

24 October 2019

ASX: XAM | TSX: XAM  
ABN 92 114 249 026  
[www.xanadumines.com](http://www.xanadumines.com)  
[info@xanadumines.com](mailto:info@xanadumines.com)  
T: +61 2 9547 4300

## QUARTERLY ACTIVITIES REPORT

FOR THE QUARTER ENDED 30 SEPTEMBER 2019

Xanadu Mines Ltd (**ASX: XAM, TSX: XAM**) (**Xanadu** or the **Company**) is pleased to provide shareholders with an update on exploration and associated activities undertaken during the quarter ended 30 September 2019.

### HIGHLIGHTS

#### First-pass drilling confirms shallow oxide-gold potential at Kharmagtai

- Ongoing assessment of the shallow oxide-gold mineralisation at Kharmagtai;
- Exceptional shallow oxide-gold results at **Stockwork Hill**. Significant results returned include:
  - KHDDH491 returned 40m @ 2.30 grams per tonne (**g/t**) Gold (**Au**) from surface; including 35m @ 2.47g/t Au from 5m;
  - KHDDH494 returned 35m @ 1.71g/t Au from 5m; including 31m @ 1.78g/t Au from 8m;
  - KHDDH498 returned 40m @ 1.72g/t Au from surface; including 21m @ 2.51g/t Au from 19m; and
  - KHDDH499 returned 37m @ 3.14g/t Au from surface; including 21m @ 5.20g/t Au from surface.
- Positive oxide-gold drilling at **Golden Eagle**. Significant results returned include:
  - KHDDH511 returned 30m @ 1.34g/t Au from 37m; including 8m @ 3.34g/t Au from 38m and *including* 6m @ 3.94g/t Au from 40m; and
  - KHDDH514 returned 38.4m @ 1.26g/t Au from 34m; including 18m @ 2.14g/t Au from 35m and *including* 10m @ 3.07g/t Au from 39m.
- Extensive shallow gold intersections at **Copper Hill**. Significant results returned include:
  - KHDDH520 returned 61m @ 1.08g/t Au from 9m; including 23m @ 2.37g/t Au from 47m; and
  - KHDDH523 returned 47m @ 2.39g/t Au from 28m; including 35m @ 3.04g/t Au from 40m and including 20m @ 4.69g/t Au from 55m.
- Initial drilling results are very encouraging and demonstrate excellent potential for a shallow oxide resource; and
- Potential for a shallow oxide-gold project at Kharmagtai to help fund further development and exploration.

#### New Global Exploration target being developed for Kharmagtai

- Completed 3D geological models of the sulphide copper-gold mineralisation at Kharmagtai; and
- Detailed metallurgical sampling completed for test work in December quarter.

#### Corporate activities

- Cash balance of A\$2.6 million.

## EXPLORATION ACTIVITIES

**Chief Executive Officer, Dr Andrew Stewart, said** *“The recently completed open-pit Scoping Study at Kharmagtai clearly demonstrates that the Kharmagtai copper-gold project is one of the leading development projects with unrivalled exploration upside globally today, which means Xanadu Mines is one of a few Junior mining companies controlling a large copper-gold deposit left on the ASX or TSX.*

*Since the delineation of open-cut copper and gold resources at Kharmagtai were announced to the market earlier this year, we have implemented a program of shallow drilling designed to unlock the previously overlooked oxide-gold potential that sits above and adjacent to the known copper resources at Kharmagtai. We are very pleased by the first-pass drill results from the three oxide zones at Kharmagtai. What encourages us most about these results are the grade and potential scale and strike extent of the oxide systems that sit above the sulphide resources. While further drilling is required across the resource areas as the project advances, these new intersections of significant widths of shallow oxide mineralisation highlight the potential and show that we have just scratched the surface in terms of the broader resource potential.*

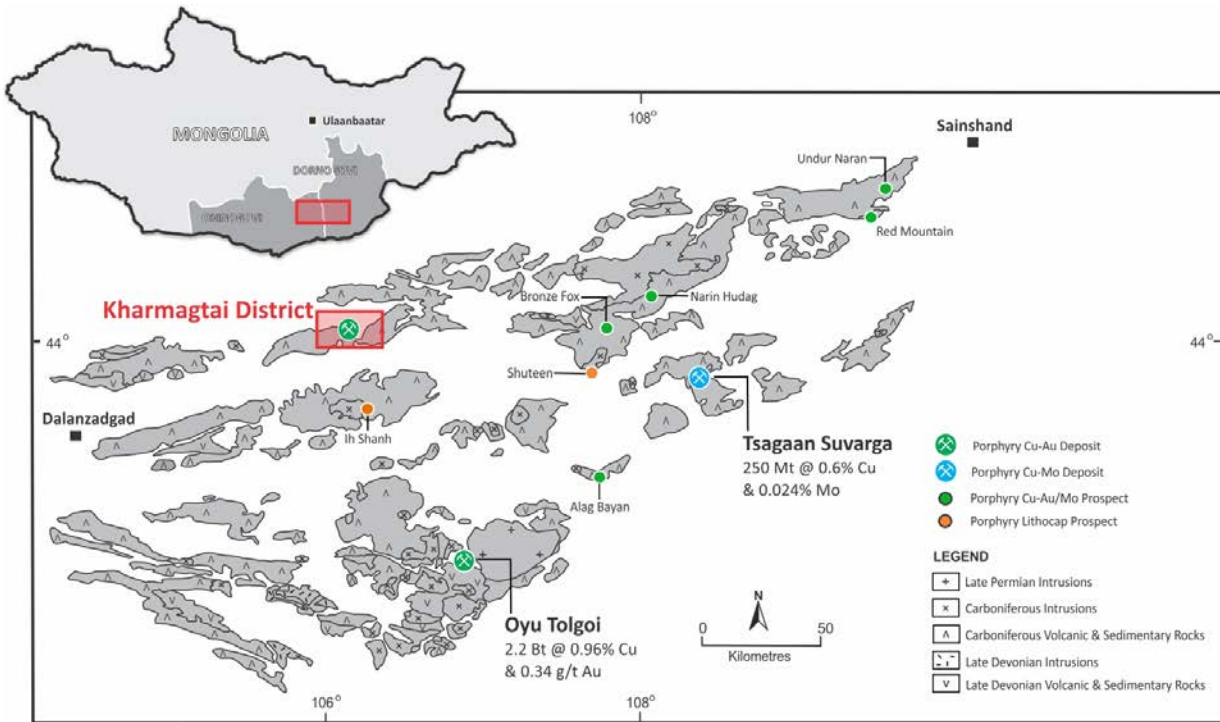
*The shallow oxide-gold represents the opportunity for a low cost, high-value gold gravity and leach operation which could be run early in the development life of Kharmagtai, injecting significant cash into the project to offset the cost of developing a large-scale copper-gold mine. Given Kharmagtai sits on a granted mining lease with a registered water resource and an established power supply nearby, we have the ability to move quickly on an oxide gold project, and our current strategy of seeking high-return options via an oxide gold project is focused on providing the capital needed to advance that larger scale copper and gold project.*

