



**Xanadu Mines Ltd (ASX: XAM)**

**Quarterly Report**

**Period Ending the 30<sup>th</sup> September 2011**

**HIGHLIGHTS**

- Exploration success continues at the Nuurstei coking coal Joint Venture.
- Preliminary coal test work (washability) at Nuurstei confirms a product with less than 12% ash, low sulphur and Crucible Swell Numbers ("CSN") of 8 to 9.
- Reconnaissance mapping identifies numerous coal subcrops at the newly acquired Javkhant coking coal project on the Chinese border.
- Galshar Thermal Coal Project resource estimate in accordance with JORC code now expected late October.
- Reconnaissance drilling at Wild Horse Project, in the southeast Gobi identifies narrow coal seams, requiring follow-up drilling.
- Ground magnetics at Sharchuluut porphyry project identifies numerous drill targets (intrusive centres).
- Exploration drilling commences at the Suug low sulphidation epithermal gold prospect on the Elgen-Zos Joint Venture Project.
- Appointment of Ms Hannah Badenach of Noble Group as a Non-Executive Director of the Company
- A\$22.4 million cash on hand at 30<sup>th</sup> September 2011 to fund exploration and pursue new exploration and development opportunities in Mongolia.



**Figure 1:** Location map, showing the location of Xanadu Mines Mongolia and Ekhgoviin Chuluu exploration projects in Mongolia.

## Coal Exploration Program

### Ekhgoviin Chuluu LLC – Xanadu Mines & Noble Group Joint Venture

The Strategic Alliance with Noble Group continues to explore and acquire high priority coking coal and iron ore opportunities in Mongolia via the dedicated joint venture vehicle Ekhgoviin Chuluu LLC (“EC”).

To date this program has targeted areas of significant known coal resources and focused on the green field exploration opportunities identified via information synthesis and geological mapping. Farm-in agreements have been executed on two coking coal projects to date, Nuurstei and Javkhlant. Exploration has commenced on both projects, with the detailed work programs discussed below. Detailed regional project generation also continues, with numerous field visits conducted during the quarter. The objective of this program is to identify strategically located metallurgical coal projects and/or prospective exploration ground.

### **Nuurstei Coking Coal Project (JV earning up to 80%, Xanadu earning 40%)**

Nuurstei lies within a Mesozoic coal-bearing sedimentary basin, located in the south central part of the Khuvsgul province (Figure 1). The two contiguous licenses lie approximately 13km south-southwest of the provincial centre of Moron, and are strategically located only 8km from the proposed Northern Mongolian rail line that will link Moron with the active rail spur at Erdenet. The project is located less than 30km south of the world class Burenhaan phosphate deposit & 158km east of the newly discovered >300 Mt Ovoot coking coal deposit (Aspire Mining).

Exploration drilling to-date has been successful with a total of ten diamond holes completed for 3,681.60m (Table 1).

Table 1: Drilling completed at the Nuurstei coking coal project to-date.

Holes Completed	Total Metres Drilled	Total Metres Logged with Geophysics
10	3681.60	3489.00

The coal bearing sedimentary sequence is more than 600m thick and mostly comprises thick Mesozoic mudstones with thin layers of coarse sandstone. The coal-bearing sediments unconformably overlie the Permian volcanic rocks and the Nuurstei Formation is interpreted to contain at least 16 coal seams, which range in thickness from 12m to less than 1m. The coal bearing sedimentary package is affected by minor normal faults.

The first diamond drill hole (NUDH001) at Nuurstei, in July interested a thick package of coal bearing sediments (greater than 290m thick) containing up to eleven coal seams (up to 6m in thickness). The initial raw coal quality analysis from NUDH001 indicates the following coal characteristics:

- A low to medium volatile coal (13 to 20 % ad);
- Coal contains low total moisture and low sulphur (less than 0.4% ad);
- Ash varied from 19.03 to 39.38 % (ad) and calorific values range from 5,000 and 6,800 Kcal/kg (ad);
- The coal recorded CSN values of between 4 and 8.5.

