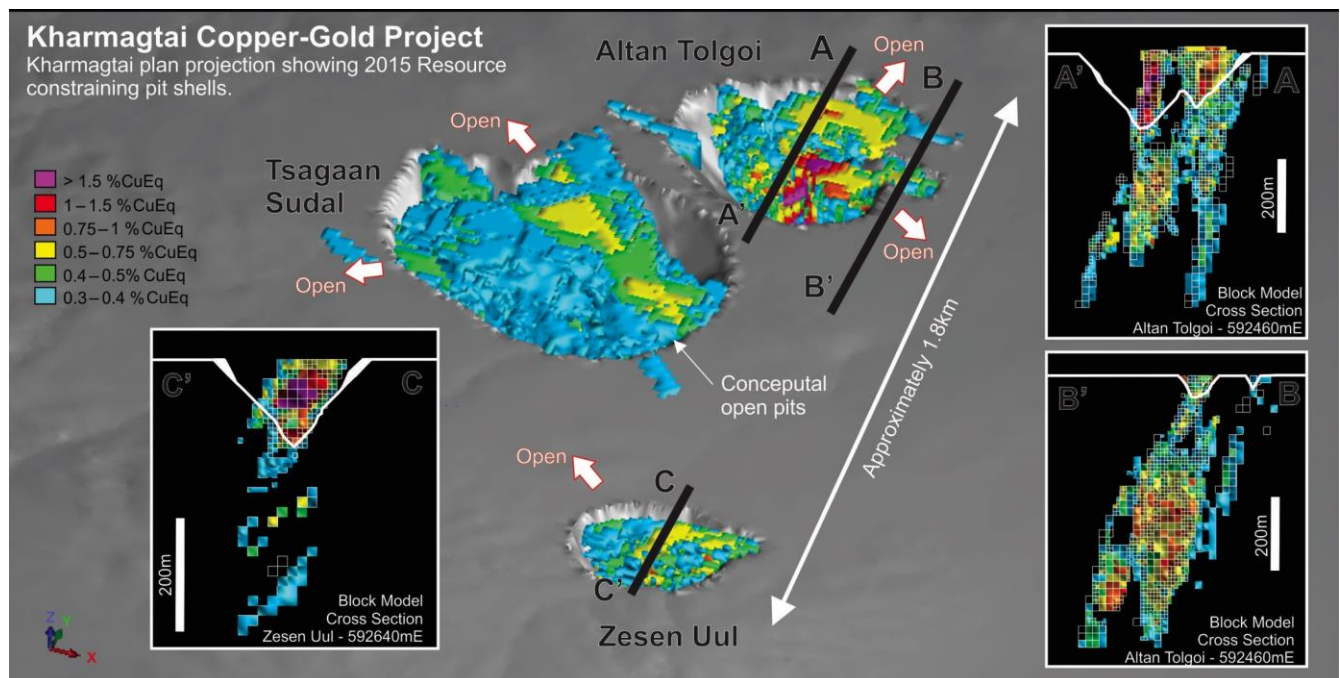
Deposit	Mining	Cut-Off	Resource	Material	Grade			Metal	
	Method	CuEq(%)	Category	(Mt)	Cu(%)	Au(g/t)	CuEq(%)	Cu(Mlb)	Au(Koz)
All	OC	0.3	Indicated	23	0.41	0.55	0.76	203	401
			Inferred	107	0.27	0.24	0.42	641	833
			<b>Subtotal</b>	<b>129</b>	<b>0.30</b>	<b>0.30</b>	<b>0.48</b>	<b>844</b>	<b>1,234</b>
	UG	0.5	Indicated	24	0.43	0.47	0.73	225	359
			Inferred	51	0.42	0.36	0.64	463	591
			<b>Subtotal</b>	<b>74</b>	<b>0.42</b>	<b>0.40</b>	<b>0.67</b>	<b>688</b>	<b>950</b>
	Combined		<b>Indicated</b>	<b>46</b>	<b>0.42</b>	<b>0.51</b>	<b>0.74</b>	<b>428</b>	<b>759</b>
			<b>Inferred</b>	<b>157</b>	<b>0.32</b>	<b>0.28</b>	<b>0.49</b>	<b>1,104</b>	<b>1,424</b>
			<b>Total</b>	<b>203</b>	<b>0.34</b>	<b>0.33</b>	<b>0.55</b>	<b>1,533</b>	<b>2,184</b>