*At our current sulphide resources at Stockwork Hill, White Hill and Copper Hill, detailed geological modelling and additional discoveries such as Zaraa, have provided new data to support a new Exploration Target upgrade which will be released before the end of the year.”*

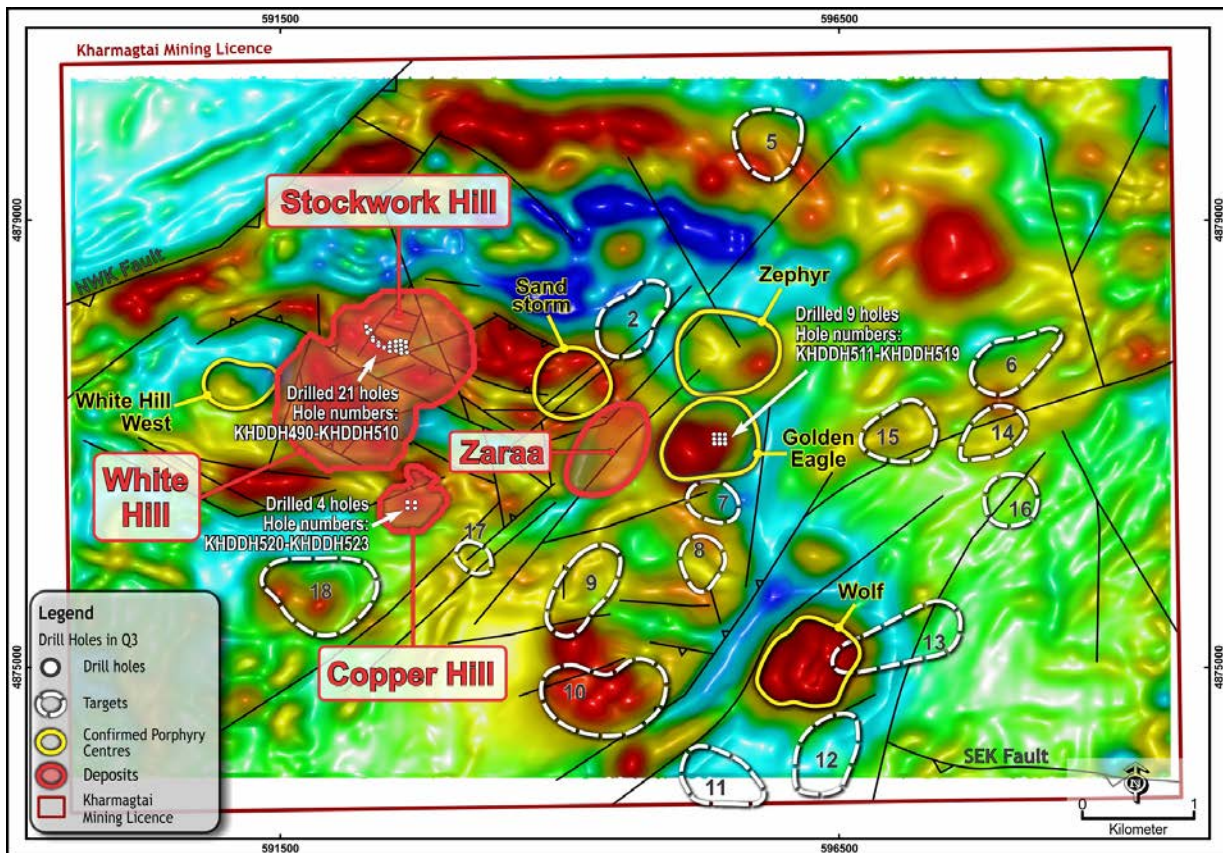
### ***Kharmagtai Copper-Gold Project***

The Kharmagtai copper-gold Project is located within the South Gobi porphyry copper province of Mongolia, approximately 440 kilometres (**km**) south-southwest of the capital, Ulaanbaatar and 120km north of Turquoise Hill’s Oyu Tolgoi copper-gold mine (**Figure 1**). Access from Ulaanbaatar to Kharmagtai is via sealed highway for 450km and then along a well-used gravel road for 70km. Activities during the quarter ended 30 September 2019 focused on assessing the potential for an oxide gold project at Kharmagtai to provide funding for a larger-scale copper-gold project and further exploration (**Figure 2**). Collar locations and full drill intercepts from the quarter can be found in **Tables 1** and **2**.