Washability tests indicate several seams demonstrate yields (>40 %) producing a product with approximately 12% ash content and a Crucible Swelling Number (CSN) of 8-9. CSN values of 8-9 indicate a premium quality coking coal.

Logantek Mongolia LLC has recently completed a detailed ground magnetic survey at Nuurstei, which will contribute to understanding the structure and architecture of the coal bearing basin. The magnetic survey was completed in 7 production days and a total of 328.4 line km of ground magnetic data acquired with GSM-19TW magnetometers along South to North. The lines were spaced at 100 meters. The survey successfully determined several magnetic anomalies in the area. Probable coal units were mapped from the low-moderate magnetic responses in the plan view, faults were delineated from the plan view and

faults attitude (angle and direction) were determined from the profile modeler and verified from magnetic inversion sections.

A short program of 2D seismic has also commenced with four lines, totaling 7 contiguous-line-kilometres 2D seismic planned. The seismic method to be used is high resolution, high reflection seismic. The results of this survey will help understand the architecture and structure of the basin and allow targeting of the coking coal package (seams) more effectively.



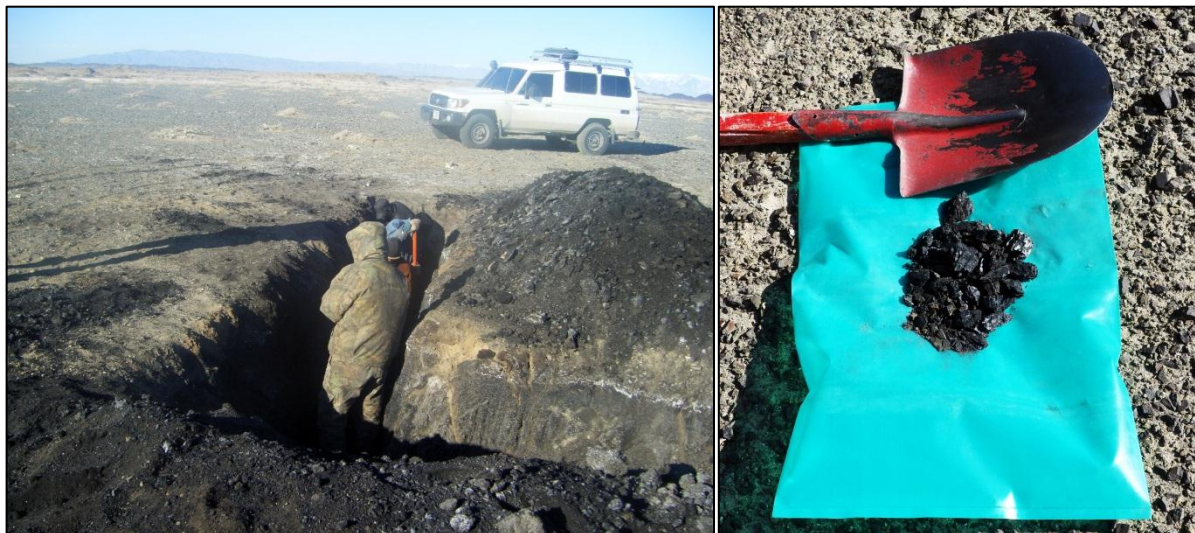
**Figure 2:** Drilling at the Nuurstei coking coal project

***Javkhlant Coking Coal Project (JV earning up to 80%, Xanadu earning 40%)***

Exploration commenced at the Javkhlant joint venture in October. The Javkhlant exploration project is located in the south western Gobi Altai Province of Mongolia (Figure 1), approximately 22km from the Burgastai border crossing point into China and only 200km from the Chinese rail network. The large (1,005km<sup>2</sup>) exploration license which lies along Mongolia's southern border with China, is located in the south west Gobi basin known to host premium coking and thermal coal deposits of Permian and Carboniferous age. The highly prospective opportunity was recognised as part of the thorough regional reconnaissance program currently being conducted by Ekhgoviin Chuluu LLC geologists.