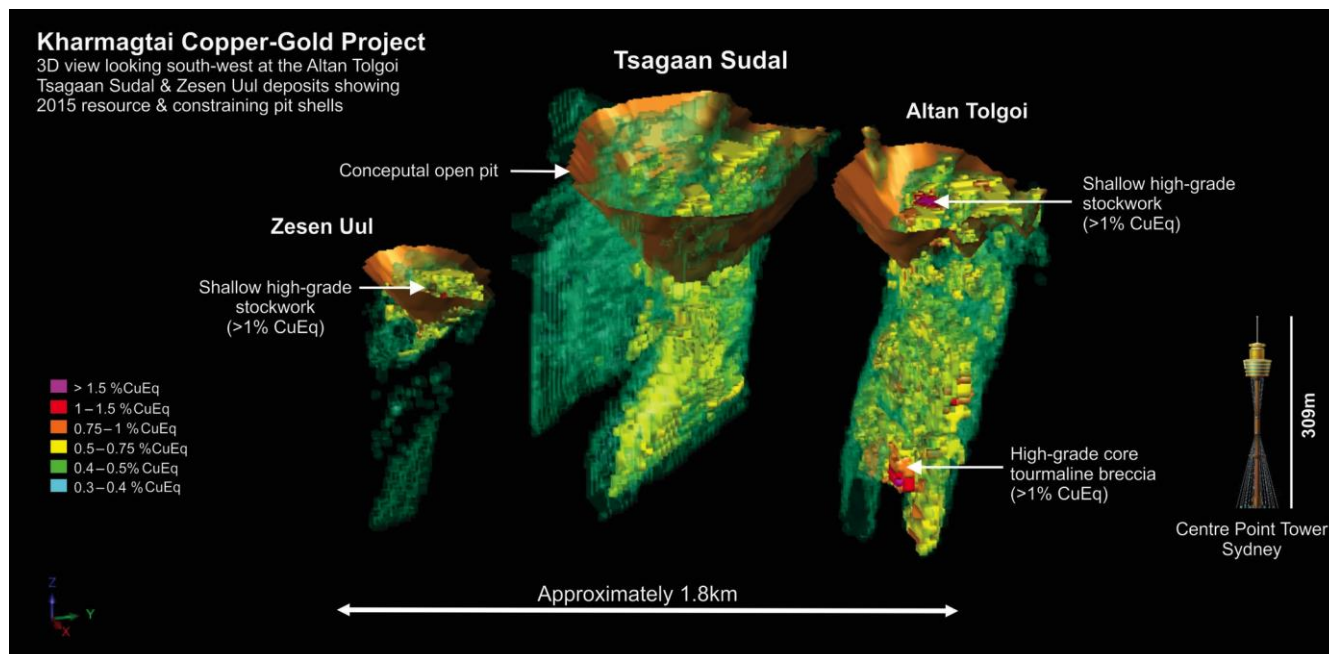
**Table 2:** Summary Mineral Resource Estimate tabulation for Kharmagtai Deposit, March 2015. Reported at a 0.6% CuEq cut-off constrained within an optimised pit shell. Refer to Table 5 for the detailed Mineral Resource Estimate.

