

# KHARMAGTAI INDEPENDENT EXPERT'S AND VALUATION REPORTS

Xanadu Mines Ltd is an exploration company that has assembled a significant exploration portfolio across Mongolia's porphyry belts.

These belts are part of the larger Central Asian Orogenic Belt – one of the last great exploration frontiers known to host large copper porphyry deposits – and Mongolia is emerging as a globally significant copper province.

# **CONTACT:**

George A. Lloyd Managing Director T: +852 6397 3308 george.lloyd@xanadumines.com

# **MONGOLIA:**

2nd Khoroo, Military Town AOS Street Bayanzurkh District Ulaanbaatar T: +967 5011 0211

# **AUSTRALIA:**

c/o Company Matters Pty Limited Level 12 680 George Street

Sydney NSW 2000 T: +612 8280 7497 F: +612 9287 0350

**ASX: XAM** 

WWW.XANADUMINES.COM

# HIGHLIGHTS

- An Independent Expert's Report and Independent Valuation Report have been finalised to accompany the Notice of Meeting for the Kharmagtai transaction.
- The Independent Expert has concluded the transaction is fair and reasonable to nonassociated shareholders.
- The Independent Valuation Report has estimated a preferred valuation range of US\$15.0 to 29.0 million for the Kharmagtai project.
- The Independent Valuation Report notes that three historic mineral resource estimates have been undertaken at Kharmagtai. These historic resource estimates provide support to Xanadu's Exploration Target.
- Xanadu's exploration activities have commenced including core re-logging, magnetic acquisition and alteration analysis.
- Preparations are underway for a diamond drilling campaign to commence upon completion of the Transaction.

31 MARCH 2014 PAGE 1 of 4

# XANADU MINES LTD

# INTRODUCTION

Xanadu Mines Ltd (ASX: XAM – "Xanadu") notes that Xanadu shareholder approval is a condition precedent to completing the acquisition of a 90% interest in Oyut Ulaan LLC ("Oyut Ulaan"), which in turn owns 100% of the Kharmagtai copper-gold project, by Mongol Metals LLC ("Mongol Metals") (the "Transaction"). Xanadu's non-interested directors engaged Grant Thornton Corporate Finance ("Grant Thornton") as an Independent Expert to prepare an Independent Expert's Report to express an opinion the fairness and reasonableness of the related party components of the Transaction. At the request of Grant Thornton, Mining Associates Pty Ltd ("Mining Associates") was commissioned as Independent Technical Expert to prepare an Independent Valuation Report for inclusion in the Independent Expert's Report.

Both the Independent Expert's Report and Independent Valuation Report have been finalised and are attached. These Reports will accompany the Notice of Meeting which is currently being reviewed by the Australian Securities & Investments Commission ("ASIC") for the purposes of the section 218 of the Corporations Act ("Notice"). Subject to the timing of ASIC's approval, Xanadu expects to release the complete Notice during the week beginning 7 April 2014.

# INDEPENDENT EXPERT'S REPORT

Grant Thornton has concluded that the Proposed Transaction is fair and reasonable to Xanadu's non-associated shareholders. In preparing their report, Grant Thornton note that the present value of the total consideration to be paid by Mongol Metals falls towards the low end of the valuation range of the Oyut Ulaan shares as set out in the following table:

	Valuation Range (US\$'000)					
_	Low Preferred High					
Oyut Ulaan shares	9,500	15,750	30,000			
Present value of consideration	12,109	12,109	12,109			
Difference	(2,609)	3,641	17,891			

Grant Thornton has also concluded that the guarantee of the Mongol Metals' obligations to pay deferred consideration and the free carry of a portion of Lkhagvasuren Ganbayar's interest prior to the decision to mine are fair and reasonable to the non-associated shareholders.

# INDEPENDENT VALUATION REPORT

As the Independent Technical Expert, Mining Associates estimated a preferred valuation range of US\$15.0 to 29.0 million for the Kharmagtai project as summarised overleaf:

31 MARCH 2014 PAGE: 2 of 4

# XANADU MINES LTD

	Valuation Range (US\$'000)				
	Minimum	Maximum			
Market Approach	16,700	19,000			
Cost Approach	14,000	29,000			
Empirical Approach	9,000	17,000			
Preferred Valuation	15,000	29,000			

The Mining Associates valuation considered Xanadu's exploration target for the Kharmagtai project as set out in the ASX release dated 3 February 2014 which continues to apply and is repeated in the following table ("**Exploration Target**"):

	Tonnes (000's)	Gold (g/t)	Copper (%)
<b>Exploration Target</b>	200,000 to 450,000	0.25 to 0.30	0.25 to 0.30
High-grade Target	50,000 to 80,000	0.60 to 0.80	0.40 to 0.50

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource under the JORC 2012 Code and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

In its Report, Mining Associates noted that three historic mineral resource estimates have been undertaken at Kharmagtai, the first in 2005 by Ivanhoe Mines Mongolia Inc ("Ivanhoe"), again in 2007 by Ivanhoe and lastly in 2012 by AMC Consultants Pty Ltd. None of the estimates were publicly released. The estimates do not comply with the JORC 2012 Code. However, Mining Associates notes that these historic resource estimates provide support to the defined Exploration Target. The later two estimates were prepared in accordance with NI43-101 guidelines and a summary is included below.

	2007 Resource Estimate			2012 Res	ource Estim	nate
	tonnes	tonnes Au Cu		tonnes	Au	Cu
	(000's)	(g/t)	(%)	(000's)	(g/t)	(%)
Measured	13,952	0.66	0.45	33,572	0.63	0.48
Indicated	23,449	0.35	0.31	17,593	0.46	0.48
Inferred	147,686	0.17	0.32	81,933	0.24	0.29
Total	185,087	0.23	0.33	133,098	0.37	0.36

Mining Associates does not directly use the historic mineral resource estimates in its valuation as the estimates do not comply with the JORC 2012 Code. Mining Associates note that the "valuation methodology of mineral properties is exceptionally subjective. If an economic reserve or resource is subsequently identified then this valuation will be dramatically low relative to any later valuations."

31 MARCH 2014 PAGE: 3 of 4

# XANADU MINES LTD

# **EXPLORATION ACTIVITIES**

Xanadu has access to the Kharmagtai project campsite during the interim period up to completion of the Transaction. Xanadu has commenced non-invasive exploration activities including visual re-logging, hand-held magnetic acquisition and alteration studies. Xanadu is preparing for drilling to commence as soon as possible upon completion of the Transaction.

# **COMPETENT PERSONS STATEMENT**

The information in this report relating to Exploration Results and Exploration Targets is based on information compiled or reviewed by Dr. Andrew Stewart, who is an employee of Xanadu Mines and is a Member of the Australasian Institute of Geoscientists. Dr. Andrew 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. Andrew Stewart consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

31 MARCH 2014 PAGE: 4 of 4



# Xanadu Mines Limited

Independent Expert's Report and Financial Services Guide 25 March 2014



MUO BEN IBUOSIBO JOL The Independent Directors Xanadu Mines Limited Level 13, Suite 1302 167 Macquarie Street Sydney NSW 2000

Attn: George Lloyd

25 March 2014

Dear Independent Directors

Independent Expert's Report and Financial Services Guide

Introduction

Xanadu Mines Limited ("XAM" or the "Company") is an Australian company focused on the exploration and development of copper and gold projects in Mongolia.

On 13 December 2013, XAM announced that it had established a joint venture company, Mongol Metals LLC ("MML"), through a wholly owned subsidiary Khuiten Metals Pte Ltd ("Khuiten") for the purpose of pursing the acquisition of base metals projects in Mongolia. The joint venture partner is Mr Lkhagvasuren Ganbayar ("Mr Ganbayar"), a director and substantial shareholder of XAM.

On 3 February 2014, XAM announced that MML had entered into definitive agreements with THR Oyu Tolgoi Limited ("THR") to acquire a 90% interest in the shares of Oyut Ulaan LLC ("OU"). OU's primary assets include:

- The Kharmagtai Mining License (MV-17387A) registered with the Mineral Resource Authority of Mongolia ("Kharmagtai Project"). The Kharmagtai Project is porphyry copper-gold exploration project located in the South Gobi region of Mongolia.
- Property, plant and equipment including the Kharmagtai mine camp which has been winterised and is suitable for use 12 months of the year and related exploration and core sampling equipment ("Kharmagtai Campsite").

Level 17, 383 Kent Street Sydney NSW 2000

Correspondence to: Locked Bag Q800 QVB Post Office Sydney NSW 1230

T+61 28297 2400 F +61 2 9299 4445 E info.nsw@au.gt.com W www.grantthornton.com.au

Holder of Australian Financial Services License No. 247140

# MIUO BSM | MUSE OUI | MILOS LOLI

# **Proposed Transaction**

Under a share purchase agreement dated 31 January 2014 between MML and THR ("SPA"), MML has agreed to pay an upfront consideration of US\$4.0 million and a deferred consideration of US\$10 million for up to 18 months ("Deferred Consideration") for the acquisition of the shares in OU held by THR ("the Proposed Transaction").

In relation to the Proposed Transaction, we note the following:

- XAM has agreed to provide a guarantee to THR in relation to the obligations of MML to pay the Deferred Consideration ("Proposed Guarantee").
- XAM has entered into a number of ancillary agreements ("Ancillary Agreements") including MML joint venture terms that provide XAM the exclusive right to earn up to 85% of MML by spending US\$22.7 million (including the Deferred Consideration).
- The MML Shareholders Agreement contains an anti-dilution mechanism in respect of Ganbayar's interest in MML. If XAM has earned an 85% interest in MML by spending US\$22.7 million and a decision to mine has not been reached, then Ganbayar will have a free carried interest in MML of 5.6% ("Ganbayar's Carried Interest") up to the first decision by the Board of MML to proceed with a commercial mining development on the Kharmagtai Project ("Decision to Mine").

# Purpose of the report

Under the terms of the Proposed Transaction and Ancillary Agreements, Mr Ganbayar, a director and related party of the Company may receive a financial benefit as a result of the Proposed Guarantee and Ganbayar's Carried Interest. Section 208 of the Corporations Act 2001 ("the Act") requires a company to seek shareholder approval before giving a financial benefit to a related party unless the benefit falls within an exception provided for in section 210 of the Act.

The Independent Directors of XAM have engaged Grant Thornton Corporate Finance to prepare an independent expert's report to express an opinion on the fairness and reasonableness of the Proposed Guarantee and Ganbayar's Carried Interest to the shareholders of XAM not associated with Mr Ganbayar ("Non-Associated Shareholders").

In forming our opinion on the financial benefits that may accrue to Mr Ganbayar in relation to the Proposed Guarantee and Ganbayar's Carried Interest, we have had regard to the Proposed Transaction as a whole. The Proposed Guarantee and Ganbayar's Carried Interest can only occur if the Proposed Transaction completes.

In our fairness assessment, we have considered the following:

• The fair market value of the Kharmagtai Project and Kharmagtai Campsite compared with the consideration payable.



# An instinct for growth

- The terms of the Proposed Guarantee.
- The terms of Ganbayar's Carried Interest.

# Summary of opinion

Grant Thornton Corporate Finance has concluded that the Proposed Transaction is fair and reasonable to Non-Associated Shareholders.

Grant Thornton Corporate Finance has concluded that the terms of the Proposed Gaurantee and Ganbayar's Carried Interest are fair and reasonable to Non-Associated Shareholders.

# Fairness assessment of the Proposed Transaction

The table below compares the value of the Kharmagtai Project including the Kharmagtai Campsite to the present value of the consideration paid.

		Low	Preferred	High
Proposed Transaction - Fairness Assessment	Reference	US\$'000s	US\$'000s	US\$'000s
Value of the Kharmagtai Project assessed by MA	7.1.1	9,000	15,000	29,000
Value of the Kharmagtai campsite and other property, plant and equipment	7.1.2	500	750	1,000
Total value of the OU Shares		9,500	15,750	30,000
Present value of the consideration to be paid for OU Shares	7.1.4	12,109	12,109	12,109
Difference		(2,609)	3,641	17,891
Difference %		(21.5)%	30.1%	147.8%

Source: Calculations

MUO BSN | BUOSJBQ JOL

The present value of the total consideration paid for the OU Shares falls towards the low end of the value of the Kharmagtai Project and the Kharmagtai Campsite. Accordingly, we have concluded that the Proposed Transaction is fair to the Non-Associated Shareholders.

# Terms of the Proposed Guarantee

Under the Proposed Transaction, XAM has provided a guarantee to THR in relation to the payment of the Deferred Consideration by MML of US\$10 million. Whilst the form of the Proposed Guarantee is for XAM to guarantee an obligation of MML, the substance of the Proposed Guarantee is for XAM to guarantee its own obligation under the terms of the Proposed Transaction and Ancillary Agreements.

In order to obtain a 85% interest in MML in accordance with the intentions of XAM and Mr Ganbayar, XAM is required to provide the funds to MML to pay for the Deferred Consideration of US\$10 million within 18 months and exploration and working capital of US\$12.7 million<sup>1</sup>. Mr

<sup>&</sup>lt;sup>1</sup> We note that XAM and Mr Ganbayar have equally funded the payment of US\$500,000 deposit and XAM has also funded all of the advisory and due diligence costs in relation to the Proposed Transaction of approximately US\$550,000.

Ganbayar will subscribe for shares in MML at completion for a total of US\$4 million in order to pay the upfront consideration. Mr Ganbayar contribution is equivalent to 100% of his pro-rata obligation to obtain a 15% interest in MML at the time of a Decision to Mine as summarised in the table below.

		Equity			
Sources of funds	US\$'000	ow nership	Uses of funds	US\$'000	Status
Mr Ganbay ar	4,000	15%	Initial consideration	4,000	Paid at completion
XAM	22,667	85%	Deferred consideration	10,000	Payable in 18 months
			Exploration and working capital	12,667	Pay able up to decision to mine
Total sources	26,667	100.0%	Total uses	26,667	

Source: XAM Management

AIUO BSM IBUOSIBÓ JOL

Based on the terms of the Proposed Transaction and Ancillary Agreements and the intentions of the parties<sup>2</sup>, we are of the opinion that the Proposed Guarantee does not provide a financial benefit to Mr Ganbayar as XAM is guaranteeing its own obligations to pay for the Deferred Consideration in accordance with the terms of the Proposed Transaction and the Ancillary Agreement.

We further note that if the Proposed Guarantee is called upon, XAM will provide funding to pay the Deferred Consideration at the initial subscription price. Accordingly, XAM Non Associated Shareholders are not unfairly treated in comparison to Mr Ganbayar.

# Terms of Ganbayar's Carried Interest

We note that under the Shareholders Agreement, the Ganbayar's Carried Interest becomes effective once XAM has reached 85% interest in MML and a Decision to Mine milestone has not been reached as yet. This effectively means that XAM is required to spend approximately US\$22.7 million (including the funding of the Deferred Consideration) before the Ganbayar's Carried Interest comes into effect.

Management of XAM have estimated that if the scale of the Kharmagtai Project does not materially change, the planned exploration expenditure (US\$12.7 million) will be sufficient to reach a Decision to Mine in relation to the Kharmagtai Project. Under these circumstances the Ganbayar's Carried Interest will not become effective.

In our opinion, there is not a net financial benefit accruing to Mr Ganbayar in conjunction with the Ganbayar Carried Interest, as the potential cost of the Ganbayar's Carried Interest for XAM is

<sup>&</sup>lt;sup>2</sup> For XAM to acquire 85% interest in the Kharmagtai Project.

MIUO BEN MELSONIMI MEE ONIM

lower than the benefits accruing to XAM as a result of Mr Ganbayar funding almost 100% of the upfront consideration for the OU Shares<sup>3</sup> refer to Section 7.3 for further details.

## Reasonableness assessment

We note that the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest are all interdependent on one another. Accordingly, we have assessed the reasonableness of these transactions as a whole.

RG111 establishes that an offer is reasonable if it is fair. It might also be reasonable if, despite being not fair, there are sufficient reasons for the security holders to accept the offer in the absence of any higher bid before the offer closes.

In assessing the reasonableness of the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest, we have considered the following advantages, disadvantages to XAM and other factors.

# **Advantages**

XAM's right to earn 85% interest in MML

Under the Subscription Agreement, XAM has the benefit of undertaking its planned exploration activities on the Kharmagtai Project before investing further into the project. If the exploration activities produce favourable results, the value of the Kharmagtai Project is likely to increase significantly and XAM will still be able to invest in MML at the same subscription price as Mr Ganbayar.

# Kharmagtai Project

The Kharmagtai Project is located in the South Gobi region of Mongolia which is close to power and rail infrastructure adjacent to copper markets in China. The acquisition of the Kharmagtai Projects complements XAM's other exploration projects in Mongolia such as the Oyut Ulaan and Sharchuluut projects. As a result, XAM may be able to extract some cost synergies including management and administration cost.

Furthermore, we note that XAM's projects are at a significantly earlier stage of exploration than the Kharmagtai Project. It may take several years of high risk exploration activities at a cost of several million dollars before any of the current projects reaches a stage of development similar to the Kharmagtai Project, if ever.

# Ganbayar upfront consideration

Mr Ganbayar has agreed to pay the majority of the upfront purchase consideration of US\$4.0 million which is above his pro rata share of MML once a Decision to Mine is reached. Mr

<sup>&</sup>lt;sup>3</sup> Mr Ganbayar's contribution of US\$3.75 million represents approximately 93.75% of the upfront consideration for the OU Shares.

Ganbayar's initial interest will be reduced down to 15% once XAM invests money on the Kharmagtai Project. The payment of the upfront purchase consideration by Mr Ganbayar is in effect an interest free loan until XAM earns its pro rata entitlement in MML.

Noble Facility and marketing agreements

As part of the Proposed Transaction, XAM has arranged finance facilities with Noble Resources International Pte ("Noble") amounting to US\$4.0 million<sup>4</sup> to fund a component of the acquisition and exploration of the Kharmagtai Project. Further, XAM and Noble have entered into marketing agreement to appoint Noble as the marketing agent for any copper concentrate produced from the Kharmagtai Project.

Noble holds approximately a 9% interest in XAM. Noble' shareholding in addition to the Noble facility and the marketing agreement indicates a strong and continued support by Noble for the Company.

Management Agreement

Khuiten will be appointed the Manager of the MML to undertake exploration activities on the Kharmagtai Project. As a result XAM will have control of the exploration activities for the Kharmagtai Project.

# **Disadvantages**

MUO BSN | BUOSJBQ JOL

Increase funding risk

If the Proposed Transaction is completed, XAM will need to undertake a capital raising in the short to medium term to fund the payment of the Deferred Consideration (US\$10 million) and exploration expenditure (US\$12.7 million). Based on the current market conditions and difficulty for early stage exploration companies to raise the required capital, future capital raisings may be dilutive for XAM Shareholders. However, the transaction structure provides an opportunity for XAM to conduct targeted drilling exploration activity aimed at proving up the mineral resources of the Kharmagtai Project. As a result, future capital raising that may be undertaken by XAM in order to fund the payment of the Deferred Consideration and the exploration program may be conducted based on greater certainty in relation to the prospectivity and indicated/measured resources of the Kharmagtai Project.

# Ganbayar's Carried Interest

Under the terms of the Ganbayar's Carried Interest, Mr Ganbayar is entitled to a free carry of 5.6% upon Khuiten earning 85% in MML. As a result, if there is a significant overspend on the exploration of Project Kharmagtai before reaching a Decision to Mine, XAM must fund Mr Ganbayar's interest in MML so that 5.6% is preserved. We note that exploration activities are inherently uncertain and speculative as a result the potential value of Ganbayar's Carried Interest is

<sup>&</sup>lt;sup>4</sup> US\$2.0 million of the Facility is subject to XAM's having a market capitalisation of at least A\$15 million.

MIUO BSN | BUOSIBQ JOL

unknown at this point in time. Based on the exploration budget and timing to reach a Decision to Mine, the Ganbayar's Carried Interest is not expected to come into effect.

# Geographical concentration risk

The acquisition of the Kharmagtai Project will further increase XAM's exposure to Mongolia. We note that the Government in Mongolia has recently been in dispute with a number of mining companies. However, the Government of Mongolia has recently introduced new mining investment laws focused on encouraging foreign investment which became effective from 1 November 2013. The new laws included simplification of the investment regime, allowing profits to be taken out of the country, and providing greater certainty on taxes. These recent changes should reduce the political risk in Mongolia.

# Other factors

The implications if the Proposed Transaction is not completed

If the Proposed Transaction is not completed, it would be the current Directors' intention to continue operating the Company in line with its objectives. Shareholders of XAM would continue to share in any benefits and risks in relation to XAM's ongoing business.

Directors' recommendations and intentions

The Directors have unanimously recommended that Shareholders of XAM vote in favour of the Proposed Transaction.

# Reasonableness conclusion

Based on the likely advantages, disadvantages and other factors identified above, it is our opinion that on balance, the Non-Associated Shareholders are better off, or at least no worse off, if the Proposed Transaction and Ancillary Agreements proceed.

# Overall conclusion

After considering the abovementioned quantitative and qualitative factors, Grant Thornton Corporate Finance has concluded that the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest are fair and reasonable to the Non-Associated Shareholders.

# Other matters

Grant Thornton Corporate Finance has prepared a Financial Services Guide in accordance with the Corporations Act. The Financial Services Guide is set out in the following section.

The decision of whether or not to accept the Proposed Transaction is a matter for each XAM Shareholder to decide based on their own views of value of XAM and expectations about future market conditions, XAM's performance, risk profile and investment strategy. If XAM

# An instinct for growth

Shareholders are in doubt about the action they should take in relation to the Proposed Transactions, they should seek their own professional advice.

Yours faithfully GRANT THORNTON CORPORATE FINANCE PTY LTD

ANDREA DE CIAN Director

LIZ SMITH Director

An instinct for growth<sup>™</sup>

25 March 2014

# Financial Services Guide

# Grant Thornton Corporate Finance Pty Ltd

Grant Thornton Corporate Finance Pty Ltd ("Grant Thornton Corporate Finance") carries on a business, and has a registered office, at Level 17, 383 Kent Street, Sydney NSW 2000. Grant Thornton Corporate Finance holds Australian Financial Services Licence No 247140 authorising it to provide financial product advice in relation to securities and superannuation funds to wholesale and retail clients.

Grant Thornton Corporate Finance has been engaged by Xanadu Mines Limited ("XAM" or the "Company") to prepare an Independent Expert's Report in relation to the interest acquisition in the Kharmagtai Mining Project ("Kharmagtai Project" or "the Project") from Turquoise Hill Resources ("THR"). The Kharmagtai Project sits within Oyut Ulaan LLC ("OU") which is 100% owned by THR. XAM will obtain the ownership in the Kharmagtai Project by purchasing 90% interest in OU.

This report is included in the Notice of Meeting and Explanatory Memorandum outlining the Proposed Transaction.

#### 2 **Financial Services Guide**

This Financial Services Guide ("FSG") has been prepared in accordance with the Corporations Act, 2001 and provides important information to help retail clients make a decision as to their use of general financial product advice in a report, the services we offer, information about us, our dispute resolution process and how we are remunerated.

#### 3 General financial product advice

In our report we provide general financial product advice. The advice in a report does not take into account your personal objectives, financial situation or needs.

Grant Thornton Corporate Finance does not accept instructions from retail clients. Grant Thornton Corporate Finance provides no financial services directly to retail clients and receives no remuneration from retail clients for financial services. Grant Thornton Corporate Finance does not provide any personal retail financial product advice directly to retail investors nor does it provide market-related advice directly to retail investors.

# MUO BEN MELSONIMI MED JOL

## 4 Remuneration

When providing the report, Grant Thornton Corporate Finance's client is the Company. Grant Thornton Corporate Finance receives its remuneration from the Company. In respect of the Report, Grant Thornton Corporate Finance will receive from XAM fees which are based on commercial rate plus reimbursement of out-of-pocket expenses for the preparation of the report. Our directors and employees providing financial services receive an annual salary, a performance bonus or profit share depending on their level of seniority.

Except for the fees referred to above, no related body corporate of Grant Thornton Corporate Finance, or any of the directors or employees of Grant Thornton Corporate Finance or any of those related bodies or any associate receives any other remuneration or other benefit attributable to the preparation of and provision of this report.

# 5 Independence

Grant Thornton Corporate Finance is required to be independent of XAM and all related parties in order to provide this report. The guidelines for independence in the preparation of an independent expert's report are set out in Regulatory Guide 112 *Independence of expert* issued by the Australian Securities and Investments Commission ("ASIC"). The following information in relation to the independence of Grant Thornton Corporate Finance is stated below.

"Grant Thornton Corporate Finance and its related entities do not have at the date of this report, and have not had within the previous two years, any shareholding in or other relationship with XAM (and associated entities) that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation the Proposed Transaction.

Grant Thornton Corporate Finance has no involvement with, or interest in the outcome of the transaction, other than the preparation of this report.

Grant Thornton Corporate Finance will receive a fee based on commercial rates for the preparation of this report. This fee is not contingent on the outcome of the transaction. Grant Thornton Corporate Finance's out of pocket expenses in relation to the preparation of the report will be reimbursed. Grant Thornton Corporate Finance will receive no other benefit for the preparation of this report.

Grant Thornton Corporate Finance considers itself to be independent in terms of Regulatory Guide 112 "Independence of expert" issued by the ASIC."

# 6 Complaints process

Grant Thornton Corporate Finance has an internal complaint handling mechanism and is a member of the Financial Ombudsman Service (membership no. 11800). All complaints must be in writing and addressed to the Chief Executive Officer at Grant Thornton Corporate Finance. We will endeavour to resolve all complaints within 30 days of receiving the complaint. If the complaint



has not been satisfactorily dealt with, the complaint can be referred to the Financial Ombudsman Service who can be contacted at:

PO Box 579 – Collins Street West Melbourne, VIC 8007 Telephone: 1800 335 405

Grant Thornton Corporate Finance is only responsible for this report and FSG. Complaints or questions about the General Meeting should not be directed to Grant Thornton Corporate Finance. Grant Thornton Corporate Finance will not respond in any way that might involve any provision of financial product advice to any retail investor.