Reconnaissance mapping and exploration has identified numerous coal and carbonaceous mudstone subcrops, containing coal fragments (Figure 3), which occur over a strike of approximately 40 km. Xanadu has contracted an RC drill rig to conduct a scout drill program of 3,000 to 4,000m of RC drilling at Javkhlant to test the numerous coal subcrops over the next quarter. This is an exciting exploration project which has the potential to a host a large premium coking and /or thermal coal deposit of Permian and Carboniferous age.





**Figure 3:** Hand dug trenches on a coal sub crop at Javkhlant coal Project.

#### ***Galshar Thermal Coal Project (Xanadu owns 100%)***

The Galshar Thermal Coal Project is situated in the Dornogovi Province of Eastern Mongolia, 250 km southeast of Ulaanbaatar and 60km from the Bor Undur railway line (Figure 1), within the Cretaceous Choir-Nyalga Coal Basin. The coal seams are contained within the Lower Cretaceous unit of the Khashaat member, which are hosted within the larger Zuun Bayan formation which also includes the Baganuur, Eldev and Shivee Ovoo coal deposits.

All the exploration and drilling data has been compiled and validated for the 2011 drill program. Final coal quality results were received from the SGS laboratory in Ulaanbaatar and AB Mylec are currently preparing a detailed coal quality report of these results which will be available shortly. An initial review of the coal quality analysis of cored drill holes from the 2011 drill program confirms that the coal is sub-bituminous, has a low to moderate ash level, inherent moisture of approximately 26% and low sulphur. The coal is suitable for power generation or conversion from coal to liquids (CTL).

McElroy Bryan Geological Services (MBGS) have been contracted to complete a Resource Estimation in accordance with the JORC code. MBGS are in the final stages of completing the geological model and resource estimation with results expected in late October.

#### ***Khar Tarvaga Thermal Coal Project (Xanadu owns 100%)***

The Khar Tarvaga Thermal Coal Project is located in the Tov Province in Eastern Mongolia, 150km south east of Ulaanbaatar and 35km from the main Trans-Mongolian railway line (Figure 1).

Resources and geology of the Khar Tarvaga Project are described in detail in the Xanadu Mines Ltd Prospectus issued late in 2010. In addition the company has appointed a Beijing based agency to assist with marketing the project to multinational coal to liquid (CTL) and synthetic natural gas (SNG) producers.

### **Wild Horse Coal Project (Xanadu owns 100%)**

The Wild Horse Coal Exploration Project is located in the Dornogovi Province of south eastern Mongolia, approximately 750km south-southeast of Ulaanbaatar and about 30km from the Chinese border (Figure 1). Wild Horse is a promising early-stage project with potential for a discovery of a premium coking and/or thermal coal deposit.

Two scout diamond drill holes were completed for a total of 309.60m. The initial drilling results were encouraging, with both holes intersecting narrow carbonaceous mudstone horizons containing coal fragments. Samples are currently being analysed at the SGS Laboratory in Ulaanbaatar. A review of the coal potential is currently being carried-out following initial drill results.

Table 2: Drilling completed at the Wild Horse coal project to-date.

Holes Completed	Total Metres Drilled
2	309.60

### **Copper-Gold & Gold Exploration Program**

#### **Sharchuluut Copper-Gold Porphyry Project (Xanadu owns 100%)**

The Sharchuluut Copper-Gold Porphyry Project is located within the Bulgan Province of Northern Mongolia, approximately 230km northwest of Ulaanbaatar. The prospect is strategically located approximately 40km northwest of the world class Erdenet porphyry copper-molybdenum deposit. The Exploration licence is large, covering approximately 488km<sup>2</sup> and remains relatively unexplored.