The new oxide gold results have significantly increased the Company’s confidence in the emerging oxide gold opportunity at Kharmagtai. Stockwork Hill is the first prospect to be drilled outside and above the Kharmagtai copper-gold deposit, highlighting the under-explored nature of the broader project. The drill program is designed to extend both strike and depth to the significant shallow oxide gold mineralisation at Kharmagtai.



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



**FIGURE 2:** The Kharmagtai District showing ground magnetic data and location of the Kharmagtai Deposits (Stockwork Hill, White Hill and Copper Hill), porphyry centres and targets.



### Stockwork Hill Oxide Gold Drilling

During the quarter, a drill program was completed to test the Stockwork Hill deposit oxide cap, where previous drilling has identified high-grade shallow oxide gold but the majority of the holes were stepped away from the oxide zone and targeting the deeper copper-gold sulphide mineralisation. The objective of this drill program was to quickly and cheaply test one of the main oxide-gold targets at Kharmagtai to confirm the expected gold grades and characterise the gold department. A total of twenty-one PQ drill holes drilled to test five sections across the oxide cap and several holes to test beneath extremely high-grade gold at surface along strike (**Figure 3**). Importantly, these results show the oxide gold zone is still open to the east and south. Key highlight intercepts from this program were;

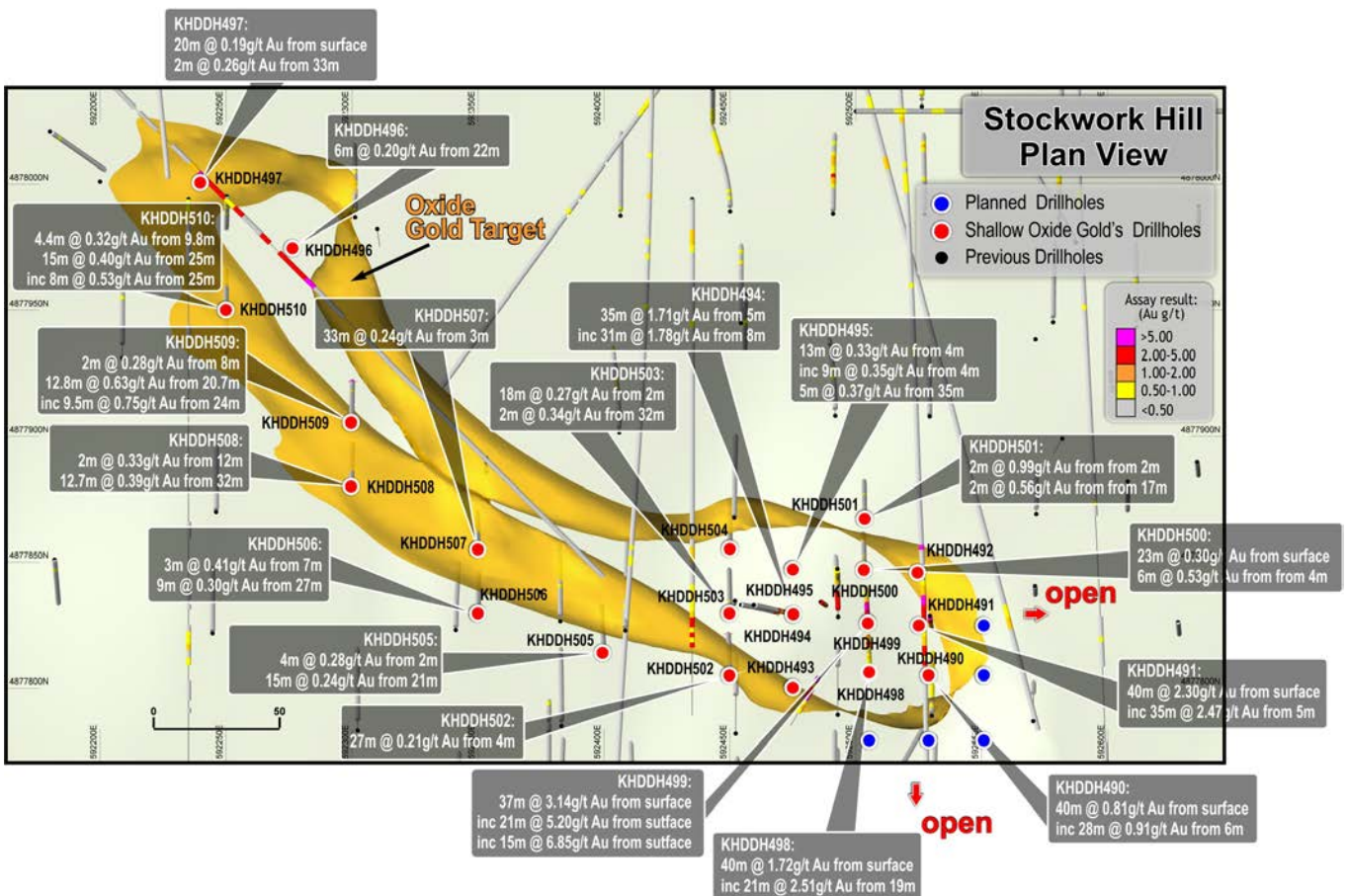
Drill hole KHDDH498 returns 40m at 1.72g/t Au from surface