#### 6 Compensation arrangements

Grant Thornton Corporate Finance has professional indemnity insurance cover under its professional indemnity insurance policy. This policy meets the compensation arrangement requirements of section 912B of the Corporations Act, 2001.





# Contents

	1
(())	

1.	Overview of the Proposed Transactions	5
2.	Purpose and scope of the report	12
3.	Profile of the copper exploration industry	15
4.	Profile of XAM	21
5.	Profile of the Kharmagtai Project	29
6.	Valuation methodologies	32
7.	Valuation Assessment	35
8.	Sources of information, disclaimer and consents	45
Арр	endix A – Valuation Methodologies	48
Арр	endix B – Glossary	49
Арр	endix C – Balance sheet of OU	50
Ann	endix D – MA Report	51

MUO BEN IBUOSIBO JOL

# Overview of the Proposed Transactions

# 1.1. Proposed Transaction

Xanadu Mines Limited ("XAM" or the "Company") is an Australian company focused on the exploration and development of copper and gold projects in Mongolia. The Company is listed on the Australian Stock Exchange ("ASX") and as at 24 March 2014, XAM's market capitalisation was approximately A\$10.3 million.

On 13 December 2013, XAM announced that it had established a joint venture company, Mongol Metals LLC<sup>5</sup> ("MML"), through a wholly owned subsidiary Khuiten Metals Pte Ltd ("Khuiten") for the purpose of pursing the acquisition of base metals projects in Mongolia. The joint venture partner is Mr Lkhagvasuren Ganbayar ("Mr Ganbayar"), a director and substantial shareholder of XAM<sup>6</sup>.

On 3 February 2014, XAM announced that MML had entered into definitive agreements with THR Oyu Tolgoi Limited<sup>7</sup> ("THR") to acquire a 90% interest in the shares of Oyut Ulann LLC ("OU"). OU's primary assets include:

- The Kharmagtai Mining License (MV-17387A) registered with the Mineral Resource Authority of Mongolia ("Kharmagtai Project"). The Kharmagtai Project is porphyry copper-gold exploration project located in the South Gobi region of Mongolia.
- Property, plant and equipment including the Kharmagtai mine camp which has been winterised<sup>8</sup>
  and is suitable for use 12 months of the year and related exploration and core sampling
  equipment ("Kharmagtai Campsite").

Under a share purchase agreement dated 31 January 2014 between MML and THR ("SPA"), MML has agreed to pay an upfront consideration of US\$4.0 million<sup>9</sup> and a deferred consideration of US\$10 million for up to 18 months ("Deferred Consideration") for the acquisition of the shares in OU held by THR ("the Proposed Transaction").

Set out below are the key terms to the Proposed Transaction under the SPA:

- MML has agreed to acquire 90% of the issued and outstanding shares in the capital of OU from THR
- The consideration for acquisition of OU of US\$14 million is to be paid to THR in the following three instalments:
  - A US\$0.5 million deposit paid by MML prior to entering into definitive SPA.

<sup>&</sup>lt;sup>5</sup> MML is a limited liability company formed under the laws of Mongolia.

<sup>&</sup>lt;sup>6</sup> As at the date of this Report, Mr Ganbayar holds approximately 7% equity interest in XAM.

<sup>&</sup>lt;sup>7</sup> THR is a company formed under the laws of the British Virgin Islands.

<sup>8</sup> Has been built to withstand winter conditions.

<sup>&</sup>lt;sup>9</sup> Including an initial deposit of US\$0.5 million.



# An instinct for growth

- US\$3.5 million payable upon the approval of the Proposed Transaction by shareholders of XAM ("Completion").
- US\$10 million of Deferred Consideration payable no later than 18 months after the Completion.
- XAM will be granted an option to purchase a 3% net smelter royalty held by THR Mongolian
  Development Inc. exercisable for a period of 2 years from the date of the definitive SPA. The
  exercise price of the option is US\$2.5 million. For the purposes of our assessment of the
  Proposed Transaction, we have not considered the potential value of this option as it is
  dependent on the successful commercialisation of the Kharmagtai Project which is subject to
  significant risks and uncertainties.
- XAM has agreed to provide a guarantee to THR in relation to the obligations of MML to pay the Deferred Consideration ("Proposed Guarantee").

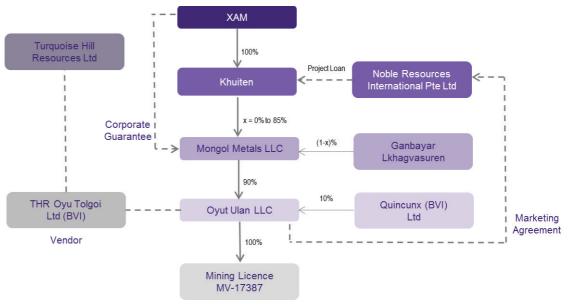
In conjunction with the Proposed Transaction, XAM has entered into a number of ancillary agreements including:

- MML joint venture terms that provide XAM the exclusive right to earn up to 85% of MML and also contains an anti-dilution mechanism in respect of Mr Ganbayar's interest in MML. Upon XAM earning an 85% interest in MML, Mr Ganbayar will have a free carried interest in MML of 5.6% ("Ganbayar's Carried Interest") up to the first decision by the Board of MML to proceed with a commercial mining development on the Kharmagtai Project ("Decision to Mine"). The Ganbayar's Carried Interest has the effect of preserving Mr Ganbayar's interest at 5.6% before a Decision to Mine is made. In other words Mr Ganbayar's interest in MML cannot be diluted to a level below 5.6% before a Decision to Mine is made.
- The key terms of the joint venture are set out in the following agreements:
  - Subscription Agreement.
  - Shareholders Agreement.
  - Management Agreement.
- Financing Arrangements with Noble Resources Limited<sup>10</sup> ("Noble") to fund the acquisition and exploration of the Kharmagatai Project. The key financing terms are set out in the following agreements:
  - Facility Agreement.
  - Marketing Agreement.

<sup>&</sup>lt;sup>10</sup> Noble is also a shareholder in XAM holding approximately 9% of the equity interest in XAM.

The Subscription Agreement, Shareholders Agreement, Management Agreement, Facility Agreement are collectively referred to as "the Ancillary Agreements". Further details of the Ancillary Agreements above are set out in Section 1.2.

The Proposed Transaction structure is set out in the chart below:



Source: Khuiten Investment Proposal.

The Independent Directors of XAM have engaged Grant Thornton Corporate Finance to prepare an independent expert's report to express an opinion on the fairness and reasonableness of the Proposed Guarantee and Ganbayar's Carried Interest. These are related party transactions<sup>11</sup> and Mr Ganbayar may receive financial benefits in conjunction with them.

# 1.2. Ancillary Agreements

# 1.2.1. Key terms to the MML joint venture

The key terms of the joint venture between Mr Ganbayar and Khuiten are set out in the following agreements:

# Subscription Agreement

Under the subscription agreement between MML, Mr Ganbayar and Kuiten ("Subscription Agreement"), Mr Ganbayar has agreed to provide equity funding of US\$4.0 million to MML prior to Completion of the Proposed Transaction in order to fund upfront payment to THR of US\$4.0 million.

<sup>&</sup>lt;sup>11</sup> Mr Ganbayar is a director of XAM, accordingly he is a related party for the purpose of s 208 of the Act.

Upon Completion of the Proposed Transaction, XAM has projected to spend approximately US\$900,000 on the Kharmagtai Project to earn approximately 18% interest in MML.

Mr Ganbayar and Khuiten have agreed to subscribe for new shares in MML in accordance with the following:

- Mr Ganbayar has initially subscribed for 125 shares at US\$2,000 per share ("Subscription Price") amounting to US\$250,000.
- Mr Ganbayar will subscribe for a further 1,875 Shares at the Subscription Price per share raising
  a total of US\$3.75 million.XAM will have the exclusive right to fund exploration, working capital
  and payment of the deferred consideration by subscribing for new shares at the Subscription
  Price up to 85% interest in MML.

As a result of the above terms, XAM will be entitled to earn 85% interest in MML upon investing US\$22.7 million in MML at the Subscription Price. A component of XAM's funding will be utilised to pay for the Deferred Consideration whilst the balance will be used for exploration and working capital. Management of XAM has estimated that if the scale of the Kharmagtai Project does not materially change, the balance of XAM's funding¹² may be sufficient to reach a Decision to Mine. The timing for the payment of the balance of XAM's funds is at the discretion of XAM Management.

Set out in the table below is the potential sources and uses of funds in relation to the Khamagtai Project:

Total sources	26,667	100.0%	Total uses	26,667
			Exploration and working capital	12,667
XAM	22,667	85%	Deferred consideration	10,000
Mr Ganbay ar	4,000	15%	Initial consideration	4,000
Sources of funds	US\$'000	ow nership	Uses of funds	US\$'000
		Equity		

Source: XAM Management

MIUO BEN MELSONIM MEL ONIM

# Shareholders Agreement

Under a shareholders agreement between MML, Khuiten and Ganbayar ("Shareholders Agreement"):

MML's objectives are to acquire and hold a majority of the shares in OU and to procure that OU
holds the Kharmagtai Project and undertakes the exploration, appraisal and development of the
Kharmagtai Project and associated infrastructure in accordance with the programme and budget
set out in the Management Agreement.

<sup>&</sup>lt;sup>12</sup> US\$22.7 million less US\$10.0 million Deferred Consideration equates to US\$12.7 million



# 

- The Board of MML must consist of three directors. Khuiten may appoint two directors and Mr Ganbayar may appoint one director. All decisions of the board shall be made by a simple majority of the directors except for the following decisions which require a directors unanimous decision:
  - Allot or grant any right to subscribe for any shares other than in accordance with the Subscription Agreement.
  - The sale, transfer or disposal of all or part of the shares in OU.
  - The sale, lease transfer or disposal of all or part of the Kharmagtai Project.
  - Merge or dispose of the shares in OU to an affiliate of Khuiten.
  - Set or change the dividend or distribution policy of MML or declare, make or pay a dividend or other distribution.
- MML will be managed by Khuiten in accordance with the Management Agreement.
- Following the Decision to Mine, Khuiten and Mr Ganbayar agree to negotiate the purchase of Mr Ganbayar's interest in MML in exchange for XAM shares listed on the ASX.
- Pre-emption provisions apply and no transfer of shareholders interest without board approval is permitted.
- Upon Khuiten earning an 85% interest in MML, Mr Ganbayar will have a free carried interest in MML of 5.6% up to a Decision to Mine.
- If the Board resolves to issue any further shares after Khuiten has exercised its right to acquire 85% interest in MML, the Board must offer each shareholder its relevant proportion of the total number of shares proposed to be issued.

# Management Agreement

MUO BEN MELSONIM MEE ONIM

Under a management agreement between MML and Khuiten ("Management Agreement"):

- Khuiten will be appointed the Manager of the Kharmagtai Project until the commencement of commercial production.
- The Manager shall be responsible for preparing accounts, reports and filings and shall provide
  office space, equipment and may make available personnel to the MML.
- The Manager shall manage the Kharmagtai Project in accordance with good mining practice. The Manager may award contracts and engage employees and service providers.



- The Manager shall prepare the annual program and budget for the Kharmagtai Project.
- In consideration of its performance of its obligations under the Management Agreement, MML shall pay XAM a management fee of US\$50,000 per month.

# 1.2.2. Financing agreements

Noble and Khuiten have executed a US\$4.0 million facility agreement ("the Facility") to help fund the acquisition and the exploration of the Kharmagtai Project. A key condition of the Facility is that Noble will be engaged as the agent for the sale of up to 30% of the copper concentrate produced from the Kharmagtai Project. The key financing terms are set out in the following agreements:

# Facility Agreement

MIUO BEN IBUOSIBÓ JOL

- The Facility is for a term of 3 years and is to be provided in two US\$2.0 million instalments being Facility A and Facility B.
- The interest rate is 10% plus LIBOR and is to be calculated quarterly with interest for the first 12 months of the term to be capitalised.
- The key conditions precents for the drawdown of Facility A and B include:
  - Evidence that the acquisition by MML of 90% of OU from THR is Completed.
  - The Marketing Agreement is executed by MML and OU.
  - XAM agrees to appoint a representative of Noble to the board of XAM for the term of the facility.
- In addition, Facility B has the following conditions precedent:
  - XAM or Khuiten has released a Joint Ore Reserves Committee ("JORC") statement of at least 100 million metric tonnes for the Kharmagtai Project.
  - XAM has a market capitalisation on the ASX of at least A\$15 million<sup>13</sup>.
- Khuiten has offered a share pledge over its shares in MML in favour of Noble as security and also agreed to a negative pledge in which it will not grant any security over its assets without Noble's prior approval.
- XAM has granted Noble anti-dilution rights for a period of 24 months in relation to the placement of new shares (including securities that are convertible into shares).

<sup>&</sup>lt;sup>13</sup> We note that the market capitalisation of XAM at the date of this Report is approximately A\$13.3 million. Accordingly, the provision of the Facility B from Noble is less certain in comparison to Facility A.



# Marketing Agreement

Noble, OU and XAM have entered in a Marketing Agreement under which:

- OU has agreed to appoint Noble as its marketing agent in respect of 30% of the copper concentrate products produced from the treatment of ore mined at the Kharmagtai Project. Noble will not have any exclusivity over the other 70% of product.
- The term of the Marketing Agreement is for a period of up to 20 years from the commencement of production.
- The marketing fee is to be calculated according to a schedule of nominal rates per dry metric ton
  of copper sulphide concentrate that have been benchmarked against industry norms.
- The marketing services that are to be provided by Noble include preparation of a marketing
  plan, reporting on copper marketing intelligences, developing a sales strategy, managing
  customer introductions and the executive of sales contracts including procuring the best possible
  sales prices and managing delivery to customers.
- XAM has the ability to terminate the agreement if Noble is in breach of a material term of the Marketing Agreement and the breach is not remedied within 90 days of notice from XAM.



# 2. Purpose and scope of the report

# 2.1. Purpose

MIUO BSM | MIUO BIN |

Under the terms of the Proposed Transaction, Mr Ganbayar, a director and related party of the Company may receive a financial benefit as a result of the Proposed Guarantee and Ganbayar's Carried Interest. Section 208 of the Corporations Act 2001 ("the Act") requires a company to seek shareholder approval before giving a financial benefit to a related party unless the benefit falls within an exception provided for in section 210 of the Act.

There is no specific requirement for an independent expert's report to be commissioned in relation to the Proposed Transaction under Chapter 2E of the Act. However, under Regulatory Guide 76 "Related Party Transactions" ("RG 76") to ensure that members are provided with sufficient information to assess a proposed related party transaction and decide how to vote, it may be necessary for entities to include a valuation from an independent expert with a notice of meeting for member approval under Chapter 2E of the Act where:

- The financial benefit is difficult to value.
- The transaction is significant from the point of view of the entity (see RG 76.112).
- The non-interested directors do not have the expertise or resources to provide independent advice to members about the value of the financial benefit.

The independent directors of XAM have engaged Grant Thornton Corporate Finance to provide the Non-Associated Shareholders of the Company with an independent expert report in relation to the potential financial benefits that Mr Ganbayar may receive in conjunction with the Proposed Guarantee and Ganbayar's Carried Interest.

In preparing our report, Grant Thornton Corporate Finance has had regard to the Regulatory Guides issued by ASIC, particularly Regulatory Guide 111 "Content of expert reports" ("RG 111"). RG 111 regulated IER prepared for related party transactions in clauses 52 to 63.

We note that RG111 clause 56 states the following:

RG 111.56 Where an expert assesses whether a related party transaction is 'fair and reasonable' (whether for the purposes of Chapter 2E or ASX Listing Rule 10.1), this should not be applied as a composite test—that is, there should be a separate assessment of whether the transaction is 'fair' and 'reasonable', as in a control transaction. An expert should not assess whether the transaction is 'fair and reasonable' based simply on a consideration of the advantages and disadvantages of the proposal, as we do not consider this provides members with sufficient valuation information. See Regulatory Guide 76 Related party transactions (RG 76) at RG 76.106–RG 76.111 for further details.

Accordingly, in the consideration of the Proposed Guarantee and the Ganbayar's Carried Interest, the expert should undertake a separate test of the fairness of the financial benefits and then analyse



the advantages and disadvantages accruing to the Non-Associated Shareholders. A proposed related party transaction is 'fair' if the value of the financial benefit to be provided by the entity to the related party is equal to or less than the value of the consideration being provided to the entity.

## 2.2. Basis of assessment

In forming our opinion on the financial benefits that may accrued to Mr Ganbayar in relation to the Proposed Guarantee and Ganbayar's Carried Interest, we have had regard to the Proposed Transaction as a whole. The Proposed Guarantee and Ganbayar's Carried Interest can only occur if the Proposed Transaction completes.

In our fairness assessment, we have considered the following:

- The fair market value of the Kharmagtai Project and Kharmagtai Campsite compared with the consideration payable.
- The terms of the Proposed Guarantee.
- The terms of the Ganbayar's Carried Interest.

# Independent technical specialists

Grant Thornton Corporate Finance has engaged Mining Associates Pty Limited ("MA") to provide an independent valuation report in relation to the Kharmagtai Project ("the MA Report"). The MA Report is included as Appendix D.

We note that the Proposed Transaction is not a change of control transaction under RG 111, accordingly, we have not undertaken a valuation of XAM before and after the Proposed Transaction.

# 2.2.1. Reasonableness assessment

In considering whether the Proposed Guarantee and Ganbayar's Carried Interest are reasonable to the Non-Associated Shareholders, we will consider a number of factors, including:

- Costs and risks associated with the Proposed Guarantee and Ganbayar's Carried Interest that could potentially affect the Non-Associated Shareholders of XAM.
- Other likely advantages and disadvantages associated with the Proposed Guarantee and Ganbayar's Carried Interest as required by RG111.
- The implications to XAM and the Non-Associated Shareholders if the Proposed Guarantee and Ganbayar's Carried Interest are not approved.



MIUO BEN MELSONIMI MEE ONIM

# 2.3. Independence

Prior to accepting this engagement, Grant Thornton Corporate Finance considered its independence with respect to the Proposed Transaction with reference to the ASIC Regulatory Guide 112 "Independence of Experts" ("RG 112").

Grant Thornton Corporate Finance has no involvement with, or interest in, the outcome of the approval of the Proposed Transaction other than that of independent expert. Grant Thornton Corporate Finance is entitled to receive a fee based on commercial rates and including reimbursement of out-of-pocket expenses for the preparation of this report.

Except for these fees, Grant Thornton Corporate Finance will not be entitled to any other pecuniary or other benefit, whether direct or indirect, in connection with the issuing of this report. The payment of this fee is in no way contingent upon the success or failure of the Proposed Guarantee and Ganbayar's Carried Interest.

# 2.4. Consent and other matters

Our report is to be read in conjunction with the Notice of Meeting and Explanatory Memorandum dated 31 March 2014 in which this report is included, and is prepared for the exclusive purpose of assisting the XAM Shareholders in their consideration of the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest. This report should not be used for any other purpose.

Grant Thornton Corporate Finance consents to the issue of this report in its form and context and consents to its inclusion in the Notice of Meeting and Explanatory Memorandum.

This report constitutes general financial product advice only and in undertaking our assessment, we have considered the likely impact of the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest to the XAM Shareholders as a whole. We have not considered the potential impact of the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest on individual shareholders. Individual shareholders have different financial circumstances and it is neither practicable nor possible to consider the implications of the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest on individual shareholders.

The decision of whether or not to accept the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest is a matter for each XAM Shareholder based on their own views of value of OU and expectations about future market conditions, OU's performance, risk profile and investment strategy. If shareholders are in doubt about the action they should take in relation to the Proposed Transaction, Proposed Guarantee and Ganbayar's Carried Interest, they should seek their own professional advice.



# 3. Profile of the copper exploration industry

XAM is an ASX listed junior explorer mainly focused on the advancement of its Oyut Ulaan and Sharchuluut copper-gold projects in Mongolia. Consistent with its overall copper-focus strategy in Mongolia, XAM intends to acquire a 90% interest in the Kharmagtai copper-gold project. Accordingly, we have focused this section on the copper exploration industry in Mongolia.

### 3.1. Overview

MIUO BEN IBUOSIBO IOL

Copper is a base metal used primarily in the manufacturing of electrical cabling, piping, valves and electronic devices due to its high ductility, malleability, and thermal and electrical conductivity. In terms of volume, copper is the third highest traded commodity in the world and experiences daily price fluctuations as determined by global demand and supply factors.

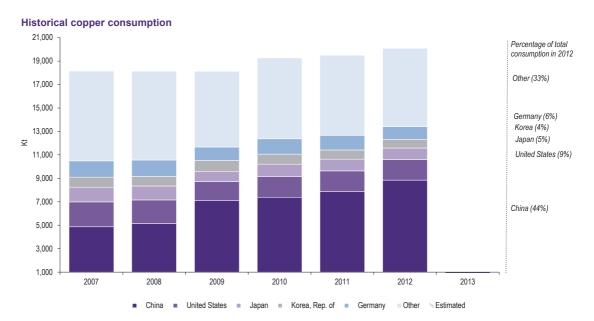
# 3.2. Key drivers affecting copper exploration and development

The key drivers affecting copper exploration and development include:

- Demand for copper the demand for copper is derived mainly from construction and manufacturing activities which in turn are closely aligned with world gross domestic product ("GDP") growth.
- Copper prices low copper prices tend to have a negative impact on the level of copper exploration and development activities and vice versa.
- Exchange rates copper is usually traded in US dollars, therefore relative exchange rates are an important factor affecting the level of global copper trading and demand.
- Political and regulatory factors copper exploration activities are considered high risk
  undertakings as there is a considerable amount of risk and uncertainty surrounding the
  commercial viability of such projects. Tenements located in countries with well-defined regulatory
  processes and a stable political environment may be more attractive to copper explorers and
  producers as they are less risky than unregulated and politically unstable countries.
- Funding requirements given the inherent riskiness of the copper industry, the availability and cost of capital to fund copper projects can significantly impact on the level of copper exploration and development activities being undertaken.



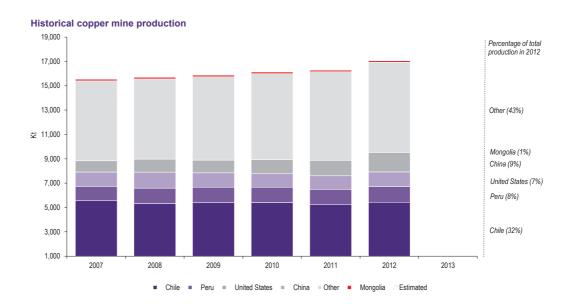
# 3.3. Consumption



Source: Bureau of Resources and Energy Economics (BREE) -Resources and Energy 2013, and December Quarter 2013 Note: Includes consumption of raw copper ore and refined copper

The demand for copper is predominantly dependent on the growth of China as it accounts for up to 44%<sup>14</sup> of the world's copper consumption as illustrated in the graph above. In 2013, world copper consumption is estimated to have increased by 3.6% to 20.8 million tonnes as compared to 2012. Higher consumption was mainly driven by the rapid urbanisation and construction levels in China.

# 3.4. Production



<sup>&</sup>lt;sup>14</sup> BREE December Quarter 2013, p 39

Source: Bureau of Resources and Energy Economics (BREE) - Resources and Energy 2013 and December Quarter 2013

In 2012, estimated global copper mine production increased by 4.7% relative to 2011, to 17 million tonnes. This increase is primarily due to mines in South America resuming production following resolution of labour disputes, and increases in production from China and the Democratic Republic of Congo by more than 25% due to the commissioning of new mines, capacity expansions at existing mines and higher utilisation rates in response to increasing copper prices in 2011.

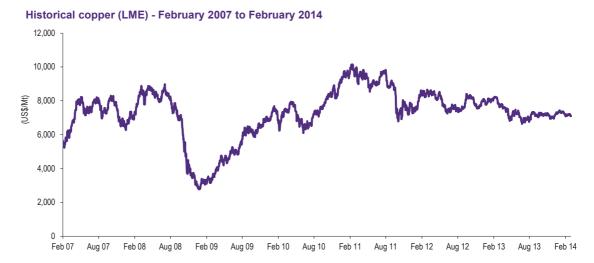
In 2013, mine production is estimated to have increased due to new mines starting or ramping up production across Asia, Africa, Oceania and Latin America.

# 3.5. Price of copper

Since 2007, volatility in global financial markets (resulting from the Global Financial Crisis ("GFC")) and concerns in relation to European sovereign debt levels ("European Debt Crisis") significantly adversely impacted global economic growth, decreasing the demand for copper. As a result, the average price of copper decreased from circa US\$7,127/ metric tons in 2007 to US\$5,159/ metric tons in 2009. Subsequent to 2009, continual expansion of large developing economies such as China and India supported an increase in the copper price to US\$8,827/metric tons in 2011.

However, sovereign debt issues constraining growth in Japan, US and the European Union ("EU"), slower growth in China and India, and increase in copper production levels due to increasing copper prices in prior periods, resulted in a declining trend in the copper price since 2012.

Set out below is the daily historical price of copper in US\$ per metric ton between February 2007 and February 2014:



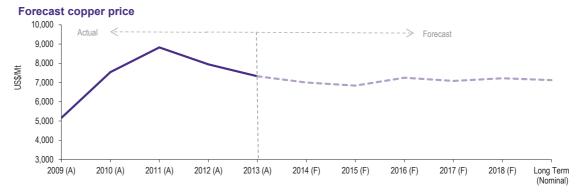
Source: Capital IQ, Calculations

The recent declining copper price trend is expected to continue in the short term. In particular, we note that from 2014 to 2018, world copper mine production is expected to increase at an average rate of some 5% per annum to approximately 23.2 million tonnes, largely due to increases in production from additional, larger copper mines opening in Peru, Chile and Indonesia over the forecast period.