Detailed lithological and alteration mapping over the main prospect at Sharchuluut was completed and the results from a total of 362 samples grab samples have been received and confirm the main zone of advanced argillic alteration at Sharchuluut is highly anomalous in copper, molybdenum, gold, silver and barium. A regional stream sediment sampling was completed over the Sharchuluut project. All samples will be submitted for analysis at the SGS laboratory and results are due in early November.

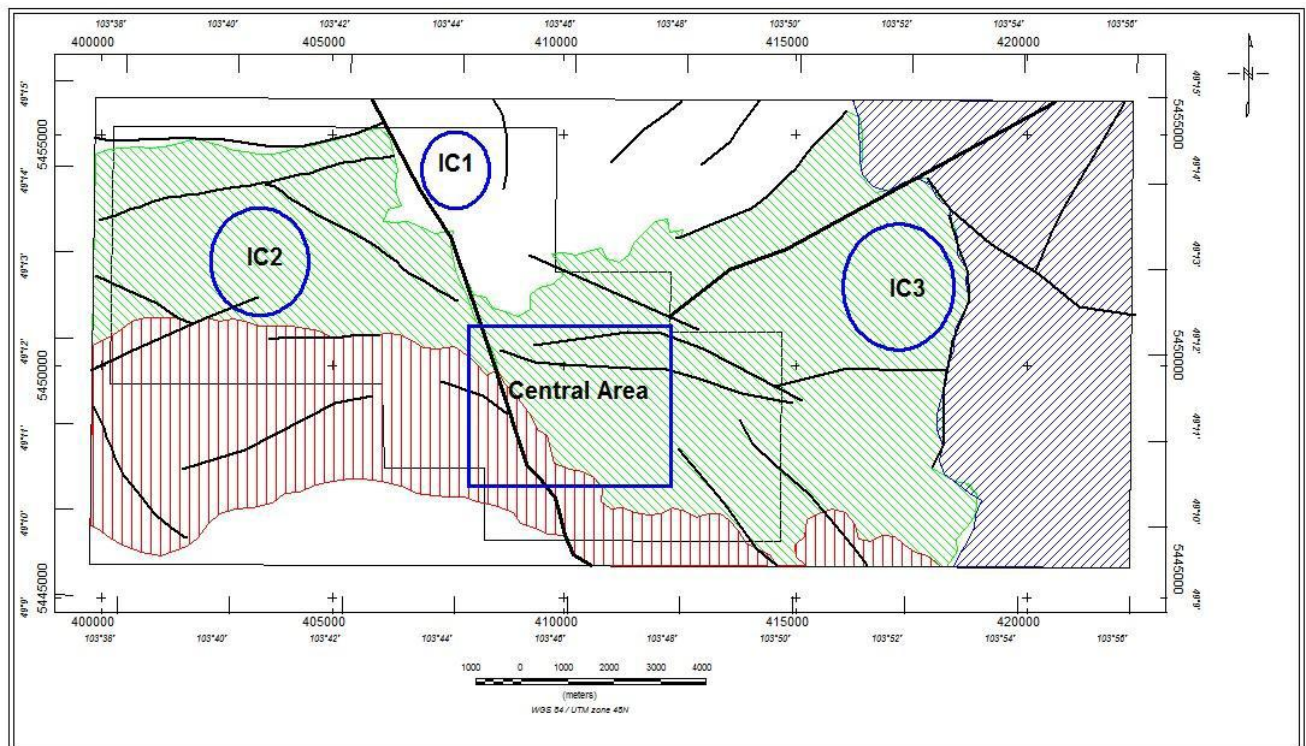
Logantek Mongolia LLC completed a detailed ground magnetic survey as part of a comprehensive multidisciplinary geophysical survey directed at locating porphyry centres at depth. Approximately 2,500 contiguous-line kilometres of detailed ground magnetic data was collected, and has been processed. The magnetic survey was successful in adding considerable geological information to further the exploration effort at Sharchuluut. Numerous new magnetic targets (IC1, IC2 and IC3) were identified and require follow up by ground geochemistry and geophysics as possible porphyry targets (Figure 4 and 5).