*including 21m @ 2.51g/t Au from 19m and*

Drill hole KHDDH499 returns 37m at 3.14g/t Au from surface

*including 21m @ 5.20g/t Au from surface*

*including 15m @ 6.85g/t Au from surface.*



**FIGURE 3:** Stockwork Hill oxide-gold plan showing a summary of drill results from the oxide gold drilling program.

### Golden Eagle Oxide Gold Drilling

During the quarter, a drill program was completed to test the Golden Eagle deposit oxide cap, where previous drilling has identified high-grade shallow oxide-gold. The objective of this drill program was to quickly and cheaply test one of the main oxide-gold targets at Kharmagtai to confirm the expected gold grades and characterise the gold department. A total of nine PQ drill holes drilled to test three sections across the oxide cap (**Figure 4**). Importantly, a strong northeast to southwest trend has been identified during this drilling which leave this oxide gold target open in both directions. Key highlight intercepts from this program were:

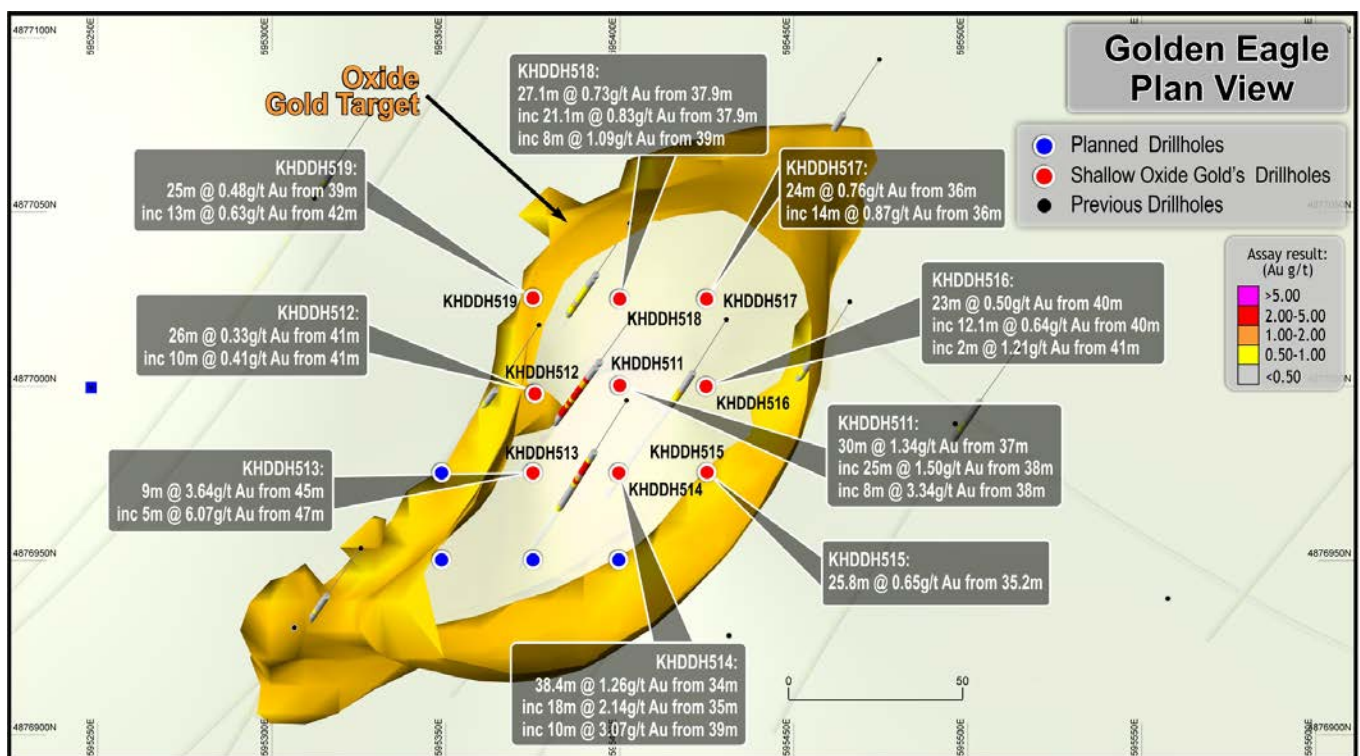
KHDDH511 returned 30m @ 1.34g/t Au from 37m

*including 8m @ 3.34g/t Au from 38m*

KHDDH514 returned 38.4m @ 1.26g/t Au from 34m

*including 18m @ 2.14g/t Au from 35m*

*including 10m @ 3.07g/t Au from 39m.*



**FIGURE 4:** Phase one drill results from Golden Eagle showing original oxide gold target and proposed extensional drilling.

### Copper Hill Oxide Gold Drilling

A four-hole program has been completed at Copper Hill to expand the gold-rich core and confirm continuity of oxide gold mineralisation (**Figure 5**). Previous drilling at Copper Hill was offset from potential shallow mineralisation as explorers targeted deeper sulphide. As such, the oxide and transitional gold potential of the deposit is yet to be assessed. Holes are vertical PQ drill holes with 25m spacing. The objective of this drilling was to identify, expand

this oxide mineralisation, test continuity and gain an understanding of the oxide-transitional zone mineralogy and distribution so that accurate metallurgy can be obtained. This zone is open to the north and east.

The following drill results have been returned for all the four holes.