On the other hand, forecast copper consumption from 2014 to 2018 is expected to increase by 4% per annum to 24.8 million tonnes in 2018. Growth in consumption is expected to be derived primarily from China and India. The Bureau of Resources and Energy Economics ("BREE") has forecast China's share in the world copper consumption to increase from 44% in 2012 to 49% in 2018<sup>15</sup>. Robust growth in residential construction as well as expansion in electricity transmission networks are expected to be the principal drivers of the increase in China's copper consumption.

In the mid to long term, copper price are expected to be driven by the gradual recovery of the global economy.

Set out below is the nominal forecast price of copper.



Note: Forecast copper price from 2014 onwards was based on median forecast price from various broker reports. Source: Consensus Economics December 2013 and various broker report

# 3.6. Mining in Mongolia

Mongolia is a country located in Central Asia, bordered by the Russian Federation to the north and the People's Republic of China to the south, east and west. In 2012, Mongolia's population was approximately 2.796 million<sup>16</sup> with circa 32% of the population living a nomadic or semi-nomadic<sup>17</sup> lifestyle.

Due to Mongolia's strategic location next to two of the world's largest consumers and importers of minerals (China and Russia), and its rich reserves in mineral resources, approximately 80% of Mongolia's exports are minerals. Whilst the mining industry in Mongolia has grown at a compound

<sup>15</sup> BREE March Quarter 2013, p 85

<sup>16</sup> World Bank (2012)

<sup>17</sup> CIA The World Factbook accessed on 11 February 2014 at https://www.cia.gov/library/publications/the-world-factbook/geos/mg.html

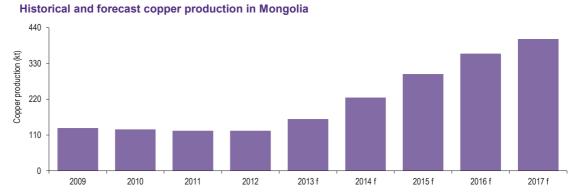
average rate of 14.2% per annum over the five-year period between 2007 and 2012<sup>18</sup>, the mining industry in Mongolia is still considered underexplored and relatively underdeveloped. In 2012, approximately only 160 deposits out of 6,000 discovered deposits were mined. As noted in the Mining Associates Report set out in Appendix D, this has mainly been due to Mongolia's political and geographical isolation, limited exploration and development activity during the Soviet Era and more recently, continuously evolving laws and regulations of Mongolia.

In recent times, the Mongolian Government has been in dispute with mining companies such as Rio Tinto over the funding of mining projects. However, to support the continual growth of the mining industry in Mongolia, the Government of Mongolia has introduced new mining investment laws focused on encouraging foreign investment which became effective from 1 November 2013. The new laws included simplification of the investment regime, allowing profits to be taken out of the country, and providing greater certainty on taxes.

Mongolia's mining industry value is expected to grow at an average rate of 26.2% per annum to reach US\$3.8 billion in 2017<sup>19</sup>.

# 3.7. Copper mining in Mongolia

The following graph depicts Mongolia's historical and forecast copper production between 2009 and 2017:



Source: BMI

Prior to 2013, copper production in Mongolia has been solely attributable to the Erdent Mine operated by Erdent Mining Corporation, the fourth largest copper mine in the world. In 2013, the Oyu Tolgoi ("OT") copper and gold mine operated by Rio Tinto, and considered the largest foreign investment project in Mongolia commenced production. According to Business Monitor International ("BMI"), the OT Mine is predicted to contribute to one-third of the country's GDP once it reaches full operational capacity in 2019.

The copper mining industry is expected to reach 406 kt by 2017, which implies an average growth rate of 27.1% per annum from 2012 levels.

<sup>&</sup>lt;sup>18</sup> Asian Development Bank, 2012

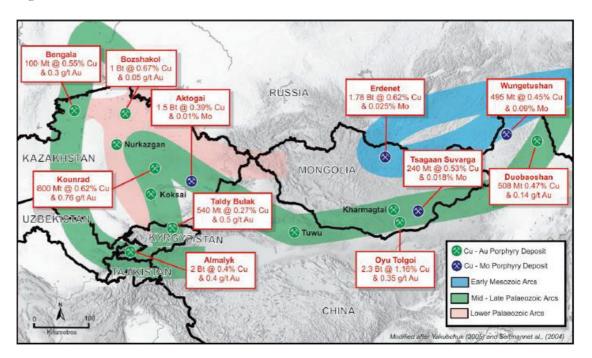
<sup>&</sup>lt;sup>19</sup> Mongolia Mining Report Q1 2014 published by Business Monitor International



The exploration potential of Mongolia is only just being recognised. It remains under-explored despite the potential identified in two key copper belts:

- Middle Paleozoic South Gobi Poprhyry belt (Gurvansayhan terrane) is a 600km x 200km arcuate belt formed from middle to late Palaeozoic volcanic and sedimentary rocks that have been intruded by late Devonian and Carboniferous granitoids. It hosts most of the known porphyry and intrusion-related mineralisation in the South Gobi region including the giant Oyu Tolgoi coppergold mine and Tsagaan Suvarga copper-molybdenum project..
- Early Mesozoic Selenge Poprhyry Belt formed within a continental magmatic arc on the margin of the Siberian Craton that developed in response to the closing of the Mongol-Okhotsk Sea and subduction of the palaeo-Pacific ocean below the Siberian Craton. It hosts the giant Erdenet deposit which is Mongolia's largest producing porphyry copper-molybdenum deposit.

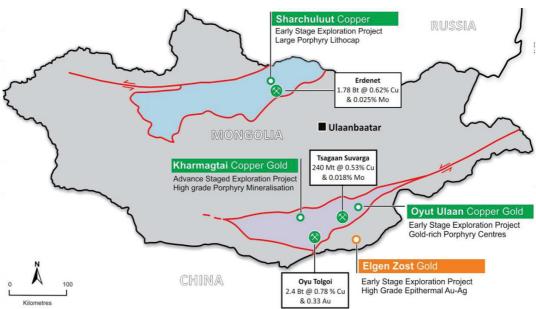
The diagram below shows Mongolia's position in the Central Asian Copper Belt and significant regional discoveries:



# 4. Profile of XAM

## 4.1. Asset overview

XAM was listed on the ASX in November 2010 and has recently re-evaluated its exploration focus away from a multi-commodity strategy to advancing its copper interests in Mongolia. The map below illustrates the location of XAM's key projects.



Source: XAM Investor Presentation November 2013 and Annual Report 2013

Below is a brief description of the above key projects:

• Oyut Ulaan Project (XAM 90%) – copper-gold exploration project located approximately 450 kilometres ("km") southeast of Ulaanbaatar, the capital city of Mongolia. XAM first announced the acquisition of 90% interest in the Oyut Ulaan Project in May 2012; however completion of the acquisition was delayed until January 2014<sup>20</sup> mainly due to changes in Mongolia's foreign investment laws and decline in XAM's share price. The Oyut Ulaan acquisition terms were restructured and renegotiated with the amended terms being announced on 6 June 2013 being consideration of US\$0.6 million in cash, 5 million shares in XAM ("XAM Shares") and issue of up to 35 million performance options contingent on the recognition of a JORC resource of 0.9 million tonnes contained copper equivalent.

A mining license in relation to the Oyut Ulaan Project was issued in September 2012. An exploration program consisting of reconnaissance drilling with 10 drill holes totalling 2,500 metres, trenching, and mapping and geophysics was completed prior to June 2013 as part of a reconnaissance programme. Further drilling and trenching was completed at Oyut Ulaan over September 2013. The exploration results have defined a 600 metres long mineralised zone and drillable targets with shallow high-grade copper-gold mineralisation (per cent copper to

<sup>&</sup>lt;sup>20</sup> See ASX announcement by XAM on 16 January 2014 titled 'Acquisition of Oyut Ulaan Copper – Gold Project Completed'.



MIUO BSD | BUOSIBQ 104

grams/tonne gold ratios typically exceeding 1:2). XAM has indicated the 2014 phase of exploration will focus on exploring along existing intersections and proximate to mineralised outcrop identified by trenching to further delineate potential shallow high-grade mineralisation's.

- Sharchuluut Project (XAM 100%) brownfield copper-moly exploration project located within the Bulgan Province of Northern Mongolia, approximately 230 km northwest of Ulaanbaatar and 40 km northwest of the Erdent Copper Mine<sup>21</sup>. XAM completed the first phase of exploration drilling in July 2012 consisting of 5 drill holes totalling 4,000 metres however no economic intercepts were encountered. As a result, in March 2013 XAM relinquished the northern portion of the Sharchuluut Project (circa half of the original license). In September 2013, XAM completed new mapping and geochemical sampling at Sharchuluut and identified outcropping granodiorite porphyry grading up to 0.8% copper and 31 ppm molybdenum. The existing license underlying the Sharchuluut Project remains relatively large (circa 244 square km) and underexplored.
- Elgen Zost Project (XAM 80%) gold project located within the Dornogovi Province and approximately 680 km south-southeast of Ulaanbaatar. XAM completed a drilling program in late 2012 totalling 7,000 metres. However, more detailed exploration is required to identify any potential economic mineralisation.
- Ekhgoriin Chuluu Joint Venture (XAM 50%, Noble Group 50%) consist of two coking coal projects; Nuurstei and Khus. Previous exploration activities confirmed the presence of hard coking coal at the Nuurstei Project. XAM have evaluated a number of strategies for unlocking the value of the Nuurstei Project in the context of infrastructure development plans and complementary projects in the Khuvsgul region. Exploration activities have reduced considerably in the last six months.
- Other projects XAM also holds the Khar Tarvarga and Galshar thermal coal projects which
  underwent an unsuccessful sale process in FY12 due to subdued economic and energy markets.
  In January 2014, the Company announced that it had entered into agreements to dispose of the
  thermal coal projects.

<sup>&</sup>lt;sup>21</sup> The Erdent Copper Mine is the largest operating mine in Mongolia producing circa 0.5 Mt of copper concentrate per annum, with measured and indicated resources of 4.7 million tonnes of copper.



# 4.2. Financial information

# 4.2.1. Financial performance

The historical consolidated income statements of XAM for the years ended 30 June 2012 ("FY12"), 30 June 2013 ("FY13") and six months ended 31 December 2013 ("HY14") are set out in the table below:

Consolidated statements of comprehensive income	FY12	FY13	HY14
Xanadu Mines Ltd.	Audited	Audited	Reviewed
	(A\$'000s)	(A\$'000s)	(A\$'000s)
Revenues	774	318	74
Other income / (ex pense)	844	583	(758)
Deferred exploration costs written off	(4,949)	(17,048)	(4,396)
Other expenses	(3,577)	(3,147)	(1,506)
EBITDA	(6,908)	(19,294)	(6,586)
Depreciation and amortisation	(96)	(153)	(66)
EBIT	(7,004)	(19,447)	(6,652)
Finance costs	-	(2)	-
Income tax expense	-	-	-
Net loss after tax for the period	(7,004)	(19,449)	(6,652)

Source: XAM Annual Report 2012 and 2013

We note the following in regards to the consolidated income statements of XAM:

# **HY14**

MUO BEN MELSONIMI MED JOL

- Revenue relates to interest received on short term deposits and operating bank accounts.
- Other income / (expense) consist solely of net foreign currency losses.
- Other expenses consist of mainly administration expenses, and employment expenses.
- The impact of FY13 restructure was evident in lower administration expenses.

# **FY13**

- XAM re-evaluated its strategy and substantially restructured its business following the appointment of three new non-executive directors in November 2012 and a new Chief Executive Officer on 25 February 2013.
- Deferred exploration costs write-off amounting to A\$17.0 million predominantly include:
  - Expenditure write-off of A\$3.4 million on relinquishment of the northern portion of the Sharchuluut Project and the certain parts of its Galshar thermal coal project tenements.
  - Expenditure impairment of A\$7.2 million in relation to the Khar Tarvaga and Galshar thermal coal projects mainly as a result of an unsuccessful sale process in FY12.

 Expenditure impairment of A\$4.8 in relation to the Nuurstei project under the Ekhgoviin Chuluu Joint Venture as a result of adverse market and economic conditions in FY13 and expected to continue in the short term.

#### **FY12**

-OF DEFSONAI USE ON!

- Other income consists of mainly net foreign currency gains. In FY12, other income of A\$0.84 million also consisted of A\$0.26 million in profit from sale of tenements.
- Other expenses consist of mainly administration expenses, and employment and consultancy expenses.
- Deferred exploration costs write-off of A\$4.9 million was in relation to assets that XAM currently no longer holds any interests in (fully relinquished in FY13).

# 4.2.2. Financial position

The consolidated balance sheets of XAM as at 30 June 2013 and 31 December 2013 are set out in the table below:

Consolidated Statements of financial position	30-Jun-12	30-Jun-13	31-Dec-13
·			
Xanadu Mines Ltd	Audited	Audited	Reviewed
	(A\$'000s)	(A\$'000s)	(A\$'000s)
Current assets			
Cash and cash equivalents	15,724	5,642	2,841
Prepay ments and other assets	349	73	896
Other receivables	1,746	142	58
Assets classified as held for sale	7,699	-	-
Total current assets	25,518	5,857	3,795
Non current assets			
Property, plant and equipment	1,200	1,223	1,152
Deferred exploration expenditure	13,233	12,955	8,853
Intangible assets	2	-	-
Total non current assets	14,435	14,178	10,005
Total assets	39,953	20,035	13,800
Current liabilities			
Trade and other payables	340	200	366
Total current liabilities	340	200	366
Total liabilities	340	200	366
Net assets	39,613	19,835	13,434
Equity			
Issued capital	56,591	56,591	56,651
Reserves	6,339	6,010	6,201
Accumulated losses	(24,412)	(43, 155)	(49,807)
Non-controlling interest	1,095	389	389
Total equity	39,613	19,835	13,434

Source: XAM Annual Report 2012, 2013 and XAM Interim Report Dec 2013.

We note the following in relation to the consolidated balance sheet:

#### HY14

- Cash and cash equivalents decreased by approximately A\$2.8 million primarily due to investment in Project Khuiten and staff expenses.
- Deferred exploration expenditure decreased by approximately A\$4.0 million mainly due to impairments of Elgen Zost, the Ekchgoviin Chuluu Joint Venture and the thermal coal assets.

#### **FY13**

MIUO BSM MELSOLISM OUIM

- Cash and cash equivalents decreased by approximately A\$10 million mainly due to acquisition of exploration and evaluation assets, and exploration and evaluation expenditure for the Oyut Ulaan and Elgen Zost Projects.
- Other receivables decreased by A\$1.6 million mostly as a result of the repayment of US\$1.25 million loan owed by Ekhgoviin Chuluu Joint Venture partner, Noble Group, for the acquisition of the Nuurstei project in June 2011.
- In FY13, assets held for sale of A\$7.7 million for XAM's Khar Tarvaga and Galshar thermal coal
  projects was transferred to deferred exploration expenditure based on determination that short
  term sale of the assets was unlikely under current market conditions. However we note that in
  January 2014, XAM announced that it had entered into agreements to dispose of the thermal
  projects. No further details were provided.
- Deferred exploration expenditure decreased by A\$0.3 million despite the transfer of assets held for sale of A\$7.7 million predominately due to impairment and relinquishment of various tenements as discussed in the financial performance section.

# 4.3. Capital Structure

As at the date of our report, XAM has the following securities on issue:

- 205,256,390 XAM Shares.
- 24,240,000 unlisted options exercisable at prices between A\$0.50 and A\$1.80 per option expiring with the majority expiring on or before 31 December 2014.
- 9,100,000 performance rights exercisable at prices between A\$0.1071 and A\$0.1870 per option expiring during the period between 26 Feburary 2016 and 21 May 2016.
- 15,000,000 Options Series A exercisable on defining a JORC resource of 300,000 tonnes expiring on 14 January 2019.

• 20,000,000 Options Series B exercisable on defining a JORC resource of 900,000 tonnes expiring on 14 January 2019.

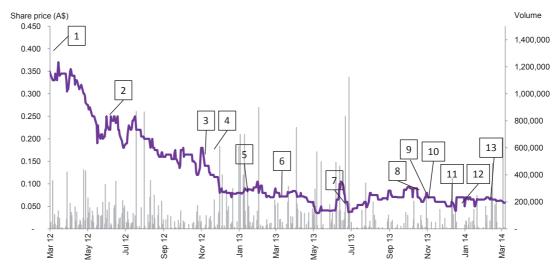
# 4.3.1. XAM Shares

The substantial shareholders of XAM as at 21 January 2014 are set out below:

Substantial shareholder	No. of shares	Interest
Sakari Energy Trading Pte Ltd	24,642,332	12.0%
Brian Thornton and associated interets	20,737,369	10.1%
Noble Group Companies including Ravenca Ltd	18,511,994	9.0%
Ganbay ar Lkhagv asuren	14,389,565	7.0%
Eagle Securities Ltd	11,369,431	5.5%
Total substantial shareholders	89,650,691	43.7%
Other shareholders	115,605,699	56.3%
Total	205,256,390	100.0%

Source: XAM Annual Report 2013

The daily movements in XAM's share price and volumes for the period from March 2012 to March 2014 is set out below:



Source: Capital IQ

We note the following with regard to the share price history since February 2012:

Note	Date	Comments
1	03- Feb-2012	XAM announced its intention to seek offers of interest for potential divestment of the Galshar and Khar Tervaga thermal coal projects in line with a shift in strategic focus to coking coal, copper and gold opportunities. Share price closed at \$0.375.
2	10-May-2012	XAM executed a term sheet to acquire the Oyut Ulaan copper and gold project. Share price closed at \$0.250.
3	15-Oct-2012	Mr Haydn Lynch concluded his tenure as CEO of XAM. Mr Brian Thornton assumed the role of acting CEO until a replacement was sought. Share price closed at \$0.165.

# An instinct for growth

Note	Date	Comments
4	31-Oct-2012	Mr Rod Williams and Mr Ron Heeks tendered their resignations as Non-Executive Directors of the company, effective October 31, 2012. Share price closed at \$0.180.
5	25-Nov-2012	Mr Denis Gately was appointed as independent Non-Executive Chairman and Mr Mark Wheatley and Dr. Darryl Clark were appointed as independent Non-Executive Directors. Share price closed at A\$0.120.
6	21-Dec-2012	51.4 million shares and 15.2 million unlisted option exercisable at A\$0.50 were released from escrow and approved for quotation. Share price closed at \$0.078.
7	25-Feb-2013	Mr George Lloyd was appointed CEO of XAM. Share price closed at \$0.070.
8	06-Jun-2013	XAM announced that it has entered into definitive documents to complete the acquisition of the Oyut Ulaan copper project in conjunction with the release of positive reconnaissance drilling results on the Oyut Ulaan copper project. Share price closed at \$0.050.
9	09-Oct-2013	XAM announced the results of further drilling at the Oyut Ulaan copper project and the extension of high-grade mineralisation at the Oyut Ulaan copper project. Share price closed at \$0.090.
10	15-Oct-2013	XAM released the trenching results for the Oyut Ulaan copper project identifying significant copper-gold grades and new porphyry centres. Share price closed at \$0.090.
11	22-Oct-2013	Mr Robert Westphal and Mr Brian Thomton tendered their resignations as Non-Executive Directors of the company, effective 22 November 2013 and 28 February 20134 respectively. Share price closed at \$0.060.
12	22-Nov-2013	Based on the results of the shareholders vote at the AGM, Mr Denis Gately was not re-elected as Chairman of XAM. The board consequently appointed Mr Mark Wheatley as Chairman. Share price closed at \$0.060.
13	13-Dec-2013	XAM established Mongol Metals LLC, a joint venture Mongolian mining company with Mr Ganbayar Lkhagvasuren (Director and shareholder of XAM) to execute XAM's business strategy. Share price closed at \$0.055.
14	03-Feb-2014	XAM and its joint venture company, Mongol Metals has entered into agreements for the acquisition of the Kharmagtai advanced copper-gold exploration project for US\$14.0 million from Turquoise Hill Resources Ltd. Share price closed at A\$0.067.

Set out below is the share price performance of XAM since February 2013:

Xanadu Mines Ltd.		Share Price		Av erage
	High	Low	Close	w eekly v olume
	A\$	A\$	A\$	000'
Month ended				
Feb 2013	0.096	0.070	0.090	396
Mar 2013	0.084	0.070	0.084	287
Apr 2013	0.082	0.055	0.060	441
May 2013	0.050	0.035	0.041	433
Jun 2013	0.105	0.032	0.038	1,035
Jul 2013	0.080	0.038	0.080	155
Aug 2013	0.085	0.065	0.085	142
Sep 2013	0.093	0.070	0.093	104
Oct 2013	0.090	0.060	0.080	181
Nov 2013	0.071	0.060	0.060	109
Dec 2013	0.070	0.040	0.050	230
Jan 2014	0.070	0.050	0.065	181
Feb 2014	0.070	0.062	0.063	458
Week ended				
15 Nov 2013	0.061	0.060	0.060	55
22 Nov 2013	0.060	0.060	0.060	145
29 Nov 2013	0.060	0.060	0.060	127
6 Dec 2013	0.050	0.050	0.050	14
13 Dec 2013	0.060	0.050	0.055	707
20 Dec 2013	0.070	0.040	0.070	262
27 Dec 2013	-	-	0.070	-
3 Jan 2014	0.070	0.063	0.070	115
10 Jan 2014	0.070	0.065	0.065	161
17 Jan 2014	0.066	0.050	0.050	240
24 Jan 2014	0.066	0.065	0.065	269
31 Jan 2014	0.065	0.065	0.065	10
7 Feb 2014	0.070	0.067	0.070	310
14 Feb 2014	0.068	0.065	0.065	1,081
21 Feb 2014	0.068	0.062	0.062	430
28 Feb 2014	0.063	0.063	0.063	10

Source: Capital IQ, Calculations

MIUO BEN IBUOSIBO IO-

# 5. Profile of the Kharmagtai Project

# 5.1. Overview

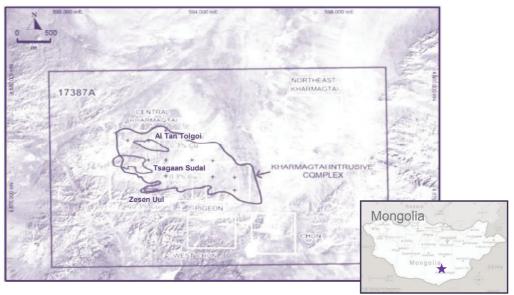
The Kharmagtai Project is an advanced copper-gold exploration project located in the South Gobi region of Mongolia and approximately 260 km northeast of XAM's existing flagship Oyut Ulaan Project. The mining license underlying the Kharmagtai Project (MV-17387A, issued on 23 September 2013) covers approximately 66 sq km. The project is 100% owned by Oyut Ulaan LLC which in turn is 90% owned by THR Oyu Tolgoi Ltd<sup>22</sup> and 10% owned by Quincunx Ltd.

For further details please refer to the Mining Associates Report attached in Appendix D of this report.

# 5.2. Prospects and exploration targets

From 2002 to 2011, extensive exploration including 119 trenches, 171 diamond (for approximately 64,000 metres) and 208 reverse circulation drill holes, detailed geological mapping, rock-chip sampling and geophysics at the Kharmagtai Project have identified three main zones of significant high-grade copper-gold mineralisations (the Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects ("the Prospects")) in the Kharmagtai Project area. However, we understand that the Kharmagtai Project area has only been partially explored and there exists substantial potential for additional new discoveries.

The Prospects are located within a 700 m radius of each other as illustrated below:



Source: XAM ASX announcements

<sup>&</sup>lt;sup>22</sup> THR Oyu Tolgoi Ltd is a wholly owned subsidiary of Turquoise Hill Resources Ltd.

Based on review of the historical exploration data at the Kharmagtai Project XAM has completed a geological model, and has set an initial exploration target covering the above Prospects ("Exploration Target").

The Exploration Target<sup>23</sup> is summarised below:

Exploration Target	Resources target	Average copper grade	Average gold grade
High grade target <sup>1</sup>	50Mt to 80Mt	0.40% to 0.50%	0.6 g/t to 0.8 g/t
Overall target	250 Mt to 400 Mt	0.25% to 0.30%	0.25 g/t to 0.30 g/t

Note (1): Contained within the overall Exploration Target Source: ASX announcements

XAM intends to implement a drilling program comprising of 15,000 to 20,000 metres of diamond drilling. XAM has indicated the drilling will be staged over an 18 to 24 month period. However, drilling is expected to commence shortly after Completion of its proposed acquisition of 90% interest in the Kharmagtai Project. Management have advised that the drilling timetable may be accelerated subject to available funds. The drilling program will be focused on validating the Exploration Target and increasing understanding of the current mineralisation to potentially support estimation of a Mineral Resource under the JORC 2012 code.

# 5.3. Exploration and development strategy

Based on the terms of the Proposed Transaction and Ancillary Agreements, XAM will be required to invest approximately US\$22.7 million to earn 85% interest in MML. Along with Mr Ganbayar initial investment of US\$4.0 million the total investment into MML will be approximately US\$26.7 million.

Set out in the table below is a sources and uses of funds table:

		Equity		
Sources of funds	US\$'000	ow nership	Uses of funds	US\$'000
Mr Ganbayar	4,000	15%	Initial consideration	4,000
XAM	22,667	85%	Deferred consideration	10,000
			Exploration and working capital	12,667
Total sources	26,667	100.0%	Total uses	26,667

Source: XAM Management

MIUO BEN IBUOSIBO IOL

The funds to be invested in MML will be used to fund the following activities:

<sup>&</sup>lt;sup>23</sup> The Exploration Target is conceptual in nature as there has been insufficient exploration to estimate a 'Mineral Resource' under the JORC 2012 code. There exists significant uncertainty as to whether further exploration will result in the estimation of a Mineral Resource.