Deposit	Mining	Cut Off	Resource	Material	Grade			Metal	
	Method	CuEq(%)	Category	(Mt)	Cu(%)	Au(g/t)	CuEq(%)	Cu(Mlb)	Au(Koz)
All	OC	0.6	Indicated	9	0.52	0.87	1.08	102	248
			Inferred	1	0.38	0.82	0.92	11	34
			<b>Subtotal</b>	<b>10</b>	<b>0.50</b>	<b>0.86</b>	<b>1.06</b>	<b>113</b>	<b>282</b>
	UG	0.6	Indicated	20	0.46	0.57	0.83	203	368
			Inferred	26	0.46	0.50	0.78	263	418
			<b>Subtotal</b>	<b>46</b>	<b>0.46</b>	<b>0.53</b>	<b>0.80</b>	<b>465</b>	<b>786</b>
	Combined		<b>Indicated</b>	<b>29</b>	<b>0.48</b>	<b>0.66</b>	<b>0.91</b>	<b>305</b>	<b>616</b>
			<b>Inferred</b>	<b>27</b>	<b>0.46</b>	<b>0.52</b>	<b>0.79</b>	<b>274</b>	<b>452</b>
			<b>Total</b>	<b>56</b>	<b>0.47</b>	<b>0.59</b>	<b>0.85</b>	<b>578</b>	<b>1,068</b>

**Figure 3:** Kharmagtai plan projection showing 2015 Resource constraining pit shells for Altan Tolgoi, Tsagaan Sudal and Zesen Uul deposits.



**Figure 4:** 3D view looking south-west at the Altan Tolgoi, Tsagaan Sudal and Zesen Uul deposits showing 2015 Resource constraining pit shells.



## **KHARMAGTAI DRILL PLAN FOR 2015 – TARGETING NEW DISCOVERIES**

Kharmagtai demonstrated its highly prospective and largely untested exploration potential in 2014 and will continue to be Xanadu's primary focus of exploration activities in 2015.

Xanadu will continue exploration efforts to grow the Kharmagtai Mineral Resource, to find additional mineralisation within the KIC and to test the other targets within the large district that have the same geophysical response and geometry as existing resources within the KIC with the aim of unlocking the full potential of this under explored porphyry district.

The current Resource occupies only a small portion of the much larger mineralised KIC which was first identified from surface outcrops and already partly extended under shallow cover using geophysics and drill testing. Magnetic and gravity surveys indicate that the KIC extends at least another 2 kilometres into a shallow sediment-filled basin with approximately 70% of the intrusive complex lying under shallow quaternary cover.

Several favourable geophysical targets occur within the basin including the magnetic lineaments that have controlled porphyry mineralisation. There is excellent potential for the discovery of new porphyry systems under cover within this strongly mineralised igneous complex.

A fully funded multi-rig drilling program has recommencement at Kharmagati. This targeted exploration program will test numerous near-surface strike extensions and several high priority targets lying under shallow cover that have the same geophysical response and geometry as existing resources within the Kharmagati district. It is anticipated that further discoveries within the Kharmagtai district will require the testing of a number of concealed geophysical and geological targets.