KHDDH520 returned 61m @ 1.08g/t Au from 9m

*including 23m @ 2.37g/t Au from 47m*

KHDDH522 returned 53m @ 1.04g/t Au from 12m

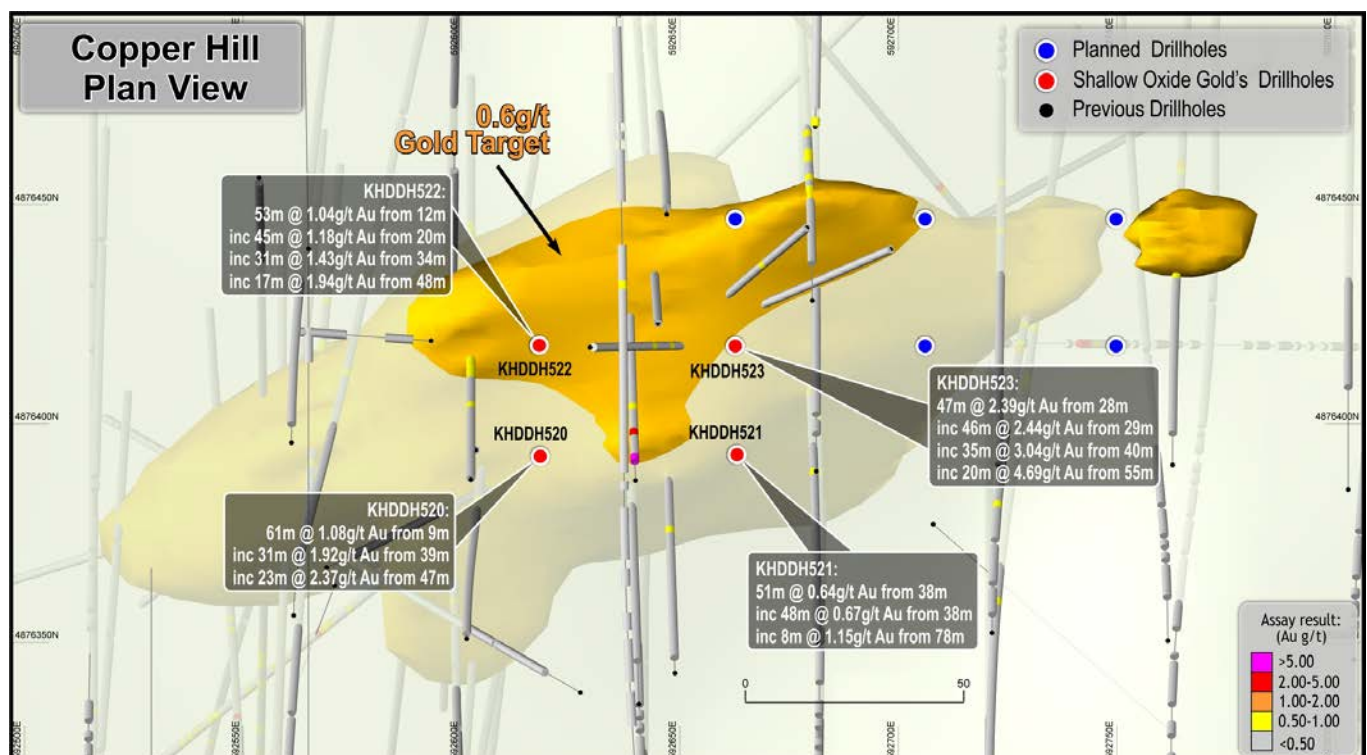
*including 31m @ 1.43g/t Au from 34m*

*including 17m @ 1.94g/t Au from 48m*

KHDDH523 returned 47m @ 2.39g/t Au from 28m

*including 35m @ 3.04g/t Au from 40m*

*including 20m @ 4.69g/t Au from 55m.*



**FIGURE 3:** Stockwork Hill oxide-gold plan showing a summary of drill results from the oxide gold drilling program.

## CORPORATE ACTIVITIES

On 8 July 2019, the Company closed a Non-Renounceable Rights Issue made to shareholders of the Company on the basis of 1 new fully paid ordinary share for every 10 shares held at an issue price of \$0.052 per share. Acceptances of entitlements under the Rights Issue were received for a total of 40,393,314 New Shares (including



12,566,076 Additional New Shares) raising \$2,100,452.33. The Offer was partially underwritten to \$1.75 million by Patersons Securities Limited, which also acted as Lead Manager.

On 22 August 2019, the Company placed the Non-Renounceable Rights Issue shortfall raising further \$1,269,377.15, representing 24,411,099 New Shares at \$0.052 per share.

On 23 September 2019, the Company sold the 10 million shares it held in Aspire Mining Limited for \$130,141.13.

In line with market sentiment, the Board has implemented several cost saving initiatives to reflect our changed circumstances. These have included a reduction in the number of Directors to five, the relocation of the CEO to Australia with related cost savings, and further reductions in Corporate and Administration costs to preserve cash and focus on drilling. We are committed to further Xanadu Mines Group cost savings as we redefine our strategy and priorities going forward and other initiatives to enhance shareholder value.

### **Share Capital**

As at 30 September 2019, the Company had 712,848,544 fully paid shares, 2,000,000 performance rights, and 29,411,759 unlisted options. The 2,000,000 performance rights lapsed as at 11 October 2019.

### **Financial Position**

As at 30 September 2019, the Company had A\$2.6 million in cash.

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

Dr Andrew Stewart  
Chief Executive Officer  
M: +61 409 819 922  
E: [Andrew.stewart@xanadumines.com](mailto:Andrew.stewart@xanadumines.com)

### **COMPETENT PERSON STATEMENT**

*The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the “JORC Code 2012”) sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The Information contained in this Announcement has been presented in accordance with the JORC Code 2012.