JORC - A reported Mineral Resource as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code – 2004 Edition)



- Acquisition of the Kharmagtai Project, which will initially be funded by Mr Ganbayar equity
  contribution of US\$4.0 million, followed by XAM's contribution of US\$10.0 million upon
  payment of the Deferred Consideration. We note that XAM has secured financing facilities of
  US\$4.0 million from Noble and will be required to undertake further capital raising activities to
  raise the balance of the funding required for the Kharmagtai Project.
- The balance of the uses of funds will be invested in the exploration drilling program, feasibility studies and working capital required to advance the Kharmagtai Project. The timing for the payment of these funds is at the discretion of XAM Management. The drilling program includes:
  - Drilling to identify new areas of mineralisation proximate to the prospects but not included in the current resource inventory.
  - Drilling to increase the total indicated resources to support a potential mine development concept.
  - Exploration drilling program to test areas of mineralisation outside of the current prospects to identify potential new discoveries.

Further details in relation to the planned expenditure on the Kharmagtai Project are set out in Section 12 of the MA Report.

Management of XAM have estimated that if the scale of the Kharmagtai Project does not materially change, the exploration expenditure above may be sufficient to reach a Decision to Mine in relation to the Kharmagtai Project. MA has reviewed the cost estimate and timetable assessed by the Management of XAM to reach a Decision to Mine and consider them to be reasonable.

We note that, the estimated exploration costs are based on certain assumptions with respect to the method and timing of exploration. By their nature, these estimates and assumptions are subject to significant uncertainties and, accordingly, the actual costs may materially differ from these estimates and assumptions. Therefore, no assurance can be given that the cost estimates and the underlying assumptions will be realised in practice, which may materially adversely affect the timing and cost to reach a Decision to Mine. In our assessment of the Ganbayar's Carried Interest, we have considered the potential cost to reach a Decision to Mine in Section 7.3.1.



# 6. Valuation methodologies

#### 6.1. Introduction

In accordance with our adopted valuation approach set out in section 2.2, our fairness assessment involves comparing:

- The fair market value of the Kharmagtai Project and Kharmagtai Campsite compared with the consideration payable.
- The terms of the Proposed Guarantee.
- The terms of the Ganbayar's Carried Interest.

Grant Thornton Corporate Finance has assessed the value of the Kharmagtai Project using the concept of fair market value. Fair market value is commonly defined as:

"the price that would be negotiated in an open and unrestricted market between a knowledgeable, willing but not anxious buyer and a knowledgeable, willing but not anxious seller acting at arm's length."

Fair market value excludes any special value. Special value is the value that may accrue to a particular purchaser. In a competitive bidding situation, potential purchasers may be prepared to pay part, or all, of the special value that they expect to realise from the acquisition to the seller.

# 6.2. Valuation methodologies

AUD BENDEUMS OUIM

RG 111 outlines the appropriate methodologies that a valuer should generally consider when valuing assets or securities for the purposes of, amongst other things, share buy-backs, selective capital reductions, schemes of arrangement, takeovers and prospectuses. These include:

- Discounted cash flow ("DCF") method and the estimated realisable value of any surplus assets.
- Application of earnings multiples to the estimated future maintainable earnings or cash flows of the entity, added to the estimated realisable value of any surplus assets.
- Amount available for distribution to security holders on an orderly realisation of assets.
- Quoted price for listed securities, when there is a liquid and active market.
- Any recent genuine offers received by the target for any business units or assets as a basis for valuation of those business units or assets.

Further details on these methodologies are set out in Appendix A to this report. Each of these methodologies is appropriate in certain circumstances.

RG111 does not prescribe the above methodologies as the method(s) that an expert should use in preparing their report. The decision as to which methodology to use lies with the expert based on the expert's skill and judgement and after considering the unique circumstances of the entity or asset being valued. In general, an expert would have regard to valuation theory, the accepted and most common market practice in valuing the entity or asset in question and the availability of relevant information.

# 6.3. Selected valuation methodology

#### 6.3.1. Proposed Transaction

Grant Thornton Corporate Finance has selected the market value of net assets as the primary method to assess OU's equity value. The market value of net assets is based on the sum-of-parts of OU's assets which are primarily the Kharmagtai Project and the Kharmagtai Campsite.

The valuation of exploration assets for independent expert's report purposes are typically carried out in conjunction with an independent technical specialists with expertise in the relevant minerals in accordance with RG112 and generally accepted market practice.

For the purposes of this report, Grant Thornton Corporate Finance has engaged MA to prepare a valuation of the Kharmagtai Project which was completed in accordance with the VALMIN Code<sup>24</sup>. A copy of the MA Report is included as Appendix D to this report.

## 6.3.2. Proposed Guarantee

MIUO BEN MELSOUIM

We note that MML will be required to pay US\$14 million as consideration for the acquisition of the OU Shares, comprising an upfront consideration of US\$4 million and a deferred consideration of US\$10 million payable 18 months after completion. Pursuant to the Proposed Guarantee, XAM has agreed to guarantee the obligations of MM to pay the deferred consideration amount.

In this regard, we note that Mr Ganbayar will provide an upfront equity funding of US\$4.0 million to MML, of which US\$3.75 million will be utilised towards payment of initial consideration<sup>25</sup>. XAM will farm-in up to 85% interest in MML at the same subscription price as Mr Ganbayar.

For the purposes of our assessment, we have considered the substance of the Proposed Guarantee having regard to the pro-rata obligation of XAM in relation to the consideration assuming an 85% shareholding in MML.

<sup>&</sup>lt;sup>24</sup> The VALMIN Code is binding on members of the Australasian Institute of Mining and Metallurgy when preparing public independent expert reports required by the Corporations Act concerning mineral and petroleum assets and securities. The purpose of the VALMIN Code is to provide a set of fundamental principles and supporting recommendations regarding good professional practice to assist those involved in the preparation of independent expert reports that are public and required for the assessment and/or valuation of mineral and petroleum assets and securities so that the resulting reports will be reliable, thorough, understandable and include all the material information required by investors and their advisers when making investment decisions.

<sup>&</sup>lt;sup>25</sup> XAM has provided US\$250,000 to fund the initial deposit



#### 6.3.3. Ganbayar's Carried Interest

We note that if XAM manages to obtain 85% interest in MML, XAM must organise funds on behalf of Mr Ganbayar to ensure a total 5.6% interest for Ganbayar in MML is preserved until a Decision to Mine is reached. In other words, Mr Ganbayar's ownership in MML cannot be diluted to a level below 5.6% before the Decision to Mine has been made.

We have undertaken our fairness assessment of the Ganbayar's Carried Interest by comparing the net present value of the funding that XAM may provide on behalf of Mr Ganbayar in accordance with the terms of the Ganbayar's Carried Interest to the cost savings that may be derived by XAM as a result of Mr Ganbayar providing the funds to pay 93.75% of the upfront consideration excluding transaction costs and initial working capital.

In undertaking the assessment of the Ganbayar's Carried Interest, we have considered the following:

- Exploration budget required to get to a Decision to Mine.
- Potential overruns of the Kharmagtai Project.
- Timing in relation to a Decision to Mine.

In undertaking the assessment of the cost savings attributed to Mr Ganbayar's initial contribution to MML, we have considered the following:

- The proportion of funding provided by Mr Ganbayar in comparison to the overall exploration budget to reach a Decision to Mine.
- The interest expense that would be incurred if XAM was required to raise the debt finance to fund the initial upfront consideration.
- The potential equity discount that XAM would be required to offer to investors under a rights issue or equity placement to fund its share of the upfront consideration.



#### 7. Valuation Assessment

# 7.1. Proposed Transaction

#### 7.1.1. Market value of the Kharmagtai Project

As discussed in Section 2, Grant Thornton Corporate Finance has engaged MA to assess the fair market value of the Kharmagtai Project. MA's assessment is summarised below:

		Low	Preferred	High
Market value of the Kharmagtai Project	Reference	US\$'000s	US\$'000s	US\$'000s
Market approach	Appendix D	16,700	18,000	19,000
Empirical yardstick approach	Appendix D	9,000	13,000	17,000
Cost approach	Appendix D	14,000	n/a	29,000
Selected value		9,000	15,000	29,000

Source: MA Report

MUO BEN MELSONIMI MED JOL

MA has considered a number of valuation methodologies to assess the market value of the Kharmagtai Project. In relation to the valuation approaches adopted by MA, we note the following:

- The market approach involves comparing the transaction value of similar mineral properties transacted in the open market to the Kharmagtai Project. MA identified 7 transactions with similar levels of development to the Kharmagtai Project and in similar political and geological setting.
- The empirical yardstick approach uses recent comparable transactions to derive a dollar value per unit of in situ resources, which is then applied to the Kharmagtai Project. This method is normally considered highly subjective due to the need to choose a potential resource size. However, for the Kharmagtai Project the defined exploration target is based on a considerable amount of work and MA's opinion provides a reasonable estimate of value.
- The cost approach involves analysis of exploration expenditure and their contribution to exploration potential. MA has considered the cost approach under the following categories:
  - Resource definition drilling only.
  - Total expenditure.

MA considers that the valuation of the Kharmagtai Project is in the range of US\$9 million and US\$29 million with a preferred value of US\$15 million. Refer to MA Report in Appendix D for further details. The valuation of the Kharmagtai undertaken by MA does not include the fair market value of the Kharmagtai Campsite.



#### 7.1.2. Market value of the Kharmagtai Project Campsite

The Kharmagtai Campsite covers approximately 2,000 sq metres and was designed primarily to support exploration activities in the district. The camp was built in 2003-2004 by Ivanhoe Mines and it is winterised and is suitable for use 12 months a year. The Kharmagtai Campsite has been maintained in reasonable condition and was used during the 2011 and 2012 exploration activities.

The Kharmagtai Campsite comprises the following assets:

- Mine camp which includes accommodation, kitchen, dining, garage and storage facilities for up to 100 people.
- Office facility furniture.
- Covered area for the cutting and logging of drill core.
- Fixed satellite dish to provide communications
- Exploration and core sampling equipment.

Management have advised that Kharmagtai camp was constructed with modified containers (insulated) and contemporary building materials. Further, the Kharmagtai camp was constructed to international standard using quality components purchased in Australia. The camp did cost approximately US\$1 million (USD) to construct approximately 10 years ago.

Based on discussions with Management of XAM and a review of the available information, we have estimated the replacement cost of the Kharmagtai Project Campsite in the range of US\$0.5 million to US\$1.0 million.

#### 7.1.3. Market value of other assets and liabilities

Management have advised that OU will not have any other material assets or liabilities with the exception of following promissory notes:

- THRU Promissory Note: non-interest bearing promissory note in the amount of approximately US\$8.4 million.
- TQR Promissory Note: non-interest bearing promissory note in the amount of approximately US\$4.2 million.

The above promissory notes represent loans which have been provided to OU from its parent entity to fund its exploration activities. Under the terms of the SPA, the promissory notes above will be assigned to MML on completion of the Proposed Transaction. In effect the liability under the promissory notes will be payable to MML. Upon consolidation of MML's accounts, the promissory



notes will be eliminated. The latest balance sheet of OU is set out in Appendix C indicating that there are no other material assets and liabilities to be considered in our valuation assessment.

#### 7.1.4. Value of the consideration paid

Based on the terms of the SPA, the total consideration payable for the OU Shares amounts to US\$14 million which includes the upfront consideration of US\$4 million<sup>26</sup> and the Deferred Consideration of US\$10 million.

We note that the Deferred Consideration is payable in 18 months following Completion<sup>27</sup>. Accordingly, we have calculated the net present value of the Deferred Consideration having regard to the risk of XAM defaulting on its guarantee to fund the Deferred Consideration. In assessing the appropriate discount rate to reflect the risk of default, we have considered the following observations:

- Noble has provide the Facility to XAM with the cost of debt based on a margin of 10% above
  the London Interbank Offered Rate ("LIBOR"), however, we note that the Facility is secured
  over the MML Shares held by XAM and the value of the Marketing Agreement needs to be
  considered to estimate the actual cost of the facility. This observation provides a floor to the
  potential discount rate applicable to XAM.
- An indicative cost of equity of at least 20% that may be applicable to early stage exploration
  projects such as the Kharmagtai Project (refer to Section 7.1.3 for further details). The cost of
  equity for early stage projects provides a ceiling for the discount rate applicable to XAM.

Based on the above observations, we have selected a discount rate of 15% which falls within the range of observed applicable discount rates.

<sup>&</sup>lt;sup>26</sup> Includes US\$0.5 million deposit which has been paid funded by Mr Ganbayar and XAM.

<sup>&</sup>lt;sup>27</sup> Completion refers to the payment of US\$3.5 million to THR upon registration of MML with the Mongolian State Registration Office as the holder of 90% of the shares in OU

The net present value of the consideration paid is set out in the table below:

Net present value of the Deferred Consideration	US\$'000s
Deferred Consideration	10,000
Time to payment (years)	1.5
Discount rate	15.0%
Net present value of the Deferred Consideration	8,109
Upfront consideration and deposit	4,000
Total consideration to be paid for the OU Shares	12,109

Source: Grant Thornton Corporate Finance calculations

#### 7.1.5. Fairness Assessment – Proposed Transaction

The table below compares the value of the Kharmagtai Project including the Kharmagtai campsite to the value of the consideration paid.

		Low	Preferred	High
Proposed Transaction - Fairness Assessment	Reference	US\$'000s	US\$'000s	US\$'000s
Value of the Kharmagtai Project assessed by MA	7.1.1	9,000	15,000	29,000
Value of the Kharmagtai campsite and other property, plant and equipment	7.1.2	500	750	1,000
Total value of the OU Shares		9,500	15,750	30,000
Total consideration to be paid for OU Shares	7.1.4	12,109	12,109	12,109
Difference		(2,609)	3,641	17,891
Difference %		(21.5)%	30.1%	147.8%

Source: Calculations

The value of the total consideration paid for the OU Shares falls towards the low end of the value of the Kharmagtai Project and the Kharmagtai Campsite and is below our preferred value.

#### 7.2. Proposed Guarantee

Under the Proposed Transaction, XAM has provided a guarantee to THR in relation to the payment of the Deferred Consideration by MML of US\$10 million. Whilst the form of the Proposed Guarantee is for XAM to guarantee an obligation of MML, the substance of the Proposed Guarantee is for XAM to guarantee its own obligation under the terms of the Proposed Transaction and Ancillary Agreements.

As set out in the table below, in order to obtain a 85% interest in MML in accordance with the intentions of XAM and Mr Ganbayar, XAM is required to provide the funds to MML to pay for the Deferred Consideration of US\$10 million within 18 months and exploration and working capital of US\$12.7 million<sup>28</sup>. However, we note that Mr Ganbayar will capitalise MML at completion for a

<sup>&</sup>lt;sup>28</sup> We note that XAM and Mr Ganbayar have equally funded the payment of US\$500,000 deposit and XAM has also funded all of the advisory and due diligence costs in relation to the Proposed Transaction of approximately US\$550,000.



total of US\$4 million which is equivalent to 100% of his pro-rata consideration to obtain a 15% interest in MML at the time of a decision to mine as summarised in the table below.

		Equity			
Sources of funds	US\$'000	ow nership	Uses of funds	US\$'000	Status
Mr Ganbayar	4,000	15%	Initial consideration	4,000	Paid at completion
XAM	22,667	85%	Deferred consideration	10,000	Payable in 18 months
			Exploration and working capital	12,667	Pay able up to decision to mine
Total sources	26,667	100.0%	Total uses	26,667	

Source: XAM Management

Based on the terms of the Proposed Transaction and Ancillary Agreements and the intentions of the parties<sup>29</sup>, we are of the opinion that the Proposed Guarantee does not provide a financial benefit to Mr Ganbayar as XAM is guaranteeing its own obligations to pay for the Deferred Consideration in accordance with the terms of the Proposed Transaction and the Ancillary Agreement.

We further note that if the Proposed Guarantee is called upon, XAM will provide funding to pay the Deferred Consideration and increase its shareholding in MML from 18% at Completion to 73.2% at the Subscription Price. Accordingly, XAM Non Associated Shareholders are not unfairly treated in comparison to Mr Ganbayar.

# 7.3. Ganbayar's Carried Interest

In assessing the fairness of the Ganbayar Carried Interest, we have compared the potential cost of the Ganbayar's Carried Interest to the cost savings received by XAM as a result of Mr Ganbayar funding the upfront consideration for the OU Shares<sup>31</sup>.

# 7.3.1. Potential cost of Ganbayar's Carried Interest

Based on the terms of the Proposed Transaction and Ancillary Agreements, XAM will be required to invest approximately US\$22.7 million to earn 85% interest in MML. Along with Mr Ganbayar initial investment of US\$4.0 million the total investment into MML will be approximately US\$26.7 million as set out below:

<sup>&</sup>lt;sup>29</sup> For XAM to acquire 85% interest in the Kharmagtai Project.

<sup>30</sup> Calculated as the amount contributed by XAM of US\$10.9 million divided by US\$14,900,000 which represents the total contribution to MML including Mr Ganbayar's contribution of US\$4.0 million. This calculation assumes no further exploration work is undertaken by XAM on the Kharmagtai Project from Completion to payment of the Deferred Consideration.

<sup>31</sup> Mr Ganbayar's contribution of US\$3.75 million represents approximately 93.75% of the upfront consideration for the OU Shares.

MIUO BEN MELSONIMI MEE ONIM

Proforma equity interest in MML	US\$'000s	% interest
Contribution from Ganbay ar	4,000	15.0%
Implied contribution required from XAM to earn 85% in MM	22,667	85.0%
Implied total acquisition cost and exploration expenditure incurred by MML	26,667	100.0%

Source: Grant Thornton Corporate Finance calculations

We note that under the Shareholders Agreement, the Ganbayar's Carried Interest becomes effective once XAM has reached 85% interest in MML and a Decision to Mine milestone has not been reached as yet. This effectively means that XAM is required to spend approximately US\$22.7 million (including the funding of the Deferred Consideration) before the Ganbayar's Carried Interest comes into effect.

Management of XAM have estimated that if the scale of the Kharmagtai Project does not materially change, the exploration expenditure above will be sufficient to reach a Decision to Mine in relation to the Kharmagtai Project. Under these circumstances the Ganbayar's Carried Interest will not become effective and both XAM and Ganbayar will be required to provide funding to MML in proportion to their respective interest in order to not be diluted. Details of the exploration expenditure budget are set out in Section 5.3 of this Report.

In order to assess the potential cost of the Ganbayar's Carried Interest for XAM, we have undertaken a sensitivity analysis having regard to the following assumptions:

- As noted above, the Ganbayar's Carried Interest only comes into effect once XAM has earned 85% interest in MML<sup>32</sup> and a Decision to Mine has not been reached. Management currently expect to reach a Decision to Mine within this exploration budget, however if there are potential overruns XAM will also need to fund 5.6% of the potential overrun on behalf of Ganbayar. For the purposes of this sensitivity analysis, we have assumed potential overruns in the exploration budget to reach a Decision to Mine in the range of 10% to 30%.
- Time to reach a Decision to Mine of 4.0 years. Based on the current exploration and drilling plan for the Kharmagtai Project, we understand that it may be possible to reach a Decision to Mine within 3 years. Given that costs overruns are likely to be incurred in conjunction with a delay in the timetable, for the purposes of our sensitivity analysis, we have assumed that the Decision to Mine would take an additional year to be achieved.
- Discount rate of 20% reflecting the cost of equity having regard to the following:
  - Risk free rate based on the yield on the 20 year US Government Bond of 3.45%33.
  - Market risk premium of 5.8%<sup>34</sup>

<sup>32</sup> This is equivalent to spending US\$22.7 million on the Kharmagtai Project

<sup>33</sup> Based on the spot rate as at 7 March 2014 sourced from S&P Capital IQ, we note that the spot rate is consistent with the long term 5 year average.

MIUO BEN MELSONIMI MEE ONIM

- The location of the project in Mongolia which has a country risk premium of 6.75%35.
- Other considerations such as the early stage nature of the project and its unfunded nature. As a
  result, a hypothetical purchaser would require a specific risk premium to compensate for the
  specific risks of the project.

Based on the assumptions above, the potential cost for XAM of the Ganbayar's Carried Interest is set out in the table below:

Calculation of the cost of the Ganbayar's Carried Interest	US\$'000s	US\$'000s	US\$'000s
Total exploration budget required to reach a Decision to Mine	26,667	26,667	26,667
Potential budget ov erruns	10.0%	20.0%	30.0%
Additional capital required	2,667	5,333	8,000
Ganbay ar's Carried Interest	5.6%	5.6%	5.6%
Total cost of the Ganbayar's Carried Interest	149	299	448
Years to Decision to Mine (years)	4.0	4.0	4.0
Discount rate	20.0%	20.0%	20.0%
Net present value	72	144	216

Source: Grant Thornton Corporate Finance calculations

Based on the table above, the potential cost of the Ganbayar's Carried Interest to XAM could fall in the range of US\$72,000 to US\$216,000. We note that this cost estimate is provided for illustrative purposes only and is not intended to reflect the actual value of the Ganbayar's Carried Interest. We note that this sensitivity analysis is based on hypothetical assumptions and may not eventuate if XAM executes its exploration plan in accordance with its budget and the results of its explorations and development activities are in line with their expectations.

Grant Thornton Corporate Finance has not undertaken a valuation of the Ganbayar's Carried Interest as the calculation of any exploration costs overrun is considered hypothetical. The ultimate value will depend on the future exploration activities and prospectivity of the project.

#### 7.3.2. Cost savings as a result of Mr Ganbayar's upfront contribution

Mr Ganbayar has provided US\$3.75 million and XAM has provided US\$250,000 to fund the upfront purchase consideration of US\$4.0 million for the OU Shares from THR. The upfront payment by Mr Ganbayar represents approximately 93.75% of the upfront purchase consideration<sup>36</sup>.

Based on the terms of the Proposed Transaction and Ancillary Agreements, XAM has the right to earn 85% interest in MML at the original Subscription Price. Accordingly, the contribution from Mr Ganbayar of US\$3.75 million includes XAM's share of the upfront consideration, which has in

<sup>&</sup>lt;sup>34</sup> The expected return of the market in excess of the risk-free rate, termed the long horizon equity risk premium, has been estimated based on an historical study of mean actual returns as published in Stocks, Bonds, Bills and Inflation® Valuation Edition 2012 Yearbook, (Morningstar, Inc., 2012).

<sup>35</sup> Professor Aswath Damodaran of Stern School of Business at New York University

<sup>&</sup>lt;sup>36</sup> XAM has provided funding of US\$250,000 for the deposit on the OU Shares. XAM has also funded all of the advisory and due diligence costs in relation to the Proposed Transaction.



effect provided an interest free loan to XAM. The calculation of Mr Ganbayar's contribution on behalf of XAM is set out in the table below:

Mr Ganbayar's upfront contribution	US\$'000s
Amount of the upfront consideration (including deposit)	4,000
XAM's exclusive right to earn in MML at the original Subscription Price	85.0%
XAM's obligation to pay the consideration to earn 85% interest	3,400
Less: Deposit paid by XAM	(250)
Amount contributed by Mr Ganbayar	3,150

Source: Management of XAM

Given XAM's cash balance as at 31 December 2013 was approximately A\$2.8 million, if XAM were required to fund the full amount of its pro-rata upfront consideration, in our opinion, it may have adopted one of the following options:

- Debt raising.
- Equity placement or rights issue.

Both these alternatives are briefly analysed below.

#### 7.3.2.1. Debt raising

-OF DEFSONAI USE ON!!\

Given Mr Ganbyar is effectively providing an interest free loan to XAM in relation to 85% of the upfront consideration, we have estimated the interest saved by XAM having regard to the following assumptions:

- Principal amount equivalent to Mr Ganbayar's contribution on behalf of XAM.
- Interest rate of approximately 15%. We note that the interest rate under the Facility provided by Noble is based on a margin of 10% above LIBOR however, XAM has offered its shares in MML in favour of Noble as security for the Facility and also agreed to a negative pledge in which it will not grant any security over its assets without Noble's prior approval. The value of the Marketing Agreement needs to be considered to estimate the actual cost of funds.
- Term of 18 months which is consistent with the timing of payment of the Deferred Consideration.
- Discount rate of 15% reflecting the cost of debt.



Based on the assumptions above, the net present value of the interest expenses saved by XAM as a result of Mr Ganbayar's contribution on behalf of XAM is set out in the table below:

Interest ex pense saving	US\$'000s
Additional amount contributed by Ganbayar	3,150
Interest rate	15.0%
Loan period years	1.50
Interest expense	735
Discount rate	15.0%
Net present value	596

Source: Grant Thornton Corporate Finance calculations

As summarised in the table below, the cost of debt to fund the theoretical upfront consideration is greater than any potential cost likely to be anticipated by XAM to fund the Ganbayar's Carried Interest.

Comparison with cost to fund the Ganbay ar's Carried Interest	Low	High
	US\$'000s	US\$'000s
NPV of cost to fund the Ganbayar's Carried Interest	144	216
NPV cost of debt to fund the theoretical upfront consideration	596	596
Difference (US\$'000s)	452	380
Difference (%)	75.8%	63.7%

Source: Grant Thornton Corporate Finance calculations

#### 7.3.2.2. Equity raising

MUO BEN IBUOSIBO JOL

Another theoretical funding alternative for the payment of 85% of the upfront consideration would be to undertake an equity placement or rights issue on the ASX. In our opinion, given the current market conditions, the raising of equity capital is likely to be highly dilutive to existing shareholders. In particular given that XAM have yet to identify and report JORC Resources at the Kharmagtai Project.

There is evidence in the market that rights issues or private placements for early stage exploration companies have been offered at a discount to the prevailing trading prices at the time of the issue. The magnitude of the discount depends on several things, including, but not limited to the following:

- The size of the raisings compared with the market capitalisation of the Company.
- The purpose of the capital raising (i.e. fund future growth or recapitalise the balance sheet).
- The industry where the company operates.
- The specific circumstances of the company.