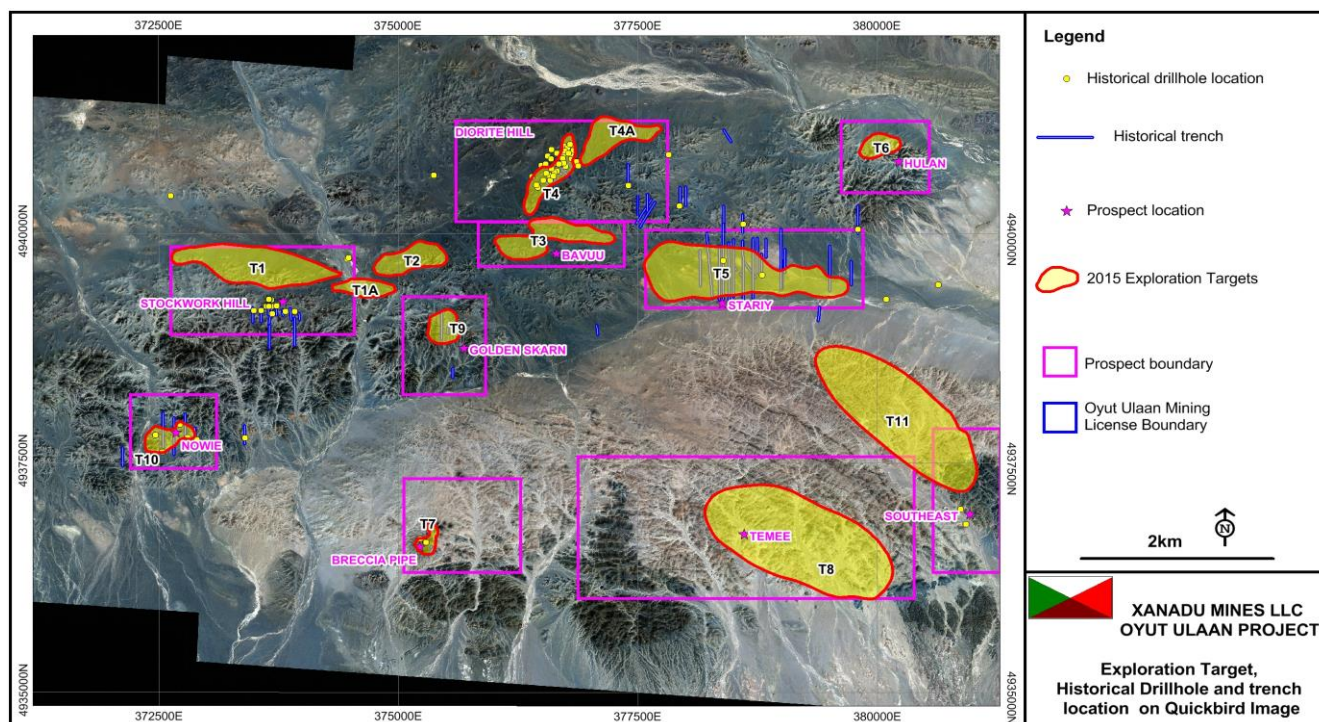
## EXPLORATION ACTIVITIES AT OYUT ULAAN

Xanadu recently completed 9 drill holes for approximately 2,049.60m of diamond drilling and other exploration activities at the Oyut Ulaan project with full results and analysis to be finalised in the first week of May. This exciting field program began and was completed earlier than expected due to favourable weather conditions in Mongolia.

Oyut Ulaan is located within the Dornogovi Province of southern Mongolia, approximately 420 kilometres southeast of Ulaanbaatar. It is strategically located within the South Gobi Copper Belt (Figure 1) (which hosts the world class Oyu Tolgoi copper-gold project) and 260 kilometres east of Xanadu's flagship Kharmagtai copper-gold project. Oyut Ulaan 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 5).

Xanadu's previous exploration programs at Oyut Ulaan delivered excellent results and the company is investigating two of the most prospective areas of mineralisation, Diorite Hill and Stockwork Hill in the first part of the program (Figure 5). Full results will be finalised in the first week of May.

**Figure 5:** Oyut Ulaan porphyry copper-gold district showing key prospects as well as other porphyry targets





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## **CORPORATE**

### **Management Changes**

During the quarter two internal senior executive appointments included Mark Wheatley as Executive Chairman and Dr. Andrew Stewart as Chief Executive Officer. These appointments are an important step for Xanadu as the Company focuses on its Mongolian copper-gold strategy and continued exploration success.

Mark Wheatley, in the role of Executive Chairman, will guide and oversee the growth of the Company as it continues the exploration and development of its copper-gold projects. Mark has had a successful executive career and has led a number of listed junior miners as both CEO and Chairman through significant periods of growth. The move to an executive role (50% basis) allows more direct access to Mark's experience as Xanadu delivers on its Mongolian copper-gold strategy.

Andrew has been promoted to CEO from his current position as Xanadu's Chief Geologist and Country Manager in Mongolia. Andrew is a porphyry copper specialist with a track record of new discoveries and extensive Mongolian experience. Andrew will continue to be based in Mongolia and focus on delivering exploration success and the Company will also benefit from Andrew's contribution to all of its corporate activities.

George Lloyd steps down as Managing Director and CEO, following a successful two year period and will act as an advisor to Mark and Andrew over a brief transition period.