The detailed ground gravity survey was recently completed over the central block at Sharchuluut, with a total of 1,500 (100m x 100m spacing) ground stations measured with modern CG-5 gravity meters. An






interpretation of the ground gravity data will be completed by Logantek Mongolia LLC, and will be available early November.

A detailed induced Polarization (IP) survey will commence in the central area in late October.

Zones of advanced argillic alteration which constitute lithocaps are commonplace in the shallow parts of porphyry copper system. Geological mapping is continuing throughout the Sharchuluut Uul area and based on the results to date, Xanadu's exploration team believes that there is a strong possibility of discovering additional mineralized porphyry copper targets within the large, 488km<sup>2</sup> exploration licence.

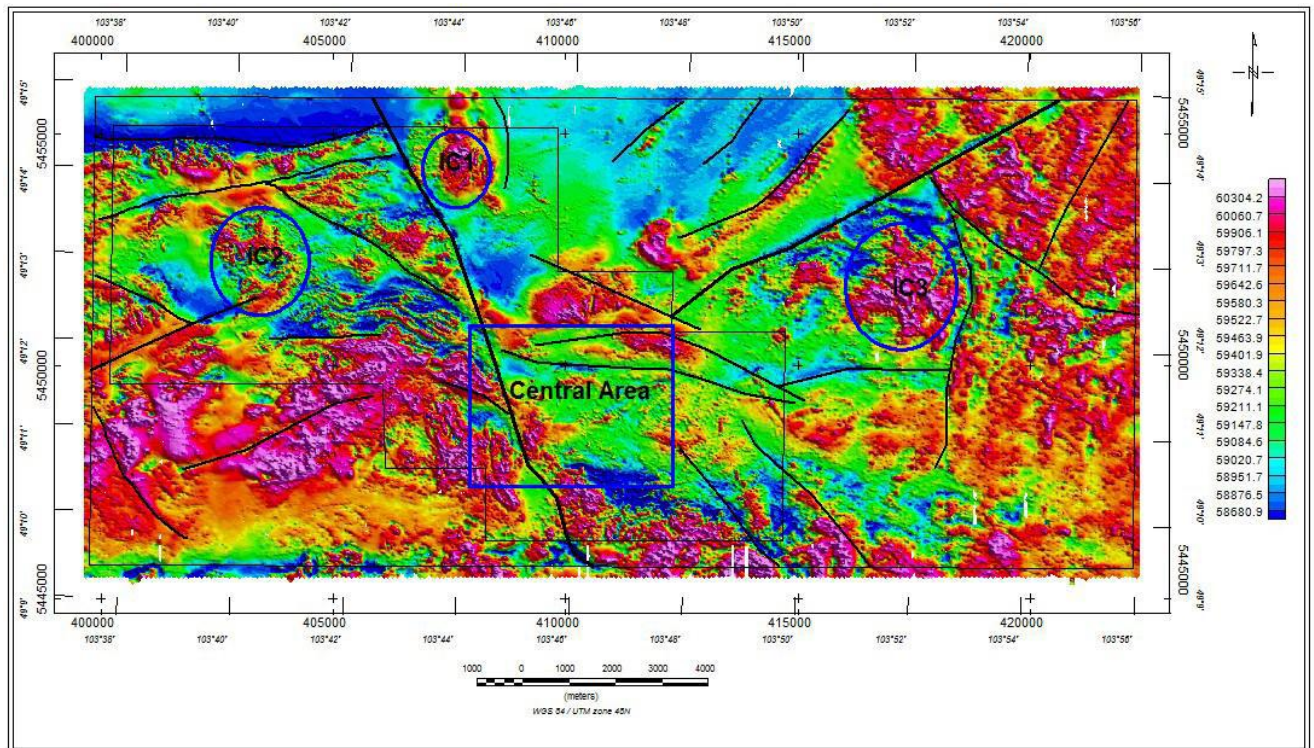


#### LEGEND

-  Magnetic response from exposed volcanics and intrusives
-  Magnetic response from overlying volcanics
-  Magnetic response from intrusives
-  Inferred Fault
-  Intrusive Complex