The information in this Announcement that relates to exploration results is based on information compiled by Dr Andrew Stewart who is responsible for the exploration data, comments on exploration target sizes, QA/QC and geological interpretation and information. Dr Stewart, who is an employee of Xanadu and is a Member of the Australasian Institute of Geoscientists, has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as the “Competent Person” as defined in the 2012 Edition of *The Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves* and the National Instrument 43-101. Dr Stewart consents to the inclusion in the Scoping Study report of the matters based on this information in the form and context in which it appears.

### **COPPER EQUIVALENT CALCULATIONS**

The copper equivalent (**CuEq**) calculation for drill intercepts represents the total metal value for each metal, multiplied by the conversion factor, summed and expressed in equivalent copper percentage. Grades have not been adjusted for metallurgical or refining recoveries and the copper equivalent grades are of an exploration nature only and intended for summarising grade. The copper equivalent calculation is intended as an indicative value only. The following copper equivalent conversion factors and long-term price assumptions have been adopted: Copper

Equivalent Formula (**CuEq**) = Cu% + (Au (ppm) x 0.6378). Based on a copper price of \$2.60/lb and a gold price of \$1,300/oz.

## FORWARD-LOOKING STATEMENTS

Certain statements contained in this Announcement release, including information as to the future financial or operating performance of Xanadu and its projects may also include statements which are 'forward-looking statements' that may include, amongst other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These 'forward-looking statements' are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Xanadu, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.

Xanadu disclaims any intent or obligation to update publicly or release any revisions to any forward-looking statements, whether as a result of new information, future events, circumstances or results or otherwise after the date of this Announcement or to reflect the occurrence of unanticipated events, other than required by the Corporations Act and ASX and TSX Listing Rules. The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward-looking statements.

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

**Table 1: Kharmagtai drill hole details from the third quarter**

Hole ID	Prospect	East	North	RL	Azimuth (°)	Inc (°)	Depth (m)
KHDDH490	Stockwork Hill	592529	4877805	1287	0	-90	40.0
KHDDH491	Stockwork Hill	592525	4877825	1287	0	-90	40.0
KHDDH492	Stockwork Hill	592525	4877846	1288	0	-90	50.0
KHDDH493	Stockwork Hill	592475	4877800	1288	0	-90	40.5
KHDDH494	Stockwork Hill	592475	4877829	1288	0	-90	40.0
KHDDH495	Stockwork Hill	592475	4877847	1289	0	-90	40.0
KHDDH496	Stockwork Hill	592277	4877974	1292	0	-90	60.0
KHDDH497	Stockwork Hill	592240	4878001	1292	0	-90	40.0
KHDDH498	Stockwork Hill	592505	4877806	1287	0	-60	40.0
KHDDH499	Stockwork Hill	592505	4877826	1287	0	-60	40.0
KHDDH500	Stockwork Hill	592503	4877847	1288	0	-60	70.5
KHDDH501	Stockwork Hill	592503	4877867	1289	0	-60	40.0
KHDDH502	Stockwork Hill	592450	4877805	1288	0	-60	33.4
KHDDH503	Stockwork Hill	592450	4877830	1288	0	-60	45.9
KHDDH504	Stockwork Hill	592450	4877855	1289	0	-60	41.3
KHDDH505	Stockwork Hill	592400	4877814	1289	0	-60	44.4
KHDDH506	Stockwork Hill	592350	4877830	1289	0	-60	50.0



Hole ID	Prospect	East	North	RL	Azimuth (°)	Inc (°)	Depth (m)
KHDDH507	Stockwork Hill	592350	4877855	1290	0	-60	38.0
KHDDH508	Stockwork Hill	592300	4877880	1291	0	-60	44.7
KHDDH509	Stockwork Hill	592300	4877905	1292	0	-60	33.5
KHDDH510	Stockwork Hill	592250	4877950	1292	0	-60	41.0
KHDDH511	Golden Eagle	595400	4877000	1269	0	-90	69.0
KHDDH512	Golden Eagle	595375	4877000	1269	0	-90	67.0
KHDDH513	Golden Eagle	595375	4876975	1269	0	-90	80.0
KHDDH514	Golden Eagle	595400	4876975	1269	0	-90	72.4
KHDDH515	Golden Eagle	595425	4876975	1269	0	-90	61.0
KHDDH516	Golden Eagle	595425	4877000	1269	0	-90	63.0
KHDDH517	Golden Eagle	595425	4877025	1269	0	-90	60.0
KHDDH518	Golden Eagle	595400	4877025	1268	0	-90	65.0
KHDDH519	Golden Eagle	595375	4877025	1268	0	-90	65.0
KHDDH520	Copper Hill	592618	4876393	1305	0	-90	70.0
KHDDH521	Copper Hill	592663	4876393	1305	0	-90	90.0
KHDDH522	Copper Hill	592618	4876418	1304	0	-90	65.0
KHDDH523	Copper Hill	592663	4876418	1305	0	-90	75.0