• The stage of development of the company's assets.

For the purposes of establishing an appropriate theoretical level of rights issue/placement discount, Grant Thornton Corporate Finance has analysed the right issues and private placement undertaken by public companies in Australia over the last five years in the mining industry. We have compared the rights issue/placement price to the closing share price of the stock on the day prior to the announcement.

In our analysis, we have had consideration of the size of the raisings compared and the market capitalisation of the company one day prior to the announcement.

Our analysis of the rights issues is set out in the table below:

Rights discount summary table	2013	2012	2011	2010	2009	Total/ average
Transactions less than A\$10 m						
Number of transactions	79	117	93	70	123	482
Av erage - 1 day prior	-25%	-31%	-44%	-41%	-46%	-38%
Median - 1 day prior	-22%	-23%	-31%	-25%	-40%	-29%
% of market cap	27%	29%	23%	31%	34%	29%
Av erage market cap (A\$m)	10	12	17	16	9	12

Source: Capital IQ

MUO BEN IBUOSIBO JOL

Based on the analysis above, a discount between 20% and 30% may be applicable. The dilution cost of the potential placement/rights issue for XAM Shareholders would be materially higher that the cost to fund the Ganbayar's Carried Interest, even before brokerage and transaction costs are considered.

In addition, we note that, as a result of Mr Ganbayar's contribution on behalf of XAM, XAM is able to focus on the exploration of the Kharmagtai Project. If XAM is able to identify high grade resources in the Kharmagtai Project before seeking to raising funds on the equity market, it is likely that the discount on the equity raising may be lower compared to accessing equity markets without identifying JORC Resources.



# 8. Sources of information, disclaimer and consents

#### 1.1 Sources of information

In preparing this report Grant Thornton Corporate Finance has used various sources of information, including:

- Draft Notice of Meeting and Explanatory Memorandum.
- Annual reports of XAM for FY2011, FY2012 and FY2013.
- Draft half year financial report for HY2014.
- Releases and announcements by XAM on the ASX.
- XAM websites.
- IBISWorld Industry Report.
- Other information provided by XAM.
- Other publicly available information.
- CapitalIQ.
- Consensus Economics Forecast.
- Mergermarket.
- Various broker reports.
- Discussions with Management.
- MA Report.

MUO BSN | BUOSJBO JOL



MUO BEN IBUOSIBO JOL

#### 1.2 Qualifications and independence

Grant Thornton Corporate Finance Pty Ltd holds Australian Financial Service Licence number 247140 under the Corporations Act and its authorised representatives are qualified to provide this report.

Grant Thornton Corporate Finance provides a full range of corporate finance services and has advised on numerous takeovers, corporate valuations, acquisitions, and restructures. Prior to accepting this engagement, Grant Thornton Corporate Finance considered its independence with respect to XAM and all other parties involved in the Proposed Transaction with reference to the ASIC Regulatory Guide 112 "Independence of experts" and APES 110 "Code of Ethics for Professional Accountants" issued by the Accounting Professional and Ethical Standard Board. We have concluded that there are no conflicts of interest with respect to XAM, its shareholders and all other parties involved in the Proposed Transaction.

Grant Thornton Corporate Finance and its related entities do not have at the date of this report, and have not had within the previous two years, any shareholding in or other relationship with XAM or its associated entities that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation to the Proposed Transaction.

Grant Thornton Corporate Finance has no involvement with, or interest in the outcome of the Proposed Transaction, other than the preparation of this report.

Grant Thornton Corporate Finance will receive a fee based on commercial rates for the preparation of this report. This fee is not contingent on the outcome of the Proposed Transaction. Grant Thornton Corporate Finance's out of pocket expenses in relation to the preparation of the report will be reimbursed. Grant Thornton Corporate Finance will receive no other benefit for the preparation of this report.

#### 1.3 Limitations and reliance on information

This report and opinion is based on economic, market and other conditions prevailing at the date of this report. Such conditions can change significantly over relatively short periods of time.

Grant Thornton Corporate Finance has prepared this report on the basis of financial and other information provided by XAM and publicly available information. Grant Thornton Corporate Finance has considered and relied upon this information. Grant Thornton Corporate Finance has no reason to believe that any information supplied was false or that any material information has been withheld. Grant Thornton Corporate Finance has evaluated the information provided by XAM through inquiry, analysis and review, and nothing has come to our attention to indicate the information provided was materially misstated or would not afford reasonable grounds upon which to base our report. Nothing in this report should be taken to imply that Grant Thornton Corporate Finance has audited any information supplied to us, or has in any way carried out an audit on the books of accounts or other records of XAM.



This report has been prepared to assist the directors of XAM in advising the XAM Shareholders in relation to the Proposed Transaction. This report should not be used for any other purpose. In particular, it is not intended that this report should be used for any purpose other than as an expression of Grant Thornton Corporate Finance's opinion as to whether the Proposed Transaction is fair and reasonable to the XAM Shareholders.

XAM has indemnified Grant Thornton Corporate Finance, its affiliated companies and their respective officers and employees, who may be involved in or in any way associated with the performance of services contemplated by our engagement letter, against any and all losses, claims, damages and liabilities arising out of or related to the performance of those services whether by reason of their negligence or otherwise, excepting gross negligence and wilful misconduct, and which arise from reliance on information provided by XAM, which XAM knew or should have known to be false and/or reliance on information, which was material information XAM had in its possession and which XAM knew or should have known to be material and which XAM did not provide to Grant Thornton Corporate Finance. XAM will reimburse any indemnified party for all expenses (including without limitation, legal expenses) on a full indemnity basis as they are incurred.

#### 1.4 Consents

AIUO BSN IBUOSIBÓ JOL

Grant Thornton Corporate Finance consents to the issuing of this report in the form and context in which it is included in the Notice of Meeting to be sent to the XAM Shareholders. Neither the whole nor part of this report nor any reference thereto may be included in or with or attached to any other document, resolution, letter or statement without the prior written consent of Grant Thornton Corporate Finance as to the form and content in which it appears.



#### **Appendix A - Valuation Methodologies**

## **Capitalisation of future maintainable earnings**

The capitalisation of future maintainable earnings multiplied by appropriate earnings multiple is a suitable valuation method for businesses that are expected to trade profitably into the foreseeable future. Maintainable earnings are the assessed sustainable profits that can be derived by a company's business and excludes any abnormal or "one off" profits or losses.

This approach involves a review of the multiples at which shares in listed companies in the same industry sector trade on the share market. These multiples give an indication of the price payable by portfolio investors for the acquisition of a parcel shareholding in the company.

#### **Discounted future cash flows**

An analysis of the net present value of forecast cash flows or DCF is a valuation technique based on the premise that the value of the business is the present value of its future cash flows. This technique is particularly suited to a business with a finite life. In applying this method, the expected level of future cash flows are discounted by an appropriate discount rate based on the weighted average cost of capital. The cost of equity capital, being a component of the WACC, is estimated using the Capital Asset Pricing Model.

Predicting future cash flows is a complex exercise requiring assumptions as to the future direction of the company, growth rates, operating and capital expenditure and numerous other factors. An application of this method generally requires cash flow forecasts for a minimum of five years.

## **Orderly realisation of assets**

MIUO BSM MELSOLISM OUIM

The amount that would be distributed to shareholders on an orderly realisation of assets is based on the assumption that a company is liquidated with the funds realised from the sale of its assets, after payment of all liabilities, including realisation costs and taxation charges that arise, being distributed to shareholders.

# **Market value of quoted securities**

Market value is the price per issued share as quoted on the ASX or other recognised securities exchange. The share market price would, prima facie, constitute the market value of the shares of a publicly traded company, although such market price usually reflects the price paid for a minority holding or small parcel of shares, and does not reflect the market value offering control to the acquirer.



# Appendix B - Glossary

Term	Definition
ASIC	Australian Securities and Investments Commission
ASX	Australian Securities Exchange
ATO	Australian Taxation Office
CAGR	compounded average annual growth rate
Company	Xanadu Mines Limited
DCF	Discounted cash flow
Deferred Consideration	Deferred consideration of US\$10 million for up to 18 months
ЕМН	Efficient Market Hypothesis
EV	Enterprise Value
FSG	Financial Services Guide
FYXX of FY20XX	Financial year ended 30 June 20XX
GFC	global financial crisis
Grant Thornton Corporate Finance	Grant Thornton Corporate Finance Pty Limited
Kharmagtai Project	The Kharmagtai Mining License (MV-17387A) registered with the Mineral Resource Authority of Mongolia.
JORC	A reported Mineral Resource as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code – 2004 Edition)
Mr Ganbayar	Mr Lkhagvasuren Ganbayar
Non-Associated Shareholders	XAM Shareholders not associated with Mr Ganbayar
ра	Per annum
Proposed Transaction	Acquisition of the shares in OU held by THR
Resources	JORC defined mineral resources
RG 112	ASIC Regulatory Guide 112 "Independence of Experts"
RG111	ASIC Regulatory Statement 111 "Content of expert reports"
XAM	Xanudu Mines Limited
XAM Shareholders	All the holders of XAM Shares
XAM Shares	205,256,390 ordinary fully paid shares in XAM



# Appendix C - Balance sheet of OU

The following table set out the historical consolidated financial position of OU as at 31 December 2013:

Consolidated Statements of financial position	31-Dec-13	31-Dec-13
Oyut Ulaan LLC	Audited	Audited <sup>1</sup>
	(M\( \pi'\) 000s)	(US\$'000s)
Current assets		
Cash and cash equivalents	38,597	23
Tax and SHI receivable	66,158	40
Other receivables	6,562	4
Prepaid expense / prepay ments	188	0
Total current assets	111,504	67
Non current assets		
Fixed assets	74,667	45
Exploration and evaluation assets	14,978,739	9,056
Intangible assets	118,971	72
Total non current assets	15,172,376	9,173
Total assets	15,283,881	9,240
Current liabilities		
Accounts payable	233,580	141
Other short term liabilities	20,945,094	12,663
Other pay ables	571	0
Total current liabilities	21,179,244	12,804
Non current liabilities		
Deferred tax payable	24	0
Total current liabilities	24	0
Total liabilities	21,179,267	12,804
Net assets	(5,895,387)	(3,564)
Equity		
Issued capital	11,738	7
Retained earning	(5,907,125)	(3,571)
Total equity	(5,895,387)	(3,564)

Note (1): Based on the implied exchange rate disclosed in OU's FY13 report: 1US\$ = 1,654.1 M  $\mbox{\it F}$ 

Source: Audited Financial Statements for FY13.

Appendix D - MA Report





# Valuation Report on the Kharmagtai Project, Mongolia



Prepared by Mining Associates Pty Ltd for

Grant Thornton

Author:

Andrew Vigar, B App.Sc.(Geol), F.AusIMM, M.SEG

Effective Date: 25 March 2014

Reference: MA1375

Mining Associates Pty Ltd ABN 29 106 771 671 Level 4, 67 St Paul's Terrace Spring Hill QLD 4004 AUSTRALIA T 61 7 3831 9154 F 61 7 3831 6754 W www.miningassociates.com.au



# **TABLE OF ACRONYMS**

ASL Above sea level AUD Australian Dollar

B.App.Sc. Bachelor of Applied Science degree

B.Sc. Bachelor of Science degree

CAD Canadian Dollar

CEO Chief Executive Officer

CIMVal Standards and Guidelines for Valuation of Mineral Properties set down by the

Special Committee of the Canadian Institute of Mining, Metallurgy and Petroleum on

Valuation of Mineral Properties

DDH Diamond drill hole EL Exploration Licence

ERA Environmental Risk Assessment

F.AusIMM Fellow of the Australasian Institute of Mining and Metallurgy F.I.M.M.M. Fellow of the Institute of Materials, Mining and Metallurgy

IP Induced Polarization

JV Joint Venture

LME London Metal Exchange

M Million

MA Mining Associates Pty Ltd

M.SEG. Member of the Society of Economic Geologists

M.Sc. Master of Science degree
NI43-101 National Instrument 43-101

QA/QC Quality Assurance/Quality Control

RC Reverse Circulation

SEDAR System for Electronic Document Analysis and Retrieval

SG Specific Gravity
tpd Tonnes per day
USD United States Dollar

UTM Universal Transverse Mercator

VALMIN Code Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets

and Securities for Independent Expert Reports

WGS84 World Geodetic System 1984



# **TABLE OF CONTENT**

1	SU	MMARY	.6
2	INT	RODUCTION AND TERMS OF REFERENCE	.8
2.1	СО	MMISSIONING ENTITY AND SCOPE	. 8
2.2	VA	LUATION MANDATE	. 8
2.3	PU	RPOSE	. 8
2.4	VA	LUATION DATE	. 8
2.5	QU	ALIFIED VALUATOR AND QUALIFIED PERSON	. 9
2.6	DEI	FINITION OF VALUATION TYPES	. 9
2.7	ОТІ	HER DEFINITIONS USED IN THE REPORT	10
2.8	INF	ORMATION USED	13
2.9	SIT	E VISIT BY QUALIFIED PERSON	13
3	со	MPLIANCE WITH THE VALMIN CODE	13
4	PR	OPERTY DESCRIPTION	13
4.1	LO	CATION AND ACCESS	13
4.2	PH'	YSIOGRAPHY	14
4.3	CLI	MATE	14
4.4	TEN	NURE OWNERSHIP	14
5	HIS	STORY OF EXPLORATION	15
5.1	DIS	COVERY AND EXPLORATION HISTORY	15
5.2	HIS	TORIC MINERAL RESOURCE ESTIMATES	16
	5.2.1	2005 – IMMI Internal	17
	5.2.2	2007 – IMMI internal	17
	5.2.3	2012 – AMC Independent Resource Estimate	18
6	GE	OLOGY AND MINERALISATION	20
6.1	REC	GIONAL GEOLOGY	20
6.2	LO	CAL GEOLOGY	21
	6.2.1	Lithology	21
	6.2.2	Structure	22
6.3	MII	NERALISATION	23
	6.3.1	Zesen Uul	23



	6.3.2	Altan Tolgoi	24
	6.3.3	Tsagaan Sudal	26
	6.3.4	Summary	27
7	DEP	OSIT TYPES	28
7.1	GEO	OGICAL MODEL	28
8	EXPI	ORATION RESULTS AND POTENTIAL	28
9	KEY	ASSUMPTIONS, RISKS & LIMITATIONS	29
9.1		IMPTIONS	
9.2	MAT	ERIAL RISKS	29
9.3	FINA	NCIAL RISKS	29
	9.3.1	Government royalties	29
	9.3.2	Metal Price Volatility	30
	9.3.3	Energy Costs	30
	9.3.4	Environmental Risks	31
	9.3.5	Permitting Risks	31
10	VAL	JATION	31
10.1	CURI	RENCY AND EXCHANGE RATES	32
10.2	DATA	ABASE	32
10.3		KET AND EMPIRICAL APPROACHES – COMPARABLE TRANSACTIONS, PORPHYRY PER PROJECTS	32
	10.3.1	Kincora Copper – Golden Grouse, Mongolia	32
	10.3.2	Galielo Resources – Gabbs, USA	33
	10.3.3	Robust Resources – Andash, Kyrgyzstan	33
	10.3.4	Candente Copper – Arikepay, Peru	33
	10.3.5	Coro Mining Corporation – Payen, Chile	34
	10.3.6	Crazy Horse Resources – Taysan, Philippines	34
	10.3.7	Pan Australian Resources – Freida River, PNG	34
	10.3.8	Discussion	35
10.4	COST	APPROACH – MULTIPLES OF EXPLORATION EXPENDITURE	36
10.5	KILBI	JRN GEOSCIENCE RATING	37
10.6	PREF	ERRED VALUATION	39
11	PRO	POSED WORK PLAN	40





12	REFERENCES	.40
13	CERTIFICATE OF QUALIFICATIONS	.41
	List of Figures	
Figure 1.	Project Location and Access	. 14
Figure 2.	Kharmagtai Licence Map	. 15
Figure 3.	Comparison of Kharmagtai Total Resource Estimates by Classification	. 20
Figure 4.	Regional Geology and Tectonic Setting of Kharmagtai	. 21
Figure 5.	Kharmagtai Project Local Geology.	. 22
Figure 6.	Structural Interpretation of Kharmagtai Area.	. 23
Figure 7:	Cross Section 592600mE through Zesen Uul Looking West.	. 24
Figure 8.	Schematic Geological Plan of Altan Tolgoi Showing Drilling	. 25
Figure 9	Cross Section 592500 E through Altan Tolgoi, Looking West	. 26
Figure 10	Cross Section 592250 E Through Tsagaan Sudal, Looking West	. 27
Figure 11	Long Section through Kharmagtai Looking West Showing Mineralisation Wireframes and Targets	. 29
	List of Tables	
Table 1. I	Details of Kharmagtai Project Licence	. 15
Table 2. I	Kharmagtai Licence Boundary Coordinates.	. 15
Table 3. S	Summary of Exploration History for Kharmagtai Licence.	. 16
Table 4. I	Charmagtai Mineral Resources, August 2005 (internal IMMI).	. 17
Table 5. I	Kharmagtai Mineral Resources, 2007 (internal IMMI), CuEq cut-off 0.3%	. 18
Table 6. I	Kharmagtai Mineral Resources, December 2012, AMC	. 19
Table 7. I	Mongolian Government Surtax Royalty Rates for Copper and Gold	. 30
Table 8. 9	Summary of Comparable Transactions	. 36
Table 9. I	Exploration Expenditure for Kharmagtai Licence by Phase	. 37
Table 10.	Kilburn Geoscience Rating Assessment Criteria	. 38
Table 11.	Kilburn Geoscience Ratings For Kharmagtai.	. 39
Table 12.	Summary of Valuations, Kharmagtai Project.	. 39

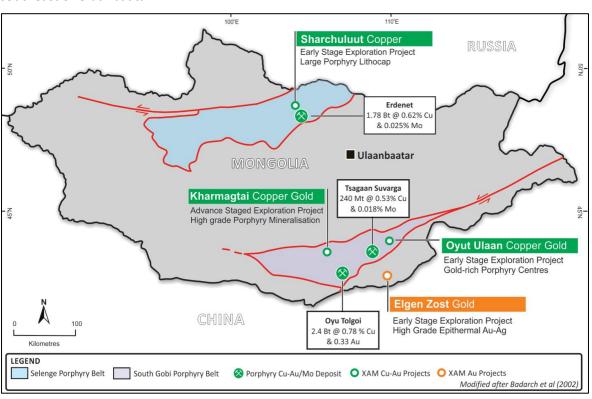


#### 1 SUMMARY

This report is an independent technical review prepared at the request of Grant Thornton Australia to provide an opinion as to the present value of the Kharmagtai exploration project owned 100% by Oyut Ulaan LLC. Grant Thornton Australia has been engaged by Xanadu Mines Ltd ("Xanadu") to prepare an Independent Experts Report ("IER") in relation to Xanadu's acquisition of a 90% interest in Oyut Ulaan LLC from a subsidiary of Turquoise Hill Resources Ltd.

The Kharmagtai Mining Licence MV-17387A covers approximately 66 km<sup>2</sup>. It is currently held by Oyut Ulaan LLC, which is 90% owned by THR Oyu Tolgoi Ltd, with the remaining 10% owned by Quincux Ltd.

The Kharmagtai project is located within the South Gobi porphyry copper province, which hosts most of the known porphyry deposits in the South Gobi region of Mongolia, including the giant Oyu Tolgoi copper-gold operations (120 km south), the Tsagaan Suvarga porphyry copper-molybdenum development (170 km east) and Xanadu's Oyut Ulaan porphyry copper-gold exploration project (260 km northeast). The project is located within the Omnogovi Province, approximately 420 km southeast of Ulaanbaatar.



At the request of Mr Andrea de Cian of Grant Thornton Corporate Finance Pty Ltd ("GT") Mining Associates Pty Ltd ("MA") was commissioned in February 2014 to prepare an Independent Technical Report for inclusion in an Independent Expert's Report to accompany a Notice of Meeting in relation to the proposed acquisition of a 90% interest in Oyut Ulaan LLC ("OU") which in turn is the 100% owner of the Kharmagtai Mining Licence registed in Mongolia (the "Project").

The scope of this work is to conduct an independent geological and valuation assessment of the fair market value of the Project.

MA has conducted the technical review and valuation assessment in accordance with the VALMIN code. MA is providing the technical review and valuation report to GT to assist in evaluating whether the Proposed Transaction is fair and reasonable to the shareholders of Xanadu. This Technical Report



will be included in the Independent Expert's Report to accompany a Notice of Meeting which will be circulated to the shareholders of Xanadu.

Kharmagtai is an advanced stage porphyry copper-gold exploration project with significant defined mineralisation and substantial potential. Multiple gold-rich porphyry copper centres and tourmaline breccia pipes are associated with the Kharmagtai Igneous Complex, a Lower Carboniferous age suite of dioritic intrusive rocks. Extensive exploration from 2002-2012, including geochemistry, geophysics, trenching and diamond drilling, defined three main zones of mineralisation at Altan Tolgoi, Tsgaaan Sudal and Zesen Uul.

Xanadu reviewed all previous exploration data and completed a geological model covering Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects, which resulted in definition of an initial Exploration Target of between 250 Mt to 400 Mt at an average grade of 0.25 % to 0.30 % Cu and 0.25 g/t to 0.30 g/t Au. Contained within this is a higher grade target zone of 50 Mt to 80 Mt at an average grade of 0.4 % to 0.5 % Cu and 0.6 g/t to 0.8 g/t Au.

The potential quantity and grade of the Exploration Target is conceptual in nature. Historic mineral resource estimates summarised in section 5.2 have not been publicly reported in compliance with the JORC 2012 Code and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

MA considers the value of 100% of the Kharmagtai project to be in the range USD9 M to USD29 M (AUD10 M to AUD32 M) with a preferred value of USD15 M (AUD16.5 M), as summarised in the table below. Value was determined using the Market Approach of recent comparable transactions and an Empirical Yardstick methodology. A Cost Approach using multiples of past exploration expenditure was also utilised to confirm the Market and Yardstick valuation. The preferred value reflects the advanced nature of the project, the amount of exploration work undertaken, the exploration potential and its location in relationship to developing infrastructure.

#### **Summary of Valuation**

Project	Market Approach			pirical roach		ost oach		Preferred	
	Comparable Transactions		Yardsti	ck t/Cueq	Expenditure				
	Low High		Low	High	Low	High	Low	Preferred	High
	USDM	USDM	USDM	USDM	USDM	USDM	USDM	USDM	USDM
Kharmagtai	\$16.7	\$19	\$9	\$17	\$14	\$29	\$9	\$15	\$29

MA has reviewed Xanadu's plan for the first year of work following acquisition of the project. 15,000-20,000 m of drilling is proposed to further define the initial Exploration Target and provide data for an initial Resource Estimate. MA considers that the amount budgeted and the proposed timeframes are reasonable for a project of this size and mineralisation style.

Andrew J Vigar Brisbane, Australia 25 March 2014

IUO BSN IBUOSIBO IO

25 March 2014

## 2 INTRODUCTION AND TERMS OF REFERENCE

#### 2.1 COMMISSIONING ENTITY AND SCOPE

At the request of Mr Andrea de Cian of Grant Thornton Corporate Finance Pty Ltd ("GT") Mining Associates Pty Ltd ("MA") was commissioned in February 2014 to prepare an Independent Technical Report for inclusion in an Independent Expert's Report to accompany a Notice of Meeting in relation to the proposed acquisition of a 90% interest in Oyut Ulaan LLC ("OU") which in turn is the 100% owner of the Kharmagtai Mining Licence registed in Mongolia (the "Project").

MA has conducted the technical review and valuation assessment in accordance with the VALMIN code. MA is providing the technical review and valuation report to GT to assist in evaluating whether the Proposed Transaction is fair and reasonable to the shareholders of Xanadu. This Technical Report will be included in the Independent Expert's Report to accompany a Notice of Meeting which will be carried to the shareholders of Xanadu.

The scope of the Valuation included the following:

- Review of the Kharmagtai Project, including but not limited to historical exploration expenditure, prospectivity, resources, exploration targets and good standing of the tenements.
- Assessment of the market value of the Project based on valuation methodologies appropriate for an early stage asset.
- Report to be prepared in accordance with the VALMIN Code and for the specific purpose of assisting Grant Thornton in the preparation of an Independent Experts Report.

MA was not requested to comment on the Fairness or Reasonableness of any vendor or promoter considerations, and therefore no opinion on these matters has been offered.

# 2.2 VALUATION MANDATE

MA was requested to provide an Independent Valuation of the Kharmagtai project in Mongolia, comprising Mining Licence MV-17387A, held by Oyut Ulaan LLC.

#### 2.3 PURPOSE

Grant Thornton intends that this report be used as part of an Independent Expert's Report to accompany a Notice of Meeting which will be carried to the shareholders of Xanadu.

#### 2.4 VALUATION DATE

All time-sensitive data used in this Valuation, including metal prices, exchange rates, cost-of-living indices etc. were taken as at 5pm Sydney time on Friday, 14th February 2014. Accordingly, this valuation is valid as of 14th February 2014 and refers to the writer's opinion of the value of the Projects at this date.

This valuation can be expected to change over time having regard to political, economic, market and legal factors. The valuation can also vary due to the success or otherwise of any mineral exploration that is conducted either on the properties concerned or by other explorers on prospects in the near environs. The valuation could also be affected by the consideration of other exploration data, not in the public domain, affecting the properties which have not been made available to the author.



#### 2.5 QUALIFIED VALUATOR AND QUALIFIED PERSON

This Valuation was prepared by Mr Andrew Vigar. Mr Vigar has no direct or indirect interest in the properties which are the subject of this Valuation, nor does he hold, directly or indirectly, any shares in Xanadu or any associated company, or any direct interest in any mineral tenements in Mongolia.