**Figure 4:** Magnetic Plan Interpretation of the Sharchuluut Area





**Figure 5:** Ground total magnetic intensity (TMI) map with interpreted intrusive centres.

### ***Elgen-Zos Gold Joint Venture (Xanadu earning up to 80%)***

The highly prospective gold project is located approximately 750km south-southeast of Ulaanbaatar and within 30km of the Chinese border. The project is located in the newly recognized Solenker epithermal gold district. The project hosts three shallowly eroded low sulphidation epithermal Au-Ag systems: Zost Uul, Suug and Elgen related to silica sinter hot springs. Alteration mapping shows these systems are exposed at a high level, close to the hot spring paleo-surface. Exploration is therefore focused on bonanza grade (>60 g/t Au) quartz-adularia veins at deeper levels. All prospects have unifying characteristics, such as the nature of chalcedonic quartz, and occurrences of alunite-jarosite (advanced argillic assemblages). At Zost and Suug there is clear evidence for a silica hot spring sinter. The age of the alteration systems is likely to be Mesozoic, maybe Jurassic or even Cretaceous, based on the occurrence of plant fossils at Suug.

Logantek Mongolia LLC has completed a detailed induced polarization survey over the Suug and Zost Uul projects with a total of 42.07 line-kilometres and 29.70 line-kilometres completed at Suug and Zost Uul respectively and numerous targets have subsequently been generated. Because of moderate relief of about 50m at Suug, the epithermal alteration systems are reasonably well exposed. Structural interpretations based on detailed mapped distribution of veins and enclosing breccia zones, indicate dilational zones, which will be drill tested. In particular inflexions or dilational jogs are important. Exploration drilling which commenced in September will focus on the Zost and Suug hot springs silica sinters.



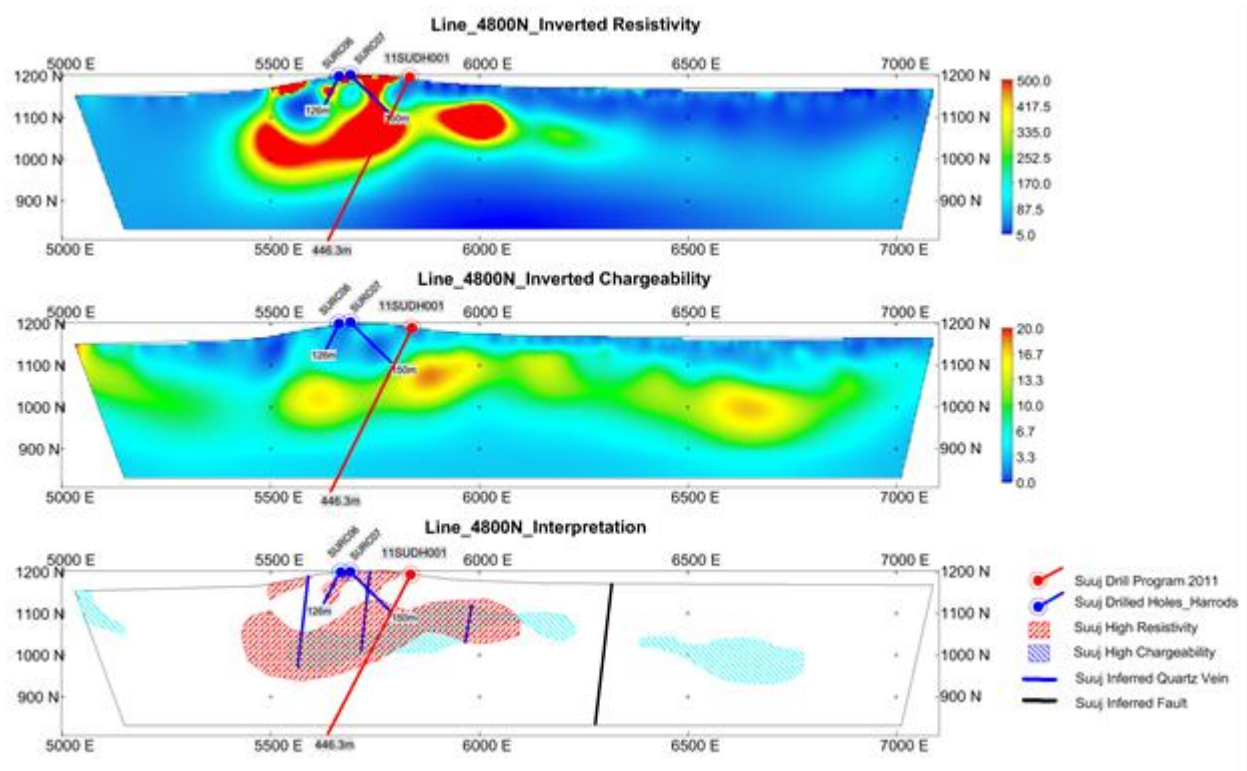
At the Suuj project, the first hole 11SUDH-001 was drilled in the northern part to a depth of 446m and targeted a coincident resistivity high and moderate chargeability sitting in a vertical dilational structure. The hole intersected a broad zone moderately to strongly quartz-sericite-clay altered volcaniclastics and hydrothermal breccia's, with narrow intervals of quartz-adularia-sulphide veining (Figure 6). The core has been sampled and will be dispatched to laboratory shortly.