**Table 2: Kharmagtai significant drill results from the third quarter**

Hole ID	Prospect	From (m)	To (m)	Interval (m)	Au (g/t)
KHDDH490	Stockwork Hill	0	40	40	0.81
<i>including</i>		1	40	39	0.82
<i>including</i>		6	34	28	0.91
KHDDH491	Stockwork Hill	0	40	40	2.30
<i>including</i>		5	40	35	2.47
KHDDH494	Stockwork Hill	5	40	35	1.71
<i>including</i>		6	40	34	1.75
<i>including</i>		8	39	31	1.78
KHDDH495	Stockwork Hill	4	17	13	0.33
<i>including</i>		4	13	9	0.35
<i>and</i>		35	40	5	0.37
KHDDH496	Stockwork Hill	22	28	6	0.20
KHDDH497	Stockwork Hill	0	20	20	0.19
<i>and</i>		33	35	2	0.26
KHDDH498	Stockwork Hill	0	40	40	1.72
<i>including</i>		2	40	38	1.80
<i>including</i>		19	40	21	2.51
KHDDH499	Stockwork Hill	0	37	37	3.14
<i>including</i>		0	29	29	3.92
<i>including</i>		0	21	21	5.20

Hole ID	Prospect	From (m)	To (m)	Interval (m)	Au (g/t)
<i>including</i>		0	15	15	6.85
KHDDH500	Stockwork Hill	0	23	23	0.30
<i>including</i>		4	10	6	0.53
KHDDH501		2	4	2	0.99
<i>and</i>		17	19	2	0.56
KHDDH502	Stockwork Hill	4	31	27	0.21
KHDDH503	Stockwork Hill	2	20	18	0.27
<i>and</i>		32	34	2	0.34
KHDDH505	Stockwork Hill	2	6	4	0.28
<i>and</i>		21	36	15	0.24
KHDDH506	Stockwork Hill	7	10	3	0.41
<i>and</i>		27	36	9	0.30
KHDDH507	Stockwork Hill	3	36	33	0.24
KHDDH508	Stockwork Hill	12	14	2	0.33
<i>and</i>		32	44.7	12.7	0.39
KHDDH509	Stockwork Hill	8	10	2	0.28
<i>and</i>		20.7	33.5	12.8	0.63
<i>including</i>		24	33.5	9.5	0.75
KHDDH510	Stockwork Hill	9.8	14.2	4.4	0.32
<i>and</i>		25	40	15	0.40
<i>including</i>		25	33	8	0.53
<i>including</i>		30	33	3	0.83
KHDDH511	Golden Eagle	37	67	30	1.34
<i>including</i>		38	63	25	1.50
<i>including</i>		38	46	8	3.34
<i>including</i>		40	46	6	3.94
KHDDH512	Golden Eagle	41	67	26	0.33
<i>including</i>		41	51	10	0.41
KHDDH513	Golden Eagle	45	54	9	3.64
<i>including</i>		46	54	8	4.04
<i>including</i>		47	52	5	6.07
<i>including</i>		48	52	4	7.32
<i>and</i>		72	80	8	0.16
KHDDH514	Golden Eagle	34	72.4	38.4	1.26
<i>including</i>		34	53	19	2.06
<i>including</i>		35	53	18	2.14
<i>including</i>		39	49	10	3.07
<i>including</i>		64	71	7	0.80
KHDDH515	Golden Eagle	35.2	61	25.8	0.65
KHDDH516	Golden Eagle	40	63	23	0.50
<i>including</i>		40	52.1	12.1	0.64

Hole ID	Prospect	From (m)	To (m)	Interval (m)	Au (g/t)
<i>including</i>		41	43	2	1.21
KHDDH517	Golden Eagle	36	60	24	0.76
<i>including</i>		36	50	14	0.87
KHDDH518	Golden Eagle	37.9	65	27.1	0.73
<i>including</i>		37.9	59	21.1	0.83
<i>including</i>		39	47	8	1.09
KHDDH519	Golden Eagle	39	64	25	0.48
<i>including</i>		42	55	13	0.63
KHDDH520	Copper Hill	9	70	61	1.08
<i>including</i>		39	70	31	1.92
<i>including</i>		47	70	23	2.37
KHDDH521	Copper Hill	38	89	51	0.64
<i>including</i>		38	86	48	0.67
<i>including</i>		78	86	8	1.15
KHDDH522	Copper Hill	12	65	53	1.04
<i>including</i>		20	65	45	1.18
<i>including</i>		34	65	31	1.43
<i>including</i>		48	65	17	1.94
KHDDH523	Copper Hill	28	75	47	2.39
<i>including</i>		29	75	46	2.44
<i>including</i>		40	75	35	3.04
<i>including</i>		55	75	20	4.69

**Table 3: Tenements held as at 30 September 2019**

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

Tenement No.	Tenement Name	Location	Change in % Interest	% Interest as at 30 September 2019
MV17387A1	Kharmagtai	Umnugovi Province	-	76.5% <sup>1</sup>
MV017129	Red Mountain	Dornogovi Province	-	90%
13670x	Yellow Mountain	Bulgan Province	-	100%

<sup>1</sup> The Kharmagtai Project has been funded through Xanadu's interest in Mongol Metals LLC. Xanadu's interest in Mongol Metals LLC is equivalent to 85% as at 30 September 2019 (an effective 76.5% 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 11 April 2019.