The technical review and valuation of the Exploration Projects was conducted by Mr Andrew Vigar. Mr Vigar has sufficient experience which is relevant to the porphyry copper-gold style of mineralisation and deposits under consideration and to their valuation 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' (Australia) and is a Qualified Person as defined in NI43-101 (Canada). He is a Fellow of The Australasian Institute of Mining and Metallurgy (Melbourne) and a Member of the Society of Economic Geologists (Denver). Mr Vigar is employed by Mining Associates Pty Ltd of Brisbane, Australia.

#### 2.6 DEFINITION OF VALUATION TYPES

The three generally accepted Valuation approaches under VALMIN are:

- Income Approach.
- Market Approach.
- Cost Approach.

The *Income Approach* is based on the principle of anticipation of benefits and includes all methods that are based on the income or cash flow generation potential of the Mineral Property. This method provides an indication of the value of a property with identified reserves. It utilises an economic model based upon known resources, capital and operating costs, commodity prices and a discount for risk estimated to be inherent in the project. Alternatively a value can be assigned on a royalty basis commensurate with the in situ contained metal value. The Exploration Projects do not contain mineral reserves that meet the standards of the JORC 2012 Code so the Income Approach is not appropriate for this project.

The *Market Approach* is based primarily on the principle of substitution and is also called the Sales Comparison Approach. The Mineral Property being valued is compared with the transaction value of similar Mineral Properties, transacted in an open market. Methods include comparable transactions and option or farm-in agreement terms analysis. The terms of a proposed joint venture agreement may be used to provide a market value based upon the amount an incoming partner is prepared to spend to earn an interest in part or all of the property. This pre-supposes some form of subjectivity on the part of the incoming party when grass roots properties are involved.

The *Cost Approach* is based on the principle of contribution to value. The appraised value method is one commonly used method where exploration expenditures are analysed for their contribution to the exploration potential of the Mineral Property. The multiple of exploration expenditure method ('MEE') is used whereby a subjective factor (also called the prospectivity enhancement multiplier or 'PEM') is based on previous expenditure on a tenement with or without future committed exploration expenditure and is used to establish a base value from which the effectiveness of exploration can be assessed. Where exploration has produced documented positive results a MEE multiplier can be selected that takes into account the valuer's judgment of the prospectivity of the tenement and the value of the database. MEE factors can typically range from 0 to 3.0 and occasionally up to 5.0 applied to previous exploration expenditure to derive a dollar value.

The Kilburn Geological Engineering/Geoscience Method is a rating method that values a project based on an assessment of its technical attributes to define prospectivity. A basic acquisition cost



('BAC') is determined, which represents the baseline costs of applying for and maintaining a tenement for a period of 12 months. Four key technical factors are then assessed and assigned a numeric value, each of which enhance, downgrade or have no impact on the value of the property. The factors are then applied serially to the BAC of each tenement in order to derive a value for the property. The factors used are: off-property attributes, on-property attributes, anomalies and geology. A fifth factor that may be applied is the current state of the market. The Kilburn method is highly subjective since it relies on technical considerations and the opinion of the valuer, it can serve as a useful validation of the Market and Cost approaches.

Empirical Methods can also be employed, which involve determining a market value according to the independent expert's knowledge of the particular property. This can include a discount applied to values arrived at by considering conceptual target models for the area. The market value may also be rated in terms of a dollar value per unit area or dollar value per unit of resource in the ground. This includes the range of values that can be estimated for an exploration property based on current market prices for equivalent properties, existing or previous joint venture and sale agreements, the geological potential of the properties, regarding possible potential resources, and the probability of present value being derived from individual recognised areas of mineralisation. This method is termed a "Yardstick" or a "Real Estate" approach. As with the Kilburn method, this approach is generally considered to highly subjective and is not normally utilised by MA. However, in the case of Kharmagtai there are historic non-compliant resource estimates that have been used to derive an Exploration Target that provides a reasonable indication of expected in situ resources. MA decided to utilise the Yardstick method based on a value per tonne of contained Cu equivalent metal in resources as a means of verifying Market Approach value.

MA has adopted the Market Approach, Empirical (Yardstick) Approach and the Cost Approach as the principal bases for the exploration properties included in this Valuation. The Kilburn Geoscience Method value was also included for completeness.

Valuation methodology of mineral properties is exceptionally subjective. If an economic reserve or resource is subsequently identified then there is likely to be a substantial increase in the Project's value and this valuation will be dramatically low relative to any later valuations. Alternatively, if further exploration is unsuccessful it is likely that the Project's value will decrease and this valuation will be higher than later valuations.

Values obtained are estimates of the amount of money, or cash equivalent, which would be likely to change hands between a willing buyer and a willing seller in an arms-length transaction, wherein each party had acted knowledgeably, prudently and without compulsion. This is the required basis for the estimation to be in accordance with the provisions of VALMIN.

There are a number of generally accepted procedures for establishing the value of mineral properties with the method employed depending upon the circumstances of the property. When relevant, MA uses the appropriate methods to enable a balanced analysis. Values are presented as a range and the preferred value is identified.

The readers should therefore form their own opinion as to the reasonableness of the assumptions made and the consequent likelihood of the values being achieved.

# 2.7 OTHER DEFINITIONS USED IN THE REPORT

**Commissioning Entity** means the organization, company or person commissioning a Valuation.

Competence or Competent means having relevant qualifications and relevant experience.

*Current* means current with respect to, and relative to, the Valuation Date.



**Data Verification** means the process of confirming that data has been generated with appropriate procedures, has been accurately transcribed from the original source and is suitable to be used.

**Development Property** means a Mineral Property that is being prepared for mineral production and for which economic viability has been demonstrated by a Feasibility Study or Prefeasibility Study and includes a Mineral Property which has a Current positive Feasibility Study or Prefeasibility Study but which is not yet financed or under construction.

**Exploration Property** means a Mineral Property that has been acquired, or is being explored, for mineral deposits but for which economic viability has not been demonstrated.

**Fair Market Value** means the highest price, expressed in terms of money or money's worth, obtainable in an open and unrestricted market between knowledgeable, informed and prudent parties, acting at arm's length, neither party being under any compulsion to transact.

**Feasibility Study** means a comprehensive study of a deposit in which all geological, engineering, operating, economic and other relevant factors are considered in sufficient detail that it could reasonably serve as the basis for a final decision by a financial institution to finance the development of the deposit for mineral production.

**Guideline** means a best practices recommendation, which, while not mandatory in the Valuation of Mineral Properties, is highly recommended.

Independence or Independent means that, other than professional fees and disbursements received or to be received in connection with the Valuation concerned, the Qualified Valuator or Qualified Person (as the case requires) has no pecuniary or beneficial (present or contingent) interest in any of the Mineral Properties being valued, nor has any association with the Commissioning Entity or any holder(s) of any rights in Mineral Properties which are the subject of the Valuation, which is likely to create an apprehension of bias. The concepts of "Independence" and "Independent" are questions of fact. For example, where a Qualified Valuator's fees depend in whole or in part on an understanding or arrangement that an incentive will be paid based on a certain value being obtained, such Qualified Valuator is not Independent.

**Materiality and Material** refer to data or information which contribute to the determination of the Mineral Property value, such that the inclusion or omission of such data or information might result in the reader of a Valuation Report coming to a substantially different conclusion as to the value of the Mineral Property. Material data and information are those which would reasonably be required to make an informed assessment of the value of the subject Mineral Property.

Mineral Property means any right, title or interest to property held or acquired in connection with the exploration, development, extraction or processing of minerals which may be located on or under the surface of such property, together with all fixed plant, equipment, and infrastructure owned or acquired for the exploration, development, extraction and processing of minerals in connection with such properties. Such properties shall include, but not be limited to, real property, unpatented mining claims, prospecting permits, prospecting licences, reconnaissance permits, reconnaissance licences, exploration permits, exploration licences, development permits, development licences, mining licences, mining leases, leasehold patents, crown grants, licences of occupation, patented mining claims, and royalty interests

*Mineral Reserves and Mineral Resources.* The terms Mineral Reserve, Proven Mineral Reserve, Probable Mineral Reserve, Mineral Resource, Measured Mineral Resource, Indicated Mineral Resource, and Inferred Mineral Resource and their usage have the meaning ascribed by the JORC Code (2004).



IUO BSD | BUOSIBQ J

Mineral Resource Property means a Mineral Property which contains a Mineral Resource that has not been demonstrated to be economically viable by a Feasibility Study or Prefeasibility Study. Mineral Resource Properties may include past producing mines, mines temporarily closed or on care-and-maintenance status, advanced exploration properties, projects with Prefeasibility or Feasibility Studies in progress, and properties with Mineral Resources which need improved circumstances to be economically viable.

**Prefeasibility Study and Preliminary Feasibility Study** mean a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established, and which, if an effective method of mineral processing has been determined, includes a financial analysis based on reasonable assumptions of technical, engineering, operating, economic factors and the assessment of other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the Mineral Resource may be classified as a Mineral Reserve. A Prefeasibility Study is at a lower confidence level than a Feasibility Study.

**Preliminary Assessment** means a preliminary economic study by a Qualified Person that includes Inferred Mineral Resources. The Preliminary Assessment must include a statement that the Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, outlines the basis for the Preliminary Assessment and any qualifications and assumptions made, and specifies that there is no certainty that the Preliminary Assessment will be realized.

**Production Property** is a Mineral Property with an operating mine, with or without processing plant, which has been fully commissioned and is in production.

**Professional Association** is a self-regulatory organization of engineers, geoscientists or both engineers and geoscientists that (a) has been given authority or recognition by law; (b) admits members primarily on the basis of their academic qualifications and experience; (c) requires compliance with the professional standards of competence and the code of ethics established by the organization; and (d) has disciplinary powers, including the power to suspend or expel a member.

**Qualified Person** is an individual who (a) is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operations or mineral project assessment, or any combination of these; (b) has experience relevant to the subject matter of the mineral project and the Technical Report; and (c) is a member in good standing of a Professional Association

**Qualified Valuator** is an individual who (a) is a professional with demonstrated extensive experience in the Valuation of Mineral Properties, (b) has experience relevant to the subject Mineral Property or has relied on a Current Technical Report on the subject Mineral Property by a Qualified Person, and (c) is regulated by or is a member in good standing of a Professional Association or a Self-Regulatory Professional Organization.

**Reasonableness**, in reference to the Valuation of a Mineral Property, means that other appropriately qualified and experienced valuators with access to the same information would value the property at approximately the same range. A Reasonableness test serves to identify Valuations which may be out of step with industry standards and industry norms. It is not sufficient for a Qualified Valuator to determine that he or she personally believes the value determined is appropriate without satisfying an objective standard of proof.

Report Date means the date upon which the Valuation Report is signed and dated.

**Self-Regulatory Professional Organization** means a self-regulatory organization of professionals that (a) admits members or registers employees of members primarily on the basis of their educational



qualifications, knowledge and experience; (b) requires compliance with the professional standards of competence and code of ethics established by the organization; and (c) has disciplinary powers, including the power to suspend or expel a member or an employee of the member.

Standard means a general rule which is mandatory in the Valuation of Mineral Properties.

**Technical Report** means a report prepared, filed and certified in accordance with NI 43-101 and Form 43-101F1 Technical Report.

**Transparent** means that the Material data and information used in (or excluded from) the Valuation of a Mineral Property, the assumptions, the Valuation approaches and methods, and the Valuation itself must be set out clearly in the Valuation Report, along with the rationale for the choices and conclusions of the Qualified Valuator.

Valuation is the process of estimating or determining the value of a Mineral Property.

**Valuation Date** means the effective date of the Valuation, which may be different from the Report Date or from the cut-off date for the data used in the Valuation.

Valuation Report means a report prepared in accordance with the CIMVal Standards and Guidelines.

#### 2.8 INFORMATION USED

This report is based on technical data provided by Xanadu to MA. Xanadu provided open access to all the records necessary, in the opinion of MA, to enable a proper assessment of the project. Readers of this report must appreciate that there is an inherent risk of error in the acquisition, processing and interpretation of geological and geophysical data, and MA takes no responsibility for such errors.

Additional relevant material was acquired independently by MA from a variety of sources. The list of references at the end of this report lists the sources consulted. This material was used to expand on the information provided by Xanadu and, where appropriate, confirm or provide alternative assumptions to those made by Xanadu

# 2.9 SITE VISIT BY QUALIFIED PERSON

MA did not undertake a site visit to the Kharmagtai project. In MA's opinion, a site visit was not deemed necessary due to the Project still being at the exploration stage and the general lack of surface exposure of mineralisation.

# 3 COMPLIANCE WITH THE VALMIN CODE

This Valuation complies with the VALMIN Code (2005 Edition) in its entirety. The author has taken due note of Regulatory Guide ("RG") 111 "Content of Expert Reports" (October 2007 & March 2011) and RG 112 "Independence of Experts" (March 2011 update) promulgated by the Australian Securities and Investments Commission ("ASIC") and this report meets the guidelines set out in RG 111 and RG 112.

#### 4 PROPERTY DESCRIPTION

#### 4.1 LOCATION AND ACCESS

The Kharmagtai project is located in the Omnogovi soum (district) of Mongolia approximately 430 km south of the capital city, Ulaanbaatar, and 200 km north of the Chinese border (Figure 1). Access is possible by four-wheel drive along unpaved roads from regional airports at Dalanzadgad and Mandalgovi.



The project is near the major Tavan Tolgoi coal deposit and Oyu Tolgoi copper-gold deposit being developed by Turquoise Hill Resources Ltd, whose largest shareholder is Rio Tinto, and MA expects that access to infrastructure related to these projects will be negotiable.

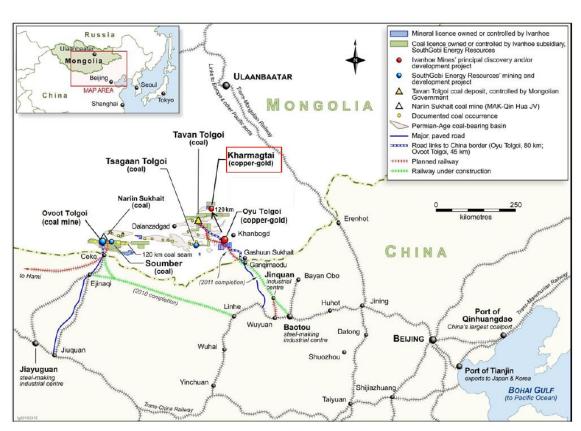


Figure 1. Project Location and Access. (Source: C Orrsich, 2012)

#### 4.2 PHYSIOGRAPHY

Kharmagtai lies on a low east-west trending rise within an area of generally very low relief in the northern part of the Gobi Desert. Minor outcropping bedrock is covered by a generally thin veneer of colluvium, with broad dry valleys situated to the north and south. Elevations on the licence range between 1260 m and 1360 m.

# 4.3 CLIMATE

Climate is typically continental, with hot, dry summers and very cold winters. Monthly precipitation is generally very low throughout the year, peaking in July and August to around 30 mm. Snow fall in winter is rare, usually less than 5 cm. Summer temperatures range between 10°C and 37°C, and winter between -34°C and -5°C.

#### 4.4 TENURE OWNERSHIP

The Kharmagtai project comprises one mining licence, MV-17387A, which is 100% owned by Oyut Ulaan LLC. Oyut Ulaan is in turn owned 90% by THR Oyu Tolgoi (a wholly owned subsidiary of Turquoise Hill Resources Limited), and 10% by Quincunx Ltd ("QGX"). Details of the Kharmagtai licence are given in Table 1 and Table 2, with a map of the licence area shown in Figure 2.



Table 1. Details of Kharmagtai Project Licence.

Licence ID	Name of area	Area (Hectares)	Owner	Issued
MV-017387	Kharmagtai	6647.05	Oyut Ulaan LLC	2013.09.23

**Table 2. Kharmagtai Licence Boundary Coordinates.** 

Point	Latitude (WGS84)	Longitude (WGS84)	Easting (UTM WGS84, Zone 48N)	Northing (UTM WGS84, Zone 48N)
1	44.070833	106.117778	589510.4	4880347.5
2	44.070833	106.241667	599431.3	4880489.6
3	44.010556	106.241667	599532.2	4873794.7
4	44.010556	106.117778	589601.2	4873652.6

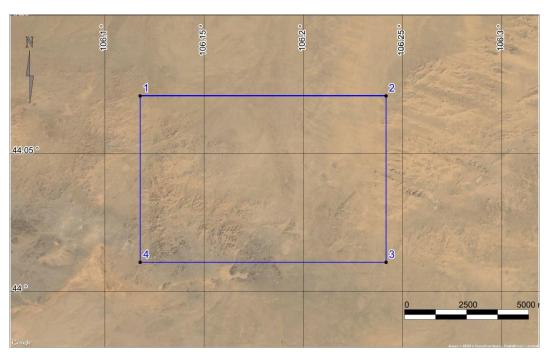


Figure 2. Kharmagtai Licence Map.

# **5 HISTORY OF EXPLORATION**

#### 5.1 DISCOVERY AND EXPLORATION HISTORY

Exploration at Kharmagtai commenced in the 1960s, with joint Russian-Mongolian teams undertaking regional assessment of the South Gobi. Discovery of outcropping mineralisation is credited to this work.

In 1995, QGX Ltd acquired exploration rights and from 1995-1998 undertook rock chip sampling, mapping, geophysics and drilling. This work defined mineralised zones at Altan Tolgoi and Zesen Uul.

Ivanhoe Mines Mongolia Inc (IMMI) opted into the Kharmagtai project in 2002 as part of a package including two other licences. From 2002 to 2006, IMMI undertook an aggressive campaign of geophysics, mapping and drilling, with internal resource estimates completed in 2005 and 2007. In 2007, the project was handed to Asia Gold, a wholly owned subsidiary of IMMI. Between 2007 and 2011, Asia Gold undertook further drilling to follow up possible resource extensions and secondary targets on the licences.

A full summary of exploration carried out on the licence is given in Table 3.



Table 3. Summary of Exploration History for Kharmagtai Licence.

Company / organisation	Period	Description of Work Completed
Joint Eastern Block – Mongolian- Russian JV	1960-1975	Regional geological mapping, geochemistry, ground magnetics, induced polarisation (chargeability and resistivity) and airborne magnetic/radiometric surveys  Diamond drilling (17 vertical holes)
Japan International Cooperation Agency	1991-1995	Regional reconnaissance, airborne magnetic & radiometric surveys.  Kharmagtai re-identified as an area of porphyry related alteration & mineralisation
QGX	1996-1998	Regional geological mapping Geochemistry (1500 rock-chip and 4000 soil samples) Trenching (19 km) Geophysics (240 km IP). Diamond drilling (5 holes; 1,060 m) - sediment-hosted Au mineralisation at Ovoot Khyar discovered Diamond drilling (19 shallow widely spaced holes) – defined widespread porphyry alteration and mineralisation Kharmagati.
Ivanhoe Mines Mongolia Inc (IMMI)	2001-2006	Detailed geological mapping Geochemistry (2960 rock chips)  119 trenches (65,636 km) Geophysics included gradient array IP (289 km2), ground magnetics (589 km2), ground gravity (39 km2) and aerial magnetics and aerial gravity.  RC drilling (208 holes; 27,747 m) Diamond drilling (172 holes; 54,269 m)  Drilling focused on testing and defining the Altan Tolgoi, Zesen Uul, Tsagaan Sudal, Chun, Burged and OV3 prospects.  Combined resource at Altan Tolgoi, Zesen Uul and Tsagaan Sudal of 174 Mt at 0.50 % Cueq (non-compliant)
Asia Gold (IMMI subsidiary)	2007-2011	Deep diamond drilling (5170.60 m) testing deeply seated geophysical anomalies;  Detailed 3D IP survey completed in 2011 and 19 diamond holes (15,345.30 m).

# 5.2 HISTORIC MINERAL RESOURCE ESTIMATES

Three resource estimates have been carried out on the deposit, the first in 2005 by IMMI, again in 2007 by IMMI and lastly by AMC Consultants Pty Ltd ("AMC") in 2012. None of these resource estimates were publicly released, and neither IMMI estimates comply with the current Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC 2012 Code"). In view of the fact that these resource estimates are not publicly available, MA does not consider that they can be directly used to value the Project. A summary of the estimates is included however, to provide support to the definition of an Exploration Target for the licence.



#### 5.2.1 2005 - IMMI Internal

Neville Price of IMMI produced a resource estimate for internal use, based on the drilling completed to end August 2005. Results are shown in Table 4, which uses drill hole spacing ("D" in column 2 of the table) as a proxy for confidence of estimation. Total resources were 175 Mt grading 0.33% Cu and 0.32 g/t Au.

Table 4. Kharmagtai Mineral Resources, August 2005 (internal IMMI).

		Cut-off	Tonnes	gra	de
Miner	al Resource Category	Cueq (%)	1000's	Au (g/t)	Cu (%)
А	ltan Tolgoi North				
1st	D<50m	0.3	11,169	0.34	0.32
2nd	50m <d<75m< td=""><td>0.3</td><td>3,678</td><td>0.36</td><td>0.24</td></d<75m<>	0.3	3,678	0.36	0.24
3rd	75m <d<150m< td=""><td>0.3</td><td>2,532</td><td>0.27</td><td>0.25</td></d<150m<>	0.3	2,532	0.27	0.25
Alta	n Tolgoi South West				
1st D<50m		0.3	7,818	0.95	0.4
2nd	50m <d<75m< td=""><td>0.3</td><td>1,822</td><td>0.67</td><td>0.32</td></d<75m<>	0.3	1,822	0.67	0.32
3rd	75m <d<150m< td=""><td>0.3</td><td>1,414</td><td>0.44</td><td>0.35</td></d<150m<>	0.3	1,414	0.44	0.35
Alta	n Tolgoi South East				
1st	D<50m	0.3	11,222	0.37	0.44
2nd	50m <d<75m< td=""><td>0.3</td><td>9,382</td><td>0.37</td><td>0.43</td></d<75m<>	0.3	9,382	0.37	0.43
3rd	75m <d<150m< td=""><td>0.3</td><td>21,992</td><td>0.25</td><td>0.42</td></d<150m<>	0.3	21,992	0.25	0.42
	Tsagan Sudal				
1st	D<35m	0.3	32,741	0.25	0.28
2nd	35m <d<50m< td=""><td>0.3</td><td>25,143</td><td>0.26</td><td>0.27</td></d<50m<>	0.3	25,143	0.26	0.27
3rd	50m <d<75m< td=""><td>0.3</td><td>32,152</td><td>0.26</td><td>0.27</td></d<75m<>	0.3	32,152	0.26	0.27
	Zesen Uul				
1st	D<40m	0.3	9,835	0.52	0.46
2nd	40m <d<80m< td=""><td>0.3</td><td>2,574</td><td>0.19</td><td>0.33</td></d<80m<>	0.3	2,574	0.19	0.33
3rd	80m <d<120m< td=""><td>0.3</td><td>1,140</td><td>0.16</td><td>0.3</td></d<120m<>	0.3	1,140	0.16	0.3
	Total				
1st	-	0.3	72,785	0.39	0.35
2nd	-	0.3	42,599	0.3	0.31
3rd	-	0.3	59,230	0.26	0.33
	Total		174,614	0.32	0.33

#### 5.2.2 2007 - IMMI internal

In 2007, Neville Price re-estimated resources at Kharmagtai based on the large amount of drilling completed since the previous estimate in 2005. Resources were reported using more conventional categories in accordance with NI43-101 guidelines, as shown in Table 5. Total resources were estimated at 185 Mt with an average grade of 0.33 % Cu and 0.23 g/t Au. As with the 2005 estimate, no depth limit was placed on the resource that might constrain it to potential open-pittable material









Table 5. Kharmagtai Mineral Resources, 2007 (internal IMMI), CuEq cut-off 0.3%.

, ,			
Tonnes	Au	Cu	
1000's	g/t	%	
6,818	0.67	0.38	
20,637	0.40	0.30	
27,456	0.46	0.32	
30,055	0.50	0.43	
7,133	0.64	0.52	
2,811	0.28	0.34	
9,945	0.54	0.47	
635	0.16	0.24	
=	=	=	
=	=	=	
-	-	-	
116,996	0.21	0.29	
13,952	0.66	0.45	
23,449	0.35	0.31	
147,686	0.17	0.32	
18,5087	0.23	0.33	
	1000's  6,818 20,637 27,456 30,055  7,133 2,811 9,945 635  116,996  13,952 23,449 147,686	1000's g/t  6,818 0.67  20,637 0.40  27,456 0.46  30,055 0.50  7,133 0.64  2,811 0.28  9,945 0.54  635 0.16  116,996 0.21  13,952 0.66  23,449 0.35  147,686 0.17	

# 5.2.3 2012 – AMC Independent Resource Estimate

In late 2012, AMC undertook an independent Mineral Resource Estimate and produced a Technical Report on behalf of Ivanhoe. The Technical Report was never made public, but was prepared in accordance with NI43-101 guidelines. Results are shown in Table 6. Total resources were 133 Mt with an average grade of 0.36 % Cu and 0.37 g/t Au.



Table 6. Kharmagtai Mineral Resources, December 2012, AMC.