### **Share Capital**

As at 31 March 2014, the Company had 371,978,226 fully paid shares outstanding, 6,850,000 performance rights and 38,000,000 unlisted options on issue including 35,000,000 options issued pursuant to the restructure of the Oyut Ulaan Acquisition terms.

### **Financial position**

As at 31 March 2015, the Company was in a strong position with A\$6.4m in cash. Xanadu has changed its financial year-end to 31 December, consistent with its Mongolian statutory reporting obligations and seasonality of operations. During the Quarter, the Rights Issue closed bringing total funds raised from the Placement and Rights Issue to A\$15.3 million. These funds were allocated to the reduction of the Kharmagtai deferred consideration, now standing at A\$4.9 million (\$US3.8 million), and to fund exploration. Importantly, the Noble Group continue to support the Company and invested to sustain its holding at approximately 9%.

### **Kharmagtai deferred consideration payment date extended to 31 July 2016**

Management has successfully negotiated for the repayment date of the deferred consideration for the Kharmagtai project to be extended by eight months to 31 July 2016. This extension allows the Company to focus its funding on exploration and value creation at its properties this year.

### **Awards**

During the quarter the Company was nominated for both "Exploration Deal of the Year" and "Discovery of the Year" at the annual Mines and Money Conference in Hong Kong. The global awards recognise outstanding achievements by mineral exploration companies around the world in the past year.



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For further information please visit [www.xanadumines.com](http://www.xanadumines.com) or contact:

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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 Umnugovi 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 3: TENEMENTS HELD AS AT 31 MARCH 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 March
MV17387A <sup>1</sup>	Kharmagtai	Umnugovi Province	3%	64%
MV017129	Oyut Ulaan	Dornogovi Province	-	90%
13670x	Sharchuluut	Bulgan Province	-	100%

1. 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 March 2015 (an effective 64.2% interest in the Kharmagtai project).



**TABLE 4: MINERAL RESOURCE ESTIMATE @ 0.3% CuEq CUT-OFF**

Mineral Resource Estimate tabulation for Kharmagtai Deposit - March 2015. Reported at a 0.3% CuEq cut-off constrained within optimised pit shells and CuEq cut-off 0.5% CuEq applied to the underground resources.

Deposit	Mining	Cut-Off	Resource	Material	Grade			Metal	
	Method	CuEq(%)	Category	(Mt)	Cu(%)	Au(g/t)	CuEq(%)	Cu(Mlb)	Au(Koz)
AT	OC	0.3	Indicated	14.5	0.37	0.56	0.73	119	262
			Inferred	7.5	0.30	0.44	0.58	49	106
			Subtotal	22.0	0.35	0.52	0.68	168	368
	UG	0.5	Indicated	23.2	0.43	0.47	0.73	219	350
			Inferred	32.8	0.43	0.43	0.70	311	453
			Subtotal	55.9	0.43	0.45	0.71	530	803
	Combined		Indicated	37.7	0.41	0.50	0.73	338	612
			Inferred	40.2	0.41	0.43	0.68	360	559
			Total	78.0	0.41	0.47	0.70	698	1,171
TS	OC	0.3	Indicated	-	-	-	-	-	-
			Inferred	97.7	0.27	0.23	0.41	581	722
			Subtotal	97.7	0.27	0.23	0.41	581	722
	UG	0.5	Indicated	-	-	-	-	-	-
			Inferred	17.7	0.39	0.24	0.54	152	136
			Subtotal	17.7	0.39	0.24	0.54	152	136
	Combined		Indicated	-	-	-	-	-	-
			Inferred	115.4	0.29	0.23	0.43	733	859
			Total	115.4	0.29	0.23	0.43	733	859
ZU	OC	0.3	Indicated	8.0	0.5	0.5	0.8	84.6	138.8
			Inferred	1.4	0.3	0.1	0.4	10.5	5.4
			Subtotal	9.4	0.46	0.48	0.76	95	144
	UG	0.5	Indicated	0.6	0.4	0.4	0.7	5.7	8.8
			Inferred	0.1	0.3	0.5	0.6	0.5	1.3
			Subtotal	0.7	0.40	0.44	0.67	6	10
	Combined		Indicated	8.6	0.47	0.53	0.81	90	148
			Inferred	1.5	0.34	0.14	0.42	11	7
			Total	10.1	0.45	0.47	0.75	101	154
All	OC	0.3	Indicated	23	0.41	0.55	0.76	203	401
			Inferred	107	0.27	0.24	0.42	641	833
			Subtotal	129	0.30	0.30	0.48	844	1,234
	UG	0.5	Indicated	24	0.43	0.47	0.73	225	359
			Inferred	51	0.42	0.36	0.64	463	591
			Subtotal	74	0.42	0.40	0.67	688	950
	Combined		Indicated	46	0.42	0.51	0.74	428	759
			Inferred	157	0.32	0.28	0.49	1,104	1,424
			Total	203	0.34	0.33	0.55	1,533	2,184