**Table 3:** Drilling completed at Suuj Au-Ag project in 2011.

Holes Completed	Total Metres Drilled
1	446.30

**Table 4:** Holes completed at the Suuj Au-Ag project.

Hole ID	UTM Easting	UTN Northing	Depth	Angle	Azimuth
11SUDH-001	385832	4754801	446.30	-65	270



**Figure 6:** Section 4800N at the Suuj Project, showing the completed drill hole (11SUDH-001) plotted on the inverted resistivity and chargeability. Assay results from 11SUDH-001 are pending.



## Corporate

At the end of the quarter the company had a cash balance of **AU\$22.4 million**.

During the quarter the company announced the appointment of Ms Hannah Badenach as a Non-Executive Director of the Company. Ms Badenach is Vice President of Asset Development & Operations at Noble Resources Limited and a lawyer, having practiced law for several years in Asia, including two years in Mongolia, starting in 2004 with Lynch & Mahoney, one of Mongolia's leading law firms.

Ms Badenach has extensive experience in management and development in Mongolia and the board believes she brings diversity and skills which will add significant value to the Company.

### *Competent Person Statement*

*Information on the Company's exploration results is sourced from information compiled by Mr. Rod Williams. Mr. Williams is an employee of Xanadu Mines and is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience in the areas being reported on to qualify as the "Competent Person" as defined in the 2004 Edition of the "Australasian Code for the Reporting of Mineral Resources and Reserves". Mr. Williams consents to the information in the form and context in which it appears.*

For further information:

Brian Thornton  
Chairman  
+61 411 366 668  
Email: [info@xanadumines.com](mailto:info@xanadumines.com)

# Appendix 5B

## Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001, 01/06/10.