Cut off 0.3% Cu Eq > 1000m RL, 0.6% <1000m RL							
	Tonnes	Au	Cu				
	1000's	g/t	%				
Altan Tolgoi							
Measured	29,463	0.58	0.45				
Indicated	15,291	0.49	0.48				
Measured + Indicated	44,753	0.55	0.46				
Inferred	4,640	0.40	0.46				
	Zesen Uul						
Measured	4,109	0.97	0.72				
Indicated	2,302	0.28	0.42				
Measured + Indicated	6,412	0.72	0.61				
Inferred	137	0.61	0.23				
	Tsagaan Sud	al					
Measured	-	-	-				
Indicated	1	-	-				
Measured + Indicated	-	-	-				
Inferred	77,155	0.23	0.28				
TOTAL							
Measured	33,572	0.63	0.48				
Indicated	17,593	0.46	0.48				
Inferred	81,933	0.24	0.29				
Total	133,098	0.37	0.36				

Figure 3 shows a comparison of the three resource estimates by category, and highlights the apparent decrease in resource tonnes from 2007 to 2012. MA notes that the decrease is attributable to the removal of a large portion of the 2007 IMMI resource at Tsagaan Sudal from the 2012 AMC estimate. This reflects differing opinions on the confidence in classification rather than a change in the broad boundaries of defined mineralisation from 2007 to 2012. MA also notes that the AMC estimate did not include some deep drill holes in Tsagaan Sudal, which were completed after their reporting cut-off date of 1 November 2011.

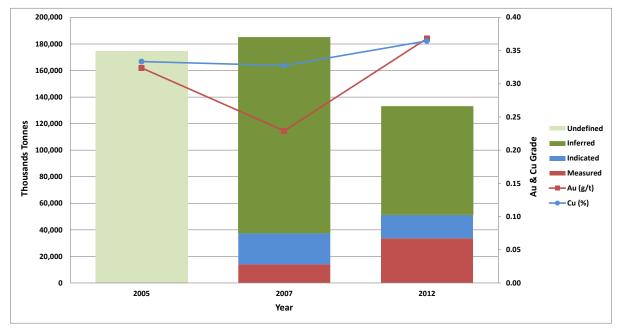


Figure 3. Comparison of Kharmagtai Total Resource Estimates by Classification.

# **6 GEOLOGY AND MINERALISATION**

#### 6.1 REGIONAL GEOLOGY

Regional geology is described in various reports by IMMI and is summarised below:

"Kharmagtai Cu-Au mineral deposits occur within the southern Mongolia part of the Transbaikal-Mongolian orogenic belt. The deposits are located within the Gurvansayhan island arc terrane of the southern Mongolian orogenic belt, consisting of volcanic and sedimentary rocks ranging from Ordovician to Carboniferous in age. During the Ordovician to Silurian the area occupied an oceanic setting receiving mature sedimentation from a continental source or the eroded roots of an arc to the north. The Devonian to Carboniferous periods were dominated by island arc volcanism. The Paleo Asian Ocean closed with arc collision during the Carboniferous. All terranes were welded by late Carboniferous to Permian continental granitic plutons indicating that amalgamation took place not later than the Carboniferous time. Porphyry style mineral deposits hosted within the Gurvansaikhan terrane formed in two distinct tectonic settings, corresponding to:

- 1. Late Devonian deposits formed early in the history of the island arc terrane (e.g. Oyu Tolgoi, Tsagaan Suvarga), and
- 2. Early Carboniferous deposits formed in a collision-subduction setting (e.g. Kharmagtai, Shuteen and Oyut Ulaan)"

An overview of the regional tectonic setting is shown in Figure 4.



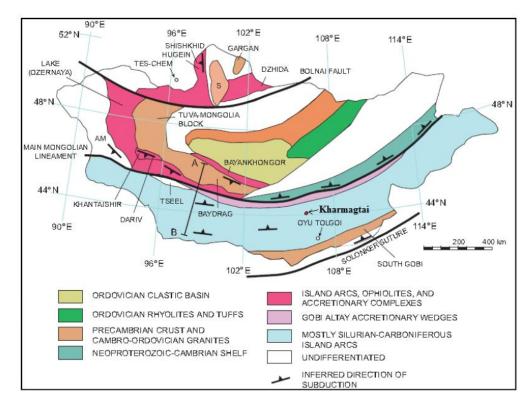


Figure 4. Regional Geology and Tectonic Setting of Kharmagtai.

#### 6.2 LOCAL GEOLOGY

Surface outcrop is limited so much of the understanding of the local geology is based on drilling data and interpretation of geophysical data and is summarised from IMMI reports.

# 6.2.1 Lithology

Mineralisation is associated with the Kharmagatai Igneous Complex ("KIC"), a group of Late Carboniferous (approx. 297 Ma) age high-K calc-alkaline intrusions associated with island arc formation. Rocks of the KIC are largely dioritic in composition, comprising diorite, quartz diorite, monzodiorite, minor granodiorite and syenite. The KIC is sub-elliptical in plan view, 6 km long and 2 km wide trending east-west, extending from Tsagaan Sudal in the west to Chun in the east (Figure 5). The KIC was emplaced into a volcano-sedimentary succession of ash siltstone, volcaniclastic sandstone, chert, andesite lava and andesitic volcanic breccia of Devonian-Lower Carboniferous age.



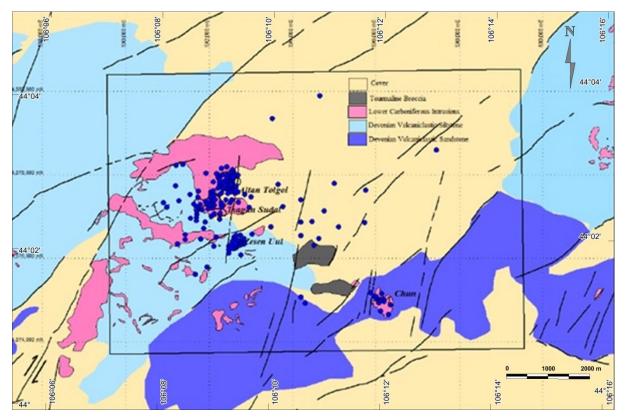


Figure 5. Kharmagtai Project Local Geology.

Drill hole collars shown in blue.

#### 6.2.2 Structure

Northeast to east-northeast and northwest to west-northwest structures dominate regional to prospect scale satellite imagery and magnetics interpretations. Regional structural history appears to involve complex re-activation of both sets of structures at various times. Post-mineralisation movement occurred on both sets of structures: apparent sinistral strike-slip movement on northeast structures and dextral movement on northwest structures.

Mineralisation trends broadly from west-southwest at Zesen Uul to west or west-northwest at Altan Tolgoi and Tsagaan Sudal. Mapped zones of quartz-tourmaline breccias also follow the same broad trends. These structures are recognisable in ground magnetics images and correspond with regional fault and fracture array orientations described from satellite image interpretation (Figure 6, Baker, 2004).

A report by an external consultant (Baker, 2004) proposed that igneous centres associated with mineralisation were emplaced into west to northwest trending transtensional zones developed during sinistral movement on northeast trending structures. Northeast trending structures were reactivated as normal dip-slip faults. Late dip slip movement was inferred from the juxtaposition of different structural levels across the northeast faults.

Baker's (2004) interpretation of sinistral strike slip movement on northeast faults controlling emplacement of the KIC is inconsistent with the general east-west trend of intrusives and mineralisation. East-west trending dilation implies transtension during dextral movement on northeast faults. Further work is required to constrain the regional structural setting and local structural controls on mineralisation.

25 March 2014



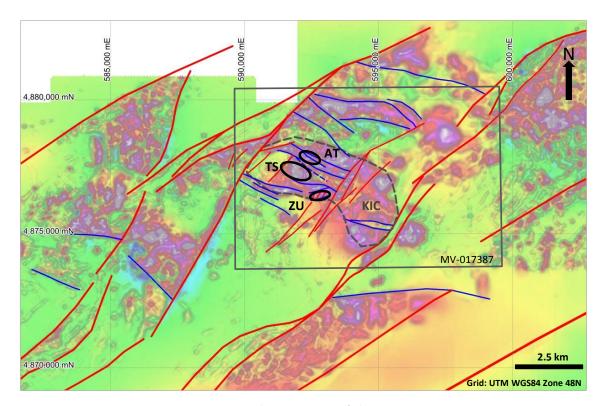


Figure 6. Structural Interpretation of Kharmagtai Area.

Red lines: northeast structures, blue line: east-west structures, KIC: approximate limits of Kharmagtai Igneous Complex, AT: Altain Tolgoi, TS: Tsagaan Sudal, ZU: Zesen Uul. Background: Reduced to pole magnetics (Source: MA)

#### 6.3 MINERALISATION

Mineralisation at Kharmagtai consists of early porphyry-style veins and stockworks overprinted by later tourmaline breccias. Alteration generally grades from biotite-magnetite-albite to chlorite-epidote-magnetite and then to quartz-sericite. Alteration assemblages are complex, reflecting the multiphase nature of the mineralising system. Porphyry-style veins carry quartz, chalcopyrite, pyrite and magnetite with varying amounts of gold. Tourmaline breccias are locally mineralised with good copper grades, but generally cross-cut and dilute porphyry mineralisation.

Three main mineralised zones have been recognised at Kharmagtai and are briefly described in the following sections: Zesen Uul, Altan Tolgoi and Tsagaan Sudal.

#### 6.3.1 Zesen Uul

Interpreted as a single, irregular shaped, east-west trending body of intense quartz-sulphide vein stockwork mineralisation 350 m long and 100 m wide in plan view. Initial potassic alteration and veining was overprinted by phyllic-propylitic, which may indicate thermal collapse of an initial high temperature system (Kirwin, Wilson, Turmagnai, & Wolfe, 2005). Mineralisation strikes east-northeast and dips moderately-steeply to the south (55°-60°). A core of higher grade mineralisation (1-3% Cu and 1-7 g/t Au) exists, plunging to the southwest.

Mineralisation appears to die out very abruptly along strike in both directions and down-dip at shallow depths, although MA believes the body may have a plunge extension to the south west that is untested. Mineralisation is stated as being associated with a monzodiorite/microdiorite body that



intruded volcaniclastic siltstone/sandstone. Although the host diorite is logged as continuing downdip and along strike, it is only sporadically mineralised.

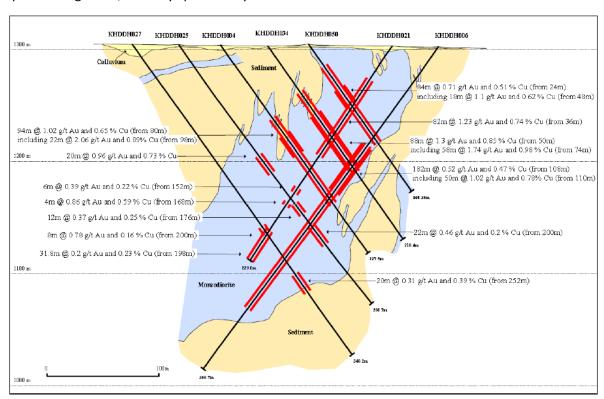


Figure 7: Cross Section 592600mE through Zesen Uul Looking West. (source IMMI, 2012)

# 6.3.2 Altan Tolgoi

Altan Tolgoi (AT) was the focus of exploration and also a large amount of research style work on geology, mineralisation and alteration. Two main mineralised zones were recognised, northern and southern zones (NSZ and SSZ; Figure 8, Figure 9), separated by a largely barren area. Mineralisation strikes west-northwest to northwest and dips steeply south in both zones. The NSZ is a cylindrical zone plunging steeply southeast 250 m by 150 m in plan view, with grades 0.1% - 0.5% Cu and  $0.3\ g/t - 0.5\ g/t$  Au. The SSZ is tabular in shape, 600 m long and 20-60 m wide and is offset by a northwest trending fault and coincident andesite dyke. Grades in the SSZ vary from 0.3% to 1% Cu and  $0.6\ g/t$  Au to >5 g/t Au. High gold grades occur in a narrow central core.

Tourmaline breccia bodies occur within Altan Tolgoi, and are mineralised in parts. Wolfe (2004) postulated that the tourmaline breccias may coalesce at depth and a series of drill holes were proposed to test the idea. He also considered good regional potential along strike of the main controlling structure, citing analogies to North Parkes.

Four holes were drilled in late 2011 targeted at the deep extents of Altan Tolgoi. Two holes also tested the northwest and southeast extents of mineralisation and were based on geophysical (IP and magnetics) targets. Holes targeting depth extents intersected tourmaline breccias, but only weak mineralisation (lower grades than up-dip). However, these holes may not have considered a plunge component to mineralisation at depth in a similar fashion to ZU. Along-strike drilling intersected some narrow zones of weak Cu-Au mineralisation, but results were not encouraging enough to warrant follow-up drilling.



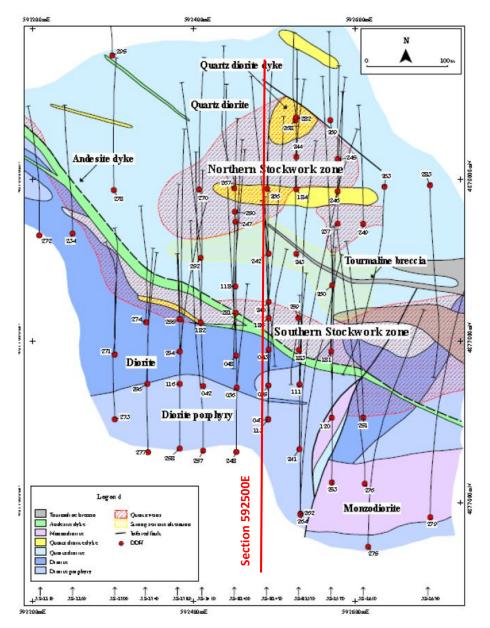


Figure 8. Schematic Geological Plan of Altan Tolgoi Showing Drilling.

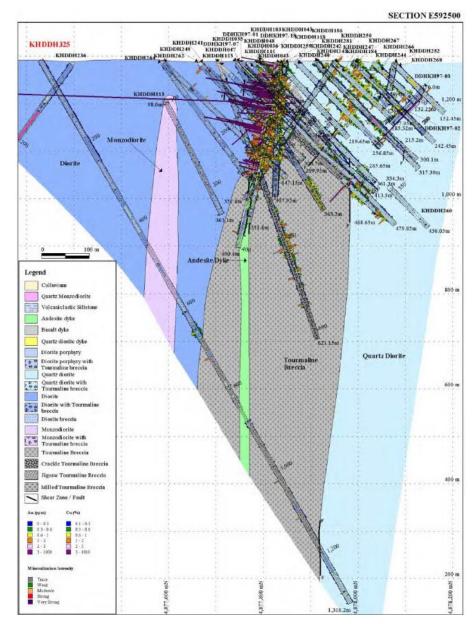


Figure 9 Cross Section 592500 E through Altan Tolgoi, Looking West.

#### 6.3.3 Tsagaan Sudal

Located 300 m south of Altan Tolgoi, mineralisation at Tsagaan Sudal (TS) occurs as stockworks and breccia bodies hosted by diorite porphyry over an area of 500 m by 700 m. Grades at TS are lower than AT and ZU ( $0.3\,\%$  -  $1\,\%$  Cu and  $0.4\,g/t$  -  $1.3\,g/t$  Au). The main host at TS is described as porphyritic diorite that intruded volcaniclastic siltstone, strongly altered with magnetite largely converted to hematite (Wolfe, Carew, & Ketaren, 2004). Fine-grained late-stage diorite dykes crosscut mineralisation. TS is the least well drilled of the three deposits, with the most potential for extending mineralisation through further drilling.

Drilling at TS was more widely spaced than the other deposits, with collars on an approximate 100 m grid spacing with inconsistent drill directions. TS has received less attention due to generally lower grades to date. However, two holes drilled in 2011 beneath the defined resource intersected wide



zones of mineralisation and the deposit remains open at depth and not adequately closed off along strike, especially to the east.

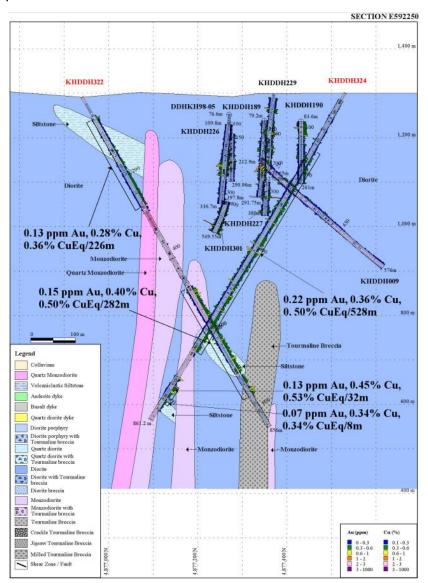


Figure 10 Cross Section 592250 E Through Tsagaan Sudal, Looking West.

#### 6.3.4 Summary

Three styles of mineralisation are seen within the project area, the first two being of immediate economic interest:

- 1. High grade: steeply dipping, structurally controlled breccia zones with high grades of gold (0.6 g/t 5.0 g/t) and copper (0.3 % 1.0 %), examples being AT South and ZU. Gold to copper ratio of 3:1 or higher;
- 2. Low-moderate grade: broader lower grade zones of more complex shapes associated with more typical porphyry style quartz veins and moderate grades of copper (0.2 % 0.6 %) and gold (0.3 g/t 0.5 g/t), like TS and AT North. Gold to copper ratio of about 1:1;



3. Tourmaline Breccia: as seen at depth and in the east of the area. This mineralisation is characterized by moderate grades (0.1 g/t - 0.3 g/t Au, 0.2 % to 0.5 % Cu) and gold to copper ratios around 1:2.

The three types are considered to be related to the same overall mineralisation system (which is large and complex in detail), although probably slightly different in age, with the higher grade zones being later.

#### 7 DEPOSIT TYPES

IUO BSM IBUOSIBÓ IO:

#### 7.1 GEOLOGICAL MODEL

The Kharmagtai deposits are porphyry copper-gold style, related to dioritic intrusive rocks of the Kharmagtai Igneous Complex. Porphyry mineralisation is overprinted by younger tourmaline breccia bodies, which are in parts also mineralised.

Porphyry copper-gold style deposits are formed from magmatic hydrothermal fluids associated with intermediate to felsic intrusive stocks in island and continental arc terranes. Quartz stockwork veining is typically associated with sulphides occurring within veinlets and as disseminations in the host rock. Alteration assemblages are zoned, but more complex overprinting occurs due to multiple intrusive phases and 'telescoping' of the system during tectonic uplift.

#### 8 EXPLORATION RESULTS AND POTENTIAL

The following was reported in the Xanadu press release of 3 February 2014:

"Xanadu has reviewed the historical drilling data and completed a geological model (Figure 11) which has resulted in an initial Exploration Target covering the Altan Tolgoi, Tsagaan Sudal and Zesen Uul prospects. Additional information used to define the Exploration Target included surface mapping, trenching and extensive geophysics.

An Exploration Target of between 250 to 400Mt at an average grade of 0.25 to 0.30% Cu & 0.25 to 0.30 g/t Au has been estimated for the Kharmagtai project. Contained within this target is a higher grade target of 50 to 80Mt at an average grade of 0.4 to 0.5% Cu & 0.6 to 0.8 g/t Au.

The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource under the JORC 2012 code and it is uncertain if further exploration will result in the estimation of a Mineral Resource."



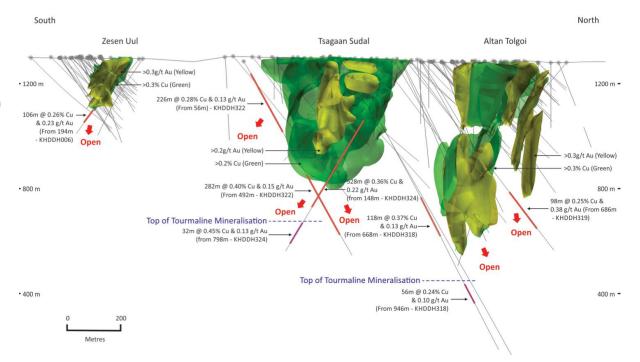


Figure 11 Long Section through Kharmagtai Looking West Showing Mineralisation Wireframes and Targets.

# 9 KEY ASSUMPTIONS, RISKS & LIMITATIONS

#### 9.1 ASSUMPTIONS

The Project has a long history of assessment and exploration. Some early historical work was not documented to the current standards demanded by modern disclosure requirements. Hence a judgement has had to be made as to the weighting given to each element of the data available.

#### 9.2 MATERIAL RISKS

The material risks faced by any future development of the Project are no different from those faced by other mining and processing operations in Mongolia. The location is remote without significant population nearby. However, significant power and transport infrastructure associated with nearby large mining projects is being developed.

#### 9.3 FINANCIAL RISKS

#### 9.3.1 Government royalties

Mongolia's mining ministry imposes a 5% royalty on all minerals other than coal that are sold, shipped for sale, or used. In 2010, the Mongolian parliament introduced a new surtax royalty, effective from 1 January 2011. Under the new two-tier system, a surtax royalty is imposed on the total sales value of 23 minerals in addition to the standard flat rate. The royalty amount varies depending on the mineral, its market price and the degree of processing. Surtax rates for copper and gold are shown in Table 7.



Table 7. Mongolian Government Surtax Royalty Rates for Copper and Gold.

Source: Ernst & Young Mongolia Mining and Tax Guide 2012/13

D.di. a wal	Huit of Massaura	Future Market	Surtax Royalty rates (%)				
Mineral	Unit of Measure	Price (USD)	Ore	Concentrate	Product		
		0-5000	0	0	0		
		5000-6000	22	11	1		
Connor	Tonne	6000-7000	24	12	2		
Copper	Tonne	7000-8000	26	13	3		
		8000-9000	28	14	4		
		9000 and above	30	15	5		
		0-900			0		
		900-1000			1		
Gold	Ounce	1000-1100			2		
Gold	Ounce	1000-1200			3		
		1200-1300			4		
		1300 and above			5		

# 9.3.2 Metal Price Volatility

The financial performance of any mine is heavily dependent on the price of the commodity produced, which is affected by many factors beyond the control of the mining company. The price of commodities as reported publicly is influenced significantly by numerous factors, including:

- 1. The worldwide balance of demand and supply.
- 2. Rates of global economic growth and trends in energy consumption, both of which correlate with demand for minerals.
- 3. Economic growth and political conditions in China, which has become the most rapidly-expanding minerals consumer in the world, and other major developing economies such as India.
- 4. The decline in availability of secondary sources of minerals, e.g. scrap copper.
- 5. Technical or regulatory problems could reduce mine supply.
- 6. Material owned by speculators and investors could temporarily flood the market.
- 7. Currency exchange fluctuations.

In addition, sustained low metal prices could:

- Reduce revenues as a result of production cutbacks due to curtailment of operations or temporary or permanent closure of mines or portions of deposits that have become uneconomical at the then prevailing copper prices.
- Delay or halt exploration or the development of new process technology or projects.
- Reduce funds available for exploration and the building of ore reserves.

# 9.3.3 Energy Costs

Energy represents a significant portion of the production costs of mining operations. If miners are unable to procure sufficient energy at reasonable prices in the future, it could adversely affect profits and cash flow.



#### 9.3.4 Environmental Risks

Exploration activities must be conducted in accordance with environmental protection obligations established in the Environmental Protection Law of Mongolia, the Law of Environmental Impact Assessment and the Minerals Law. All work undertaken by IMMI and Asia Gold met the requirements of Mongolian environmental protection laws. No unusual environmental risks have been noted in exploration reports pertaining to the Kharmagtai licence.

# 9.3.5 Permitting Risks

Mining operations and exploration activities are subject to extensive laws and regulations governing exploration, development, production, exports, taxes, labour standards, occupational health, waste disposal, protection and remediation of the environment, protection of endangered and protected species, mine safety, toxic substances and other matters. Mining also is subject to risks and liabilities associated with pollution of the environment and disposal of waste products occurring as a result of mineral exploration and production. Compliance with these laws and regulations imposes substantial costs and subjects mining companies to significant potential liabilities.

The laws and regulations that apply in Mongolia are complex and are continuously evolving. Costs associated with environmental and regulatory compliance have increased over time, and it is expected that these costs will continue to increase in the future. In addition, the laws and regulations that apply may change in ways that could otherwise have an adverse effect on operations or financial results. The costs of environmental obligations may exceed the reserves established for such liabilities.

Mining operations are subject to various stringent environmental laws and regulations related to improving or maintaining environmental quality. Environmental laws often require parties to pay for remedial action or to pay damages regardless of fault and may also often impose liability with respect to divested or terminated operations, even if the operations were terminated or divested many years ago.

# 10 VALUATION

The three generally accepted Valuation approaches are:

- Income Approach.
- Market Approach.
- Cost Approach.

The *Income Approach* is based on the principle of anticipation of benefits and includes all methods that are based on the income or cash flow generation potential of the Mineral Property, most commonly Discounted Cash Flow or DCF. This approach is not applicable to Kharmagtai as it does not contain measured resources or reserves that comply with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code") established by the Joint Ore Reserves Committee, and so a different approach is required for those Projects.

The primary methods used in this Valuation are the Market Approach, the Empirical Yardstick Approach and the Cost Approach.

The *Market Approach* is based primarily on the principle of substitution and is also called the Sales Comparison Approach. The Mineral Property being valued is compared with the transaction value of similar Mineral Properties, transacted in an open market. Methods include comparable transactions and option or farm-in agreement terms analysis.



The *Empirical Yardstick Approach* uses recent comparable transactions to derive a dollar value per unit of in situ resources, which is then applied to the property being valued. The method is normally considered highly subjective due to the need to choose a potential resource size. However, for Kharmagtai the defined Exploration Target is based on a considerable amount of exploration work and in MA's opinion provides a reasonable estimate of value.

The **Cost Approach** is based on the principle of contribution to value. The method is one commonly used where exploration expenditures are analysed for their contribution to the exploration potential of the Mineral Property.

# 10.1 CURRENCY AND EXCHANGE RATES

The currency used in this Valuation is the Australian dollar ("AUD\$"). For the purposes of comparing transactions for other projects, US dollars ("USD") are quoted in tables. The exchange rates utilized are the Monthly and Annual Noon Exchange Rate Averages published by the Reserve Bank of Australia (http://www.rba.gov.au/statistics/frequency/exchange-rates.html). The price index used is the historical Consumer Price Index published by the Reserve Bank of Australia (http://www.rba.gov.au/inflation/measures-cpi.html).