**TABLE 5: MINERAL RESOURCE ESTIMATE @ 0.6% CuEq CUT-OFF**

Mineral Resource Estimate tabulation for Kharmagtai Deposit - March 2015. Reported at a 0.6 % CuEq cut-off.

Deposit	Mining	Cut-Off	Resource	Material	Grade			Metal	
	Method	CuEq(%)	Category	(Mt)	Cu(%)	Au(g/t)	CuEq(%)	Cu(Mlb)	Au(Koz)
AT	OC	0.6	Indicated	4.7	0.47	0.92	1.06	49	140
			Inferred	1.2	0.38	0.88	0.95	10	33
			Subtotal	5.9	0.45	0.91	1.04	59	173
	UG	0.6	Indicated	19.0	0.46	0.57	0.83	193	349
			Inferred	22.1	0.46	0.52	0.79	224	369
			Subtotal	41.1	0.46	0.54	0.81	417	718
	Combined		Indicated	23.8	0.46	0.64	0.88	242	489
			Inferred	23.3	0.46	0.54	0.80	234	402
			Total	47.0	0.46	0.59	0.84	476	891
TS	OC	0.6	Indicated	-	-	-	-	-	-
			Inferred	0.1	0.41	0.32	0.61	1	1
			Subtotal	0.1	0.41	0.32	0.61	1	1
	UG	0.6	Indicated	-	-	-	-	-	-
			Inferred	3.6	0.48	0.41	0.74	38	48
			Subtotal	3.6	0.48	0.41	0.74	38	48
	Combined		Indicated	-	-	-	-	-	-
			Inferred	3.7	0.48	0.41	0.74	39	48
			Total	3.7	0.48	0.41	0.74	39	48
ZU	OC	0.6	Indicated	4.1	0.6	0.8	1.1	52.8	107.6
			Inferred	0.1	0.4	0.4	0.6	0.7	0.9
			Subtotal	4.2	0.58	0.80	1.09	54	109
	UG	0.6	Indicated	0.9	0.5	0.7	0.9	9.8	19.3
			Inferred	0.0	0.3	0.6	0.7	0.3	0.7
			Subtotal	1.0	0.47	0.65	0.88	10	20
	Combined		Indicated	5.1	0.56	0.78	1.06	63	127
			Inferred	0.1	0.39	0.44	0.67	1	2
			Total	5.2	0.56	0.77	1.05	64	129
All	OC	0.6	Indicated	9	0.52	0.87	1.08	102	248
			Inferred	1	0.38	0.82	0.92	11	34
			Subtotal	10	0.50	0.86	1.06	113	282
	UG	0.6	Indicated	20	0.46	0.57	0.83	203	368
			Inferred	26	0.46	0.50	0.78	263	418
			Subtotal	46	0.46	0.53	0.80	465	786
	Combined		Indicated	29	0.48	0.66	0.91	305	616
			Inferred	27	0.46	0.52	0.79	274	452
			Total	56	0.47	0.59	0.85	578	1,068



## 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 Turquoise Hill and Xanadu. This Table 1 updates the JORC Table 1 disclosure dated 19 March 2015.