**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>Representative 2 metre samples were taken from ½ HQ diamond core.</li> <li>Only assay result results from recognised, independent assay laboratories were used 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>Diamond Drill Hole (“DDH”) drilling has been the primary drilling method. Some RC (reverse circulation) is conducted. RC holes are denoted by the KHRC prefix. Diamond Drill Holes are denoted by the KHDDH prefix.</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 95% and 99% for all of the deposits. In localised areas of faulting and/or fracturing the recoveries decrease; however, this is a very small percentage of the overall mineralised zones.</li> <li>Recovery measurements were collected during all DDH and RC 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>



Criteria	JORC Code (Section 1) 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 maximize 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 generally a constant 2m interval down-hole in length unless subdivided at geological contacts.</li> <li>• Routine sample preparation and analyses of DDH samples were carried out by ALS Mongolia LLC (“ALS Mongolia”), who operates an independent sample preparation and analytical laboratory in Ulaanbaatar.</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 ALS Mongolia for gold</li> <li>• Au is determined using a 25g fire assay fusion, cupelled to obtain a bead, and digested with Aqua Regia, followed by an atomic absorption spectroscopy (AAS) finish, with a lower detection limit (“LDL”) of 0.01 ppm.</li> <li>• All samples were submitted to ALS Mongolia for the package ME-ICP61 using a four acid digest. Where copper is over-range (&gt;1% Cu), it is analysed by a second analytical technique (Cu-OG62), 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 Quality Assurance and Quality Control (“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>

Criteria	JORC Code (Section 1) Explanation	Commentary
<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 QA/QC is checked prior to loading into the Geobank data base.</li> <li>The data is managed by Xanadu geologists.</li> <li>The database and geological interpretation is collectively managed by Xanadu.</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 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 digital terrain model ("DTM") is based on 1m contours with an accuracy of <math>\pm 0.01m</math>.</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>Holes spacings range from 50m spacings within the core of mineralization to +500m spacings for exploration drilling. Hole spacings can be determined using the sections and drill plans provided</li> <li>Holes range from vertical to an inclination of -60 degrees depending on the attitude of the target and the drilling method.</li> <li>The data spacing and distribution is sufficient to establish anomalism and targeting for both porphyry, tourmaline breccia and epithermal target types.</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 is conducted in a predominantly regular grid to allow unbiased interpretation and targeting.</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> </ul>

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

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

<b>Criteria</b>	<b>JORC Code (Section 2) Explanation</b>	<b>Commentary</b>
<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 LLC has a 90% interest in the Kharmagtai porphyry copper-gold Project. The remaining 10% is owned by Quincunx Ltd.</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.</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 ASX/TSX Announcement.</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% eCu is used in copper dominant systems for identification of potentially significant intercepts for reporting purposes. Higher grade cut-offs are 0.3%, 0.6% and 1% eCu.</li> <li>• A nominal cut-off of 0.1g/t eAu is used in gold dominant systems like Altan Burged for identification of potentially significant intercepts for reporting purposes. Higher grade cut-offs are 0.3g/t, 0.6g/t and 1g/t eAu.</li> <li>• Maximum contiguous dilution within each intercept is 9m for 0.1%, 0.3%, 0.6% and 1% eCu.</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\% + (Au\ g/t \times 0.6378)</math></li> <li>• <math>AuEq = Au\ g/t + (Cu\% / 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 (e.g. '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> </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 ASX/TSX Announcement.</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 (e.g. 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 RLI) shows widths and grades potentially suitable for underground extraction.</li> <li>Exploration on going.</li> </ul>

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

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

### 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.

## 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, 01/05/13, 01/09/16

**Name of entity**

<b>XANADU MINES LTD</b>
-------------------------

**ABN**

92 114 249 026
----------------

**Quarter ended ("current quarter")**

30 September 2019
-------------------

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(947)	(2,619)
(b) development	-	-
(c) production	-	-
(d) staff costs	(355)	(1,635)
(e) administration and corporate costs	(301)	(1,456)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	1	5
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,602)</b>	<b>(5,705)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	130	130
(d) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
<b>2.6 Net cash from / (used in) investing activities</b>	<b>130</b>	<b>130</b>
<b>3. Cash flows from financing activities</b>		
3.1 Proceeds from issues of shares	3,370	3,370
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	(311)	(311)
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
<b>3.10 Net cash from / (used in) financing activities</b>	<b>3,059</b>	<b>3,059</b>
<b>4. Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1 Cash and cash equivalents at beginning of period	1,099	5,225
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(1,603)	(5,705)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	130	130
4.4 Net cash from / (used in) financing activities (item 3.10 above)	3,059	3,059
4.5 Effect of movement in exchange rates on cash held	(78)	(102)
<b>4.6 Cash and cash equivalents at end of period</b>	<b>2,607</b>	<b>2,607</b>



5. <b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1 Bank balances	2,607	1,099
5.2 Call deposits	-	-
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>2,607</b>	<b>1,099</b>

6. <b>Payments to directors of the entity and their associates</b>	Current quarter \$A'000
6.1 Aggregate amount of payments to these parties included in item 1.2	160
6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

N/A

7. <b>Payments to related entities of the entity and their associates</b>	Current quarter \$A'000
7.1 Aggregate amount of payments to these parties included in item 1.2	25
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

Ulaanbaatar office rental from Executive Director Ganbayar Lkhagvasuren for \$20  
Legal services from HopgoodGanim where Non-Executive Director, Michele Muscillo, is a director for \$5.

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

<b>8. Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		


N/A
-----

<b>9. Estimated cash outflows for next quarter</b>	<b>\$A'000</b>
9.1 Exploration and evaluation	400
9.2 Development	-
9.3 Production	-
9.4 Staff costs	340
9.5 Administration and corporate costs	300
9.6 Other (loan repayment)	-
<b>9.7 Total estimated cash outflows</b>	<b>1,040</b>

<b>10. Changes in tenements (items 2.1(b) and 2.2(b) above)</b>	<b>Tenement reference and location</b>	<b>Nature of interest</b>	<b>Interest at beginning of quarter</b>	<b>Interest at end of quarter</b>
10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	N/A			
10.2 Interests in mining tenements and petroleum tenements acquired or increased	N/A			

**Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here:  ..... Date: 24 October 2019  
(Director/Company secretary)

Print name: Phil Mackey

**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 that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, 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. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.