Name of entity

**XANADU MINES LTD**

ABN

92 114 249 026

Quarter ended ("current quarter")

30 September 2011

### Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter \$A'000	Year to date (3 months) \$A'000
1.1	Receipts from product sales and related debtors	3	3
1.2	Payments for (a) exploration & evaluation	(1,086)	(1,086)
	(b) development	-	-
	(c) production	-	-
	(d) administration	(418)	(418)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	196	196
1.5	Interest and other costs of finance paid	-	-
1.6	R&D Tax Offset	-	-
1.7	Other (provide details if material)	-	-
<b>Net Operating Cash Flows</b>		<b>(1,305)</b>	<b>(1,305)</b>
<b>Cash flows related to investing activities</b>			
1.8	Payment for purchases of: (a) prospects	-	-
	(b) equity investments	-	-
	(c) other fixed assets	(8)	(8)
1.9	Proceeds from sale of: (a) prospects	-	-
	(b) equity investments	-	-
	(c) other fixed assets	-	-
1.10	Loans to other entities	(770)	(770)
1.11	Loans repaid by other entities	-	-
1.12	Other (provide details if material)		
	(a) Proceeds from disposal of controlled entity	-	-
	(b) Cash on hand upon purchase of controlled entity	-	-
<b>Net investing cash flows</b>		<b>(778)</b>	<b>(778)</b>
<b>Total operating and investing cash flows (carried forward)</b>		<b>(2,083)</b>	<b>(2,083)</b>
1.13			

+ See chapter 19 for defined terms.



**Appendix 5B**  
**Mining exploration entity quarterly report**

1.13	Total operating and investing cash flows (brought forward)	(2,083)	(2,083)
<b>Cash flows related to financing activities</b>			
1.14	Proceeds from issues of shares, options, etc.	-	-
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 (provide details if material)	-	-
	<b>Net financing cash flows</b>	-	-
	<b>Net increase (decrease) in cash held</b>	(2,083)	(2,083)
1.20	Cash at beginning of quarter/year to date	23,569	23,569
1.21	Exchange rate adjustments to item 1.20	931	931
1.22	<b>Cash at end of quarter</b>	22,417	22,417

**Payments to directors of the entity and associates of the directors**  
**Payments to 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	199
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

Payment of Director's fees and salaries

**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

Not Applicable.

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

Not Applicable.

+ See chapter 19 for defined terms.

### Financing facilities available

Add notes as necessary for an understanding of the position.

	Amount available \$A'000	Amount used \$A'000
3.1 Loan facilities	Nil	Nil
3.2 Credit standby arrangements	Nil	Nil

### Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	1,315
4.2 Development	-
4.3 Production	-
4.4 Administration	440
<b>Total</b>	<b>1,755</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	17,417	23,569
5.2 Deposits at call	5,000	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Total: cash at end of quarter (item 1.22)</b>	<b>22,417</b>	<b>23,569</b>

### Changes in interests in mining tenements

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1 Interests in mining tenements relinquished, reduced or lapsed	Nil			
6.2 Interests in mining tenements acquired or increased	13168X	Purchased by the Noble-Xanadu JV. Xanadu effective ownership 30%.	Nil	30%

+ See chapter 19 for defined terms.

**Appendix 5B**  
**Mining exploration entity quarterly report**

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

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

		Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	<b>Preference securities</b> (description)				
7.2	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3	<b>+Ordinary securities</b>	186,989,835	135,550,079		
7.4	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs		3,103,386		
7.5	<b>+Convertible debt securities</b> (description)				
7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7	<b>Options</b> (description and conversion factor)	14,000,000 5,240,000		<u>Exercise price</u> \$0.50 \$0.50	<u>Expiry date</u> 31/12/2014 19/12/2014
7.8	Issued during quarter	1,000,000 1,000,000 1,000,000		\$0.60 \$1.20 \$1.80	30/06/2016 30/06/2016 30/06/2016
7.9	Exercised during quarter				
7.10	Expired during quarter				
7.11	<b>Debentures</b> (totals only)				

+ See chapter 19 for defined terms.



7.12	<b>Unsecured notes</b> ( <i>totals only</i> )		
------	---	--	--

## 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 4).
- 2 This statement does give a true and fair view of the matters disclosed.



Sign here: .....  
Company Secretary

Date: 24 October 2011

Print name: Brendan Evans

## 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 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, 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 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Accounting 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.

== == == == ==

+ See chapter 19 for defined terms.

For personal use only