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

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

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	<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.</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 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 has been logged by a geologist.</li> </ul>



Criteria	JORC Code Explanation	Commentary
<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 sub-sampling stages to maximise representivity of samples.</li> <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>• 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>• 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>
<b>Quality of assay data and laboratory tests</b>	<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> </ul>

Criteria	JORC Code Explanation	Commentary
		<ul style="list-style-type: none"> <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 matched copper-gold standards.</li> <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>All DDH's have been surveyed with a differential global positioning system (DGPS) to within 10cm accuracy.</li> <li>All DDH's 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 1 metre contours with an accuracy of <math>\pm 0.01</math> metre.</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 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> </ul>

Criteria	JORC Code Explanation	Commentary
		<ul style="list-style-type: none"> <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 mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>Vertical to South dipping ore bodies were predominantly drilled to the north.</li> <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 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 license 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 the project.</li> </ul>
<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</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 Table 1 in main report.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>following information for all Material drill holes:</p> <ul style="list-style-type: none"> <li>– easting and northing of the drill hole collar.</li> <li>– elevation or Reduced Level (RL) 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> <ul style="list-style-type: none"> <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>	
<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 procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</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> <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:</li> <li>• <math>CuEq = Cu\% \times (Aug/t \times 0.6378)</math></li> <li>• 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.</li> </ul>
<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>



Criteria	JORC Code Explanation	Commentary
<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 geological interpretations and future drilling areas, provided this information is not commercially sensitive.</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 potentially suitable for underground extraction.</li><li>Exploration on going.</li></ul>

### 1.3 JORC TABLE 1 - SECTION 3 – ESTIMATION & REPORTING OF MINERAL RESOURCES

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

Criteria	JORC Code 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 spread sheet 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 Gemcom Surpac 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>Sulphide mineralisation is zoned from a bornite-rich core that zone outwards to</li> </ul>





Criteria	JORC Code Explanation	Commentary
		<p>chalcopryite-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.</li> <li>The AT-S is at least 550 metres long, 600 metres deep and contains strong quartz-chalcopryite-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 modeling 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</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> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>Mineral Resource estimate takes appropriate account of such data.</p> <ul style="list-style-type: none"> <li>The assumptions made regarding recovery of by-products.</li> <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>	<ul style="list-style-type: none"> <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 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.</li> <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 ID2 interpolation was applied.</li> <li>Primary grade interpolation for the two metals was by ordinary kriging of capped 6m composites. A two-pass search</li> </ul>

Criteria	JORC Code Explanation	Commentary
		<p>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.</p> <ul style="list-style-type: none"> <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 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;</li> <li><math>CuEq = Cu\% \times (Au/t \times 0.6378)</math></li> <li>Formula is based on a \$2.60/lb copper price and a \$1,300/oz gold price.</li> </ul>
<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> <li>0.3 % CuEq cut-off constrained within an A\$4.00/lb Cu and \$1, 300/oz Au optimised pit shells.</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</li> </ul>	<ul style="list-style-type: none"> <li>No metallurgical factors have been applied to the in situ grade estimates.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>explanation of the basis of the metallurgical assumptions made.</p>	
<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 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.</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 administered by the Mongolian Ministry for Nature and Environment (MNE).</li> </ul>
<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 (ID2) 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 2012 Code using a qualitative approach. The classifications reflect the competent person's view of the Kharmagtai Copper Gold Project.</li> </ul>



Criteria	JORC Code Explanation	Commentary
<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 resource estimates. Methods were found to conform to international best practice.</li> </ul>
<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>	<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 insitu 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>



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#### **1.4 JORC TABLE 1 - SECTION 4 – ESTIMATION & REPORTING OF ORE RESERVES**

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

# 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 March 2015

### Consolidated statement of cash flows

<b>Cash flows related to operating activities</b>		<b>Current quarter \$A'000</b>	<b>Year to date (3 months) \$A'000</b>
1.1	Receipts from product sales and related debtors	-	-
1.2	Payments for (a) exploration & evaluation	(350)	(350)
	(b) development	-	-
	(c) production	-	-
	(d) administration	(1,012)	(1,012)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	11	11
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Other (provide details if material)	-	-
<b>Net Operating Cash Flows</b>		<b>(1,351)</b>	<b>(1,351)</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)	(838)
<b>Net investing cash flows</b>		<b>(838)</b>	<b>(838)</b>
1.13	Total operating and investing cash flows (carried forward)	<b>(2,189)</b>	<b>(2,189)</b>

+ See chapter 19 for defined terms.