#### 10.2 DATABASE

The database used for the valuations comprises mainly public company announcements, annual reports, annual information forms, management discussions and analysis, news releases and statutory technical reports.

# 10.3 MARKET AND EMPIRICAL APPROACHES – COMPARABLE TRANSACTIONS, PORPHYRY COPPER PROJECTS

MA researched transactions that occurred over the past five years involving the acquisition of porphyry copper-gold projects at similar levels of development to Kharmagtai and in a similar political and geological setting. Details of the properties and acquisition deals examined are given below, and summarised in Table 8. For those transactions with Resource Estimates, or easily definable Exploration Targets, a USD per tonne of contained Cu equivalent (\$/t Cueq) was also derived for use in the Empirical Yardstick approach valuation by taking the total purchase cost divided by contained Cueq metal in resources. Cu equivalent tonnes were calculated using a copper price of USD6500/tonne and a gold price of USD1200/ounce.

# 10.3.1 Kincora Copper - Golden Grouse, Mongolia

On April 13, 2012 Kincora Copper Limited (TSXV: KCC) announced the closing of an agreement to acquire 100% of Golden Grouse LLC from Temujin Mining Corp. Terms of the transaction involved the issue of 20 million shares in Kincora, to be distributed to Temujin shareholders. In addition, upon discovery of a minimum of 1 Moz of gold equivalent resources within four years, Kincora agreed to issue a further 15 million "bonus shares" to Temujin. Kincora would spend no less than USD2 M on exploration over the next 2 years. The total value of the 20 million shares issued was USD5 M.

Golden Grouse LLC held two exploration licences totalling 39,878 Ha adjacent to the western and northern boundaries of an existing Kincora project area known as Bronze Fox. The licences contain two main prospects, Bronze Fox and Tourmaline Hills, which are underlain by separate intrusive complexes. Porphyry style mineralisation was recognised during earlier exploration by Ivanhoe Mines Mongolia, which carried out extensive exploration on the licences, including mapping, geochemistry, ground geophysics and diamond drilling.

No resources were defined on the Golden Grouse licences, and Kincora did not report an Exploration Target, so an implied value per tonne of Cueq cannot be assigned.

25 March 2014

#### 10.3.2 Galielo Resources – Gabbs, USA

On February 4, 2014, Galielo Resources Plc (AIM: GLR) announced an agreement to acquire the entire share capital of Toronto incorporated St Vincent Minerals (SVM). The acquisition is by way of a share exchange whereby Galielo will issue 21,650,000 new shares for the entire share capital of SVM. SVM shareholders will hold approximately 19% of Galielo following the transaction. The agreed transactional value is CDN\$4.3 M (approximately USD3.9 M).

The Gabbs property is located in Nye County, Nevada, USA and comprises 355 unpatented claim blocks and 1 patented lode claim covering a contiguous 28 km² area. The property is underlain by a succession of intermediate volcanic rocks and shallow marine sediments of Triassic age, which were intruded by a ultramafic-mafic intrusive complex. Monzonite bodies that intruded these rocks are associated with porphyry-style Au-Cu mineralisation found in three main areas: Sullivan, Lucky Strike and Gold Ledge. Gold mineralisation the Car Body prospect is considered epithermal in nature.

A Mineral Resource Estimate undertaken on the Gabbs property was based on 397 historic holes, 87 holes drill by Newcrest and 10 holes drilled by SVM. All resources were classified as Inferred and reported in accordance with NI43-101 guidelines. Total resources in three deposits were 57.2 Mt at an average grade of 0.56 g/t Au and 0.23 % Cu, containing 1.029 Moz gold and 133,848 t copper (323,975 t Cueq)

Using the total purchase price of USD3.9 M, the implied cost per tonne of contained Cu equivalent is USD12.07

# 10.3.3 Robust Resources - Andash, Kyrgyzstan

MUO BSM | TUOSJBO J

On June 4, 2013, Robust Resources (ASX: ROL) announced it had completed acquisition of 80% of the Andash gold-copper project from Kentor Gold Ltd (KGL). Andash was acquired for a total cash consideration of A\$15 M (USD14.6 M), including a deposit of A\$1 M.

Andash is located in northern Kyrgyzstan, within the same orogenic belt that hosts several world-class gold and gold-copper deposits, including Oyu Tolgoi and Kharmagtai in Mongolia. Mineralisation occurs in a flat dipping stockwork zone hosted by a granodiorite to diorite porphyry host rock. A definitive feasibility study (DFS) was completed by KGL, which defined reserves of 16 Mt with an average grade of 1.05 g/t Au and 0.4 % Cu, within resources of 19.2 Mt grading 1.10 g/t Au and 0.40 % Cu. Total resource metal is 679 Koz Au and 77,300 t Cu (202,158 t Cu eq). NPV for the project was estimated at USD241 M, with a 6 year mine life and projected cash costs of USD30/oz (after copper credits).

Using the total purchase price of USD14.6 M, the implied cost per resource tonne of contained Cu equivalent is USD90.28.

# 10.3.4 Candente Copper – Arikepay, Peru

On December 12, 2013, Cadente Copper Corp (TSX: DNT) announced it had entered into an option agreement to earn a 75% interest in the Arikepay project owned by Cobriza Metals Peru. Candente can earn 75% interest in the project by paying USD4 M in cash payments and committing to exploration expenditure of USD5 M on the property (first option). The additional 25% interest can be earned after completion of the first option by payment of USD10 M (leaving Cobriza with a 2% NSR).

Arikepay is located in southern Peru and comprises two claim blocks totalling 4,000 Ha. Cobriza discovered anomalous copper, gold and molybdenum values in rock chip samples during reconnaissance exploration in 2011. Drilling under gravel cover to the north of the initial rock chip results commenced in 2012. Six of fourteen RC holes intersected >140 m of porphyry-style mineralisation at grades between 0.3% and 0.5% Cu eq. All six holes terminated in mineralisation at

25 March 2014



300 m depth limit of the RC rig). Mineralisation is defined over an area of approximately 2,200 m by 700-1,200 m.

From the initial drilling results, a lower range for an Exploration Target of 500 Mt at 0.4 % Cu eq can be defined. Using a total price of USD19 M (including the exploration expenditure commitment), an implied cost per tonne of Cu equivalent would be approximately USD9.54.

# 10.3.5 Coro Mining Corporation – Payen, Chile

On October 17 2012, Coro Mining Corp (TSX: COP) announced it had entered into an option agreement to acquire the Payen property from CM Viento Norte (CMVN), a local privately owned Chilean company. Option terms were the payment of USD17 M in five stages over 4 years.

Payen is a 1,225 Ha property located in central Chile, 15 km southwest of the operating Dos Amigos copper mine. CMVN drilled 11 diamond drill holes in 2011, following up on historic indications of mineralisation and alteration. Highlights of the drill program included 138 M @ 0.38% Cu and 0.17 g/t Au, and 104 m at 0.37 % Cu and 0.242 g/t Au. Mineralisation is associated with high magnetic anomalies, and several other similar anomalies are present on the property, which remain untested. Extensive phyllic alteration is present over the property, with a high sulphidation alteration zone exposed at high elevations.

Insufficient information is presented to derive an approximate exploration target size. In October 2013, Coro entered into an option agreement with Freeport McMoRan to fund exploration on the project.

#### 10.3.6 Crazy Horse Resources – Taysan, Philippines

On December 12, 2010, Crazy Horse Resources (TSXV: CZH) announced completion of the acquisition of the Taysan project. The agreement terms were to acquire 100% of the project from Taysan Copper in return for 20 million shares, a payment of USD1.7 M and grant of a 1.5% NSR.

Taysan is located in southern Luzon, Philippines and comprised three exploration and three mining permits covering a total of 11,309 Ha. Porphyry Cu-Au mineralisation at Taysan is hosted in potassic altered hornblende diorite and hornblende dacite porphyry. The area of the mineralised zone defined by historic drilling extended 1500 m along strike, 500 m wide and 400 m down-dip. The property had been drilled by several different companies since 1968, including Newmont, Benguet Corporation, Chase Resources, Magma Copper, Phelps Dodge and Kumakata Mining. A total of 144 drill holes for 36,560 m were drilled in the deposit itself, and four historic resource estimates were available. The most recent Resource Estimate prior to the acquisition was by Chase Resources in 1995, which defined 391 Mt grading 0.3% Cu and 0.21 g/t Au.

Using the total purchase price of USD16.7 M and the 1995 resource estimate gives an implied cost per resource tonne of contained Cu equivalent of USD10.06.

# 10.3.7 Pan Australian Resources – Freida River, PNG

On November 1 2013, Panaust Limited (ASX: PNA) announced it had entered into an agreement to purchase 80% of the Frieda River Project from Glencore Xstrata. The initial consideration comprises USD75 M in two instalments. The first instalment of USD25 M is payable upon transaction close, with the second instalment of USD50 M payable on 31 December 2015. Glencore will maintain a 2% NSR on any operation at Frieda River, up to an aggregate total of USD50 M.

The Frieda River Project is located on the border of the Sandaun (formerly West Sepik) and East Sepik provinces in Papua New Guinea, and is one of the largest undeveloped copper-gold projects in



the world. The Project site is located in the foothills of the Schattenberg Range at elevations ranging from 300 mRL to 800 mRL.

Frieda River comprises a number of porphyry style deposits, including Horse-Ivaal-Tukai, Koki and the high grade gold-rich Nena deposit. All deposits are hosted in Miocene age intermediate volcanics and intrusives of the Frieda River Igneous Complex.

Extensive drilling has defined resources in Horse-Ivaal and Nina porphyry zones totalled 2,135 Mt at 0.49% Cu and 0.24 g/t Au. A scoping study carried out by Panaust indicated an 18 year mine life extracting 430 Mt at 0.54% Cu and 0.3 g/t Au.

Using the total purchase price of USD75 M and total resources gives an implied cost per resource tonne of contained Cu equivalent of USD6.94.

#### 10.3.8 Discussion

Of the acquisitions researched, MA consider four (Andash, Ariekpay, Payen and Taysan) as being comparable with Kharmagtai on a total purchase price basis in terms of exploration target style and grade. These provide a Market Approach value for 100 % of the project between USD 16.7 M and USD 19 M with a preferred value at the midpoint of the range of USD18 M.

For the Empirical Yardstick Approach, Table 8 shows that implied \$/t Cueq values for the compared projects range from USD6.94 to USD90.28. Ignoring the obvious outlier (Andash) gives a median value of USD9.8.

Using a \$/t Cueq value of USD9.8 as the Yardstick and applying it to the Exploration Target defined at Kharmagtai of between 250 Mt and 400 Mt grading 0.25-0.30 % Cu and 0.25-0.3 g/t Au gives values between USD 9 M and USD 17 M (approximately AUD10 M to AUD19 M), with the range midpoint at USD13 M.

Combining the Market and Empirical Approach methodologies gives a preferred value of USD15 M for 100 % of the Project.



				•	•				
Project	Location	Project Stage	Purchaser	Acquisition date	% Purchased	Purchase price (USDM)*	Purchase price (AUDM)	Implied USD/t Cu eq** Resources***	Comment
Golden Grouse	Mongolia	Exploration	Kincora Copper	23/04/2012	100%	4.1	4.6	-	Not used – too early stage so no resource
Gabbs	USA	Resources	Galielo Resources	02/02/2013	100%	3.88	4.28	12.07	Not used, USD/t is OK but small area
Andash	Kyrgyzstan	DFS completed	Robust Resources	01/02/2013	80%	14.6 [18.25]	15.0 [18.75]	90.28	Comparable project but at DFS stage so USD/t is high
Arikepay	Peru	Exploration Target	Candente Copper	12/12/2013	100%	19.0	20.9	9.54	MA defined target USD/t
Payen	Chile	Exploration target	Coro Mining Corp	17/10/2012	100%	17.0	18.7	-	Early stage, very little drilling so no Target size
Taysan	Philippines	Resources	Crazy Horse Resources	12/11/2010	100%	16.7	18.3	10.06	Closest in stage and resource size
Frieda River	Papua New Guinea	Scoping study completed	Pan Australian Resources	01/11/2013	80%	75.0 [93.75]	82.5 [103.12]	6.94	Not used in purchase price as very large resource size
Kharmagtai	Mongolia	Advanced Exploration	Xanadu	Current	90%			9.8	

**Table 8. Summary of Comparable Transactions.** 

\*Numbers in square brackets [] indicate equivalent purchase price for 100% of project.

# 10.4 COST APPROACH - MULTIPLES OF EXPLORATION EXPENDITURE

MA was provided with a breakdown of exploration expenditures on the project within each main phase of exploration since QGX acquired the licence in 1996. Costs in 2013 dollars were calculated on the basis of the work completed during each phase multiplied by the following factors:

Rock chip / soil samples: \$25 each

Trenching/sampling/assaying: \$22.50/metre

• RC drilling/sampling/assaying: \$150/metre

Diamond drilling/sampling/assaying: \$250/metre

Ground magnetics geophysics: \$25/line kilometre

• Induced polarisation geophysics: \$650/line kilometre

<sup>\*\*</sup>Cu Eq values calculated using a copper price of \$6500/tonne and a gold price of \$1200/ounce

\*\*\*Implied USD/t Cueq prices corrected for % of project purchased

25 March 2014

Total expenditure in 2013 dollars by exploration phase is given in Table 9. These expenditures do not include some items, such as licence fees, camp set-up and acquisition of remote sensing data. However, MA considers these to have a negligible impact given the amount of higher value (drilling and ground geophysics) work completed.

**Resource Definition Total Expenditure Exploration Phase** Year **Drilling Only** (2013 costs, USD) QGX 1996-1998 \$1,137,830 \$ 1,786,000 Ivanhoe Mines Mongolia 2002-2006 \$10,326,663 \$20,838,110 2007-2011 Asia Gold \$2,157,125 \$6,128,975 **Total** \$13,621,618 \$28,753,085

Table 9. Exploration Expenditure for Kharmagtai Licence by Phase.

Total exploration expenditure was focused in two main areas: 1) drilling out the zones of known mineralisation at Altan Tolgoi, Zesun Uul and Tsagaan Sudal, and 2) acquisition of ground geophysical data and drill testing of new target areas arising from this work. Both types of work have incrementally built up the value of the project over time. On the other hand, no resource estimates have been made public, so the project value is difficult for third parties to define. MA would normally include a multiplier based on success as defined by target definition and resource estimates, but as these have not been made public, no multiplier will be applied. MA considers the cost of only resource definition drilling as a lower boundary, and the total exploration expenditure as an upper boundary of the Project's value.

A preferred value of USD14 M to USD30 M (approximately AUD16 M to AUD33 M) is considered reasonable based on this approach.

#### 10.5 KILBURN GEOSCIENCE RATING

L DELSOUTH MEE OUL

Use of the Kilburn geoscience rating method requires the definition of an appropriate Base Acquisition Cost (BAC) for the licence being assessed. BAC's are defined by totalling licence application fees, minimum expenditure requirements and access costs (eg land title negotiation fees). The main assumption is that when a property is acquired it is deemed to be worth at least the cost of holding the licence. There is no allowance for pervious exploration work carried out, as is included in the MEE values.

In Mongolia the only fixed cost requirements for licences are annual licence rental fees: there are no minimum expenditure requirements. Annual fees are applied on a per hectare basis and vary depending on the year since granting of the licence. Exploration licence fees vary from USD 0.05/Ha to USD1.5/Ha, and mining licence fees vary from USD 5.0/Ha to USD 10/Ha. Since the Kharmagtai licence is a mining licence in its first year of granting, fees of USD 5.0/Ha currently apply.

Kilburn Geoscience rating criteria used to assess Kharmagtai are shown in Table 10.











Table 10. Kilburn Geoscience Rating Assessment Criteria.

Rating	Off Property Factor	On Property Factor	Anomaly Factor	Geological Factor
0.1				Unfavourable lithology
0.2				Unfavourable with structures
0.3				Generally favourable lithology (10-20%)
0.5			Extensive previous exploration with poor results	Alluvium covered, generally favourable lithology
0.9			Poor results to date	Generally favourable lithology (50%)
1	No known mineralisation	No known mineralisation	No targets outlined	Generally favourable lithology (70%)
1.5	Minor workings	Minor workings or mineralised zones exposed	Several well-defined targets, initial results promising	
2	Several old workings or exploration targets identified	Several old workings		Generally favourable lithology
2.5				
3	Abundant workings/mines with significant historical production	Abundant workings	Several significant subeconomic intersections	Significant mineralised zones exposed in prospective host rocks
3.5		Abundant workings/mines with significant historical production	Several economic grade intersections on adjacent sections	
4	Along strike from major mine(s)			
4.5				
5	Along strike from world class mine	Significant historic production	Several significant ore grade correlatable intersections	
10		World class mine		

MA has considered the following as part of its assessment of the Kilburn rating criteria:

- Off Property Factor:
  - Kharmagtai lies within a geological terrane known to contain at least one world-class porphyry copper deposit (Oyu Tolgoi). Exploration targets/prospects have been identified throughout the same terrane by several companies
  - Factor: 2.0
- On Property Factor:
  - Mineralised zones are exposed at surface and were discovered by early exploration in the 1960s
  - No indication of historic workings on the licence
  - Factor: 1.5



#### Anomaly Factor:

 Exploration work has identified three main mineralised zones to an extent that preliminary resource estimates can be made.

Factor: 5.0

# • Geological Factor:

- Regional geological setting is arc-related terrane known to host porphyry mineralisation
- Mineralisation related to Kharmagtai Intrusive Complex and tourmaline breccias, encountered at surface and in drilling.

o Factor: 3.0

Factors assigned to Kharmagtai are summarised in Table 11, with the Prospectivity Index derived by successive multiplication of factors.

Table 11. Kilburn Geoscience Ratings For Kharmagtai.

Off Property Factor	On Property Factor	Anomaly Factor	Geological Factor	Prospectivity Index	
2.0	1.5	5.0	3.0	45	

For Kharmagtai, the Kilburn Geoscience Rating value is given by:

BAC(per Ha) x licence area (Ha) x Prospectivity Index

= USD 5.0/Ha x 6,647 Ha x 45 = USD 1.5M

MA considers USD 1.5M to be the base (minimum) value of the project if no, or very little work had been carried out. This method clearly grossly undervalues a project such as Kharmagtai, which has had considerable work completed. In MA's opinion the Kilburn Geoscience Method does not produce a useful result for the purposes of valuing the Kharmagtai property and will therefore not be included in the final assessment.

#### 10.6 PREFERRED VALUATION

On the basis of an analysis of 7 comparable transactions for the Project, and a review and analysis of previous exploration within the Project, Table 12 has been compiled. The "Preferred" column indicates the most preferable value placed on the Project by MA.

Table 12. Summary of Valuations, Kharmagtai Project.

Project	Market Approach			pirical roach	Cost Approach		Preferred		
	Comparable Transactions		Yardstick t/Cueq Expenditu		diture				
	Low	High	Low	High	Low	High	Low	Preferred	High
	USDM	USDM	USDM	USDM	USDM	USDM	USDM	USDM	USDM
Kharmagtai	\$16.7	\$19	\$9	\$17	\$14	\$29	\$9	\$15	\$29

The Preferred value for 100% of the Kharmagtai Project is USD15 M (AUD16.5 M), which is based on a combination of ranges determined by the Market Approach comparable transactions and Empirical Yardstick Approach. MA considers this value is supported by the lower end of the Cost Approach range, which reflects the expenditure on resource drilling at the Project.



#### 11 PROPOSED WORK PLAN

MA was asked to provide an opinion on the reasonableness of the timeframe and budget for the Kharmagtai Project exploration plan.

Xanadu's exploration plan focuses on increasing Indicated category resources and targeting higher grade zones at Tsagaan Sudal, utilising 20,000 m of drilling. Drill spacing initially at 200 m, then to 100 m or 50 m is considered by MA to be appropriate for resource definition at Indicated and possibly Measured classification in porphyry copper-gold style mineralisation.

For 20,000 m of drilling, an all-in cost (including sampling, assaying, logging etc) of approximately USD150-170 per metre is considered by MA as reasonable, giving a total of USD3 M to USD3.4 M. Diamond drilling rates at Kharmagtai of 60-100 m/day were achieved during IMMI's exploration work and 2 or 3 drill rigs operating simultaneously would allow completion of drilling within 5-6 months, assuming funding is available.

Other direct exploration expenditure during the year is likely to total about USD1 M and includes staff salaries, travel, administration, camp and office expenses. This figure is taken from IMMI's 2011 exploration budget summary and costs are not considered to have changed significantly since then.

External studies that require the services of consultants include a preliminary JORC 2012 compliant resource estimate based on existing drilling, an updated estimate following the drill campaign and possibly a scoping study. MA considers that the allocated timeframes for these activities are adequate, with a total budget requirement between USD0.5-1 M.

In MA's opinion, the activities proposed above could reasonably be completed within 12 months, subject to the availability of funding. Total costs for this work are estimated in the range USD4.5 M – USD5.4 M.

# 12 REFERENCES

IUO BSM | MUS OUI | OUI

Baker, A. (2004). Kharmagtai 2004 Quickbird Interpretation. IMMI Internal Consultants Report.

Kirwin, D., Wilson, C., Turmagnai, D., & Wolfe, R. (2005). Exploration History, Geology and Mineralisation of the Kharmagtai Gold-Copper Porphyry District, South Gobi Region, Mongolia. In R. Seltmann, & D. Kirwin, *Geodynamnics and Metallogeny of Mongolia With a Special Emphasis on Copper and Gold Deposits* (pp. 175-191). International Association on the Genesis of Ore Deposits (IAGOD).

Wolfe, R., Carew, M., & Ketaren, A. (2004). *Third Phase Altan Tolgoi Drilling, Kharmagtai Project, Mongolia*. Ivanhoe Mines Mongolia.



# 13 CERTIFICATE OF QUALIFICATIONS

# ANDREW JAMES VIGAR, F.AusIMM, M.SEG., STATEMENT OF QUALIFICATIONS

I, Andrew James Vigar, B.App.Sc (Geol.), hereby certify that:

- 1. I am an independent Consulting Geologist and Professional Geoscientist residing at 97 Isaac Street, Spring Hill Queensland 4000, Australia with my office at Level 4, 67 St Paul's Terrace, Brisbane, Queensland 4001, Australia (Telephone +61-7-38319154).
- 2. I graduated from the Queensland University of Technology, Brisbane, Australia in 1978 with a Bachelor Degree in Applied Science in the field of Geology.
- 3. I have continuously practised my profession as a Geologist for the past 30 years since graduation, in the fields of Mineral Exploration, Mine Geology and Resource Estimation. I have held senior positions with Emperor Gold, WMC, Costain Australia and CRA (Rio Tinto) prior to commencing full-time consulting in 1996. I have been involved in consulting to the minerals industry both independently (Vigar & Associates and now Mining Associate Pty Ltd) and as an employee of the international consultancy, SRK Consulting.
- 4. My specific experience concerning the Kharmagtai Project is my extensive experience in mineral resource estimation in a number of porphyry-style copper-gold. I have worked in mineral exploration since 1980 when I joined the exploration team at the Vatukoula gold mine in Fiji. This was followed by senior roles at gold mines in Western Australia and Queensland and exploration/evaluation in SE Asia and PNG. I spent 2 years with the WH Bryan Mining Geology Research Centre at the University of Queensland tutoring and studying Geostatistics. I commenced full-time consulting in 1996. I have prepared in-depth reviews and/or resource estimates of a large number of deposits over the last 14 years. I have worked on the identification and estimation of resources for porphyry style mineralisation in similar environments in PNG, Philippines, Indonesia and throughout Australia.
- 5. I was elected a Fellow of the Australasian Institute of Mining and Metallurgy ("The AusIMM") in 1993, having been a member since 1980. My status as a Fellow of The AusIMM is current, and I am recognized by the Australian Securities and Investments Commission and the Australian Stock Exchange as a Qualified Person for the submission of Independent Geologist's Reports.
- 6. I have read the definition of "Independent Individual Expert" set out VALMIN Section 37 and certify that by reason of my education, affiliation with a professional association (as defined in VALMIN) and past relevant work experience, I fulfill the requirement to be an "Expert" for the purposes of VALMIN. I have read the definition of "qualified valuator" set out in CIMVal and certify that by reason of my education, affiliation with a professional association (as defined in CIMVal) and past relevant work experience, I fulfill the requirement to be a "qualified valuator" for the purposes of CIMVal.
- 7. I am author of the Valuation entitled "Valuation Report on the Kharmagtai Project, Mongolia" dated 25th March 2014 ("the Valuation"). I have reviewed all sections of the report for which I am responsible and found them to be accurate and reliable within the limitations of this Valuation.
- 8. I have not previously inspected the property that is the subject of the Valuation.



- 9. I am not aware of any material fact or material change with respect to the subject matter of the Valuation that is not reflected in the Valuation, the omission to disclose which would make the Valuation misleading.
- 10. I am fully independent of the issuer applying all of the tests set out in Sections 24-27 of VALMIN and in section 1.4 of NI43-101 and as defined in S1.0 Definitions of CIMVal.
- 11. I have read the VALMIN Code (2005), NI43-101, Form 43-101F1 and CIMVal. This Valuation is in compliance with that Code instrument, form and standard.
- 12. I consent to the public filing of the Valuation with any stock exchange and any other regulatory authority and any publication by them for regulatory purposes, including filings and electronic publication in the public company files on their websites accessible by the public, of the Valuation and to extracts from, or a summary of, the Valuation in any written disclosure being filed, by Xanadu Mines Limited, in public information documents so being filed including any offering memorandum, preliminary prospectus and final prospectus.
- 13. As of the date of this certificate, to the best of my knowledge, information and belief, the Valuation contains as much scientific and technical information that is available to be disclosed at this time to make the Valuation not misleading.

Andrew James Vigar

B App.Sc.(Geol), F.AusIMM. M.SEG

**Qualified Person** 

Dated at Brisbane, QLD Australia

25 March 2014