## Appendix 5B

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

1.13	Total operating and investing cash flows (brought forward)	(2,189)	(2,189)
1.14	<b>Cash flows related to financing activities</b>		
1.14	Proceeds from issues of shares, options, etc.	910	910
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)	-	-
	<b>Net financing cash flows</b>	910	910
	<b>Net increase (decrease) in cash held</b>	(1,279)	(1,279)
1.20	Cash at beginning of quarter/year to date	7,508	7,508
1.21	Exchange rate adjustments to item 1.20	137	137
1.22	<b>Cash at end of quarter</b>	6,366	6,366

### 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	440
1.24 Aggregate amount of loans to the parties included in item 1.10	-

#### 1.25 Explanation necessary for an understanding of the transactions

Item 1.12 includes part payment of deferred consideration of \$838K for the acquisition of the Kharmagtai project in FY2014.  
Item 1.23 includes payment of 2014 short term-incentive and in lieu of notice (plus statutory entitlements) to former Managing Director and Chief Executive Officer pursuant to Executive Services Contract (notice provisions are as described in Annual Report).

### 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

### **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	\$5,202	\$3,251
3.2 Credit standby arrangements	-	-

### **Estimated cash outflows for next quarter**

	\$A'000
4.1 Exploration and evaluation	1,785
4.2 Development	-
4.3 Production	-
4.4 Administration	871
<b>Total</b>	<b>2,656</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	6,366	7,508
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>6,366</b>	<b>7,508</b>

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+ See chapter 19 for defined terms.



### 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			
6.2	Interests in mining tenements and petroleum tenements acquired or increased	MV17387A Kharmagtai Omnogovi Province Mongolia	61%	64%

### 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	N/A			
7.2				
7.3	371,978,226	371,978,226		
7.4	i. 3,076,262 ordinary shares ii. 8,590,785 ordinary shares iii. 5,547,885 ordinary shares	i. 3,076,262 ordinary shares iii. 8,590,785 ordinary shares iii. 5,547,885 ordinary shares	i. nil iii. \$0.12 iii. \$0.12	i. nil iii. 1,030,894 iii. 665,746
7.5	N/A			

+ See chapter 19 for defined terms.

**Appendix 5B**

**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)	Options 1,000,000 1,000,000 1,000,000  15,000,000 20,000,000  Share Rights 1,250,000 3,600,000 1,000,000 1,000,000		Exercise price \$0.60 \$1.20 \$1.80  Nil subject to share price and tenure hurdles  Nil subject to share price and tenure hurdles	Expiry date 31/12/2016 31/12/2016 31/12/2016  14/01/2019 14/01/2019  28/02/2016 21/05/2016 01/06/2017 18/09/2017
7.8	Issued during quarter				
7.9	Exercised during quarter	2,300,000 (Share Rights)	2,300,000 (issued and quoted as ordinary shares as described in 7.4 above)	Nil. Share Rights were issued for nil financial consideration after share price and tenure hurdles were achieved.	N/A. Shares issued upon vesting of Share Rights are fully paid ordinary shares.
7.10	Expired during quarter	Share Rights 1,700,000		N/A (Combination of share price and/or tenure conditions not met)	Expiry date 26/02/2016
7.11	<b>Debentures</b> (totals only)	N/A			
7.12	<b>Unsecured notes</b> (totals only)	N/A			

+ See chapter 19 for defined terms.

## 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: 30 April 2015

(Director/Company secretary)

Print name:

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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+ See chapter 19 for defined terms.