

Date 12 January 2015

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**UPGRADED MOLYHIL FEASIBILITY STUDY  
IMPROVES FINANCIAL RETURNS AND CONFIRMS EARLY CAPITAL PAYBACK**

The Board of Thor Mining Plc ("Thor") (AIM, ASX: THR) is pleased to advise that a just completed upgraded Feasibility Study for the Company's wholly-owned Molyhil tungsten project in Australia's Northern Territory ("Molyhil") has confirmed that the project will deliver attractive financial returns as well as an early payback of the capital required for its development.

**Study Highlights**

- Project payback period of 18 months after payment of royalties and taxation
- All equity Net Present Value (NPV) of A\$67 million with an Internal Rate of Return (IRR) of 44%, after taxation & royalty payments.
- EBITDA of A\$201 million
- Cash production cost of US\$112/mtu concentrate compared with revenue of US\$358/mtu
- Capital expenditure (CAPEX) of A\$70 million (US\$56 million)
- Six year mine life
- Simple open cut mining operation followed by standard mineral processing techniques
- Operation substantially permitted

**Next steps**

- Secure project development finance agreements
- Detailed engineering studies
- Complete permitting



Figure 1: Thor Mining PLC project locations

**THOR MINING PLC**

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AIM Listings:  
Shares: THR

Directors:  
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Michael Ashton  
Gregory Durack  
Trevor Ireland  
David Thomas

**Projects:**

- **Tungsten**  
Molyhil NT  
Pilot Mountain USA
- **Gold**  
Spring Hill NT  
Dundas WA

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### **Molyhil Feasibility Study**

Following the publication in July 2014 of an updated JORC 2012 compliant open cut ore reserve statement for Molyhil, Thor has completed the necessary mining and production schedules and capital and operating cost estimates, and incorporated these results into the feasibility model, along with previously published parameters (refer attachment “A”), to produce an upgraded and attractive feasibility study outcome with a mining and processing operation over a 6 year life.

The results of the study show:

- EBIT returns provide for 18 month payback period
- All equity Net Present Value (NPV) of A\$67 million at a discount rate of 8% (A\$53million @ 12% or A\$80 million @ 5%) after tax and royalty payments
- All equity Internal Rate of Return (IRR) of 44% after tax and royalty payments
- Production cost of US\$112/mtu concentrate (after deduction of molybdenum bi-product credits) compared with revenue of US\$354/mtu
- Mine life of 6 years, derived from the updated open cut ore reserve statement published in July 2014
- Capital expense of A\$70 million (US\$56 million)
- EBITDA of A\$201million.

The feasibility study has been prepared by Thor Mining PLC using data and information supplied by third party consultants and suppliers for key components, including:

- Resource estimates and open cut ore reserve statement;
- Mine planning;
- Capital and operating costs;
- Metallurgical processes and outcomes;
- Commodity prices and exchange rates;
- Environmental studies.

### **Mining**

Mining is planned using conventional open cut mining methods; contract drill & blast, followed by owner operated excavation and haulage.

An average pit slope of 48° currently provides for a waste to ore ratio of 5.2:1. There may be an opportunity to improve this ratio during operations and via targeted geo-technical drilling.

The resource estimate extends below the level of the open cut ore reserve used in this study providing potential to extend the project life either by deepening the open pit, or via underground mining methods depending upon subsequent costs and metal prices.

### **Processing**

Mineral processing involves:

- Two stage crushing to -55mm:
- X-Ray (XRT) ore sorting at two sizes -55mm to +25mm, and -25mm to +10mm
- Tertiary crushing
- Two stage grinding using a rod mill followed by a ball mill
- Three stage flotation circuit
  - Molybdenum flotation
  - Sulphide flotation
  - Scheelite flotation
- Concentrate dressing

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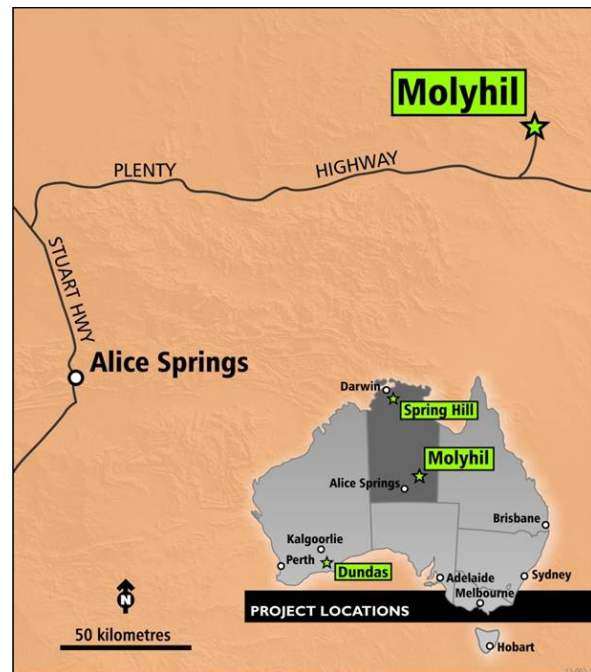
The revised process flowsheet involves replacing the previous scheelite gravity recovery method with flotation which has achieved substantial improvements in economic recovery and also in reducing levels of some deleterious elements in final concentrate compared with the original circuit. The scheelite concentrate dressing process which follows the flotation step has been tested but is not yet optimised. It is expected that this optimisation process will be completed during the detailed design phase.

### Project Infrastructure

Molyhil is located 220 kilometres north-east of Alice Springs in Australia’s Northern Territory. Access is via the Plenty Highway a partially sealed road off the Stuart Highway which connects Alice Springs and Darwin.

The project will operate as a fly-in fly-out operation with provision for camp and electricity generation facilities provided in the cost estimates.

The project has ample water from underground aquifers nearby.



### Product Off-take sale agreements

In October 2013 Thor received a Letter of Intent from US based Global Tungsten & Powders (GTP) in respect of 70% to 75% of total tungsten concentrate production for the life of the proposed Molyhil operation. The Directors of Thor are working towards sales agreements for the balance of those concentrates and also for the molybdenum by-product concentrates.

### Next steps

The next steps for the Molyhil project involve securing the balance of concentrate sales (off-take) agreements and finance for the project development, after which it is planned to commence detailed engineering studies, along with completion of the Mine Management Plan and onsite civil works in preparation for mine and process plant construction and development.

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**Table 1. Molyhil Key Features**

Project NPV post tax & Royalties	A\$67 million	
Project IRR after tax & royalties	44%	All Equity Case
Project Capex	A\$70 million	All Equity Case
Life of Mine C1 Cash Cost	US\$112/mtu	
Life of Mine EBITDA	A\$201 million	
Payback from 1 <sup>st</sup> production	18 months	
Project Life	6 years	
Average feed grade	0.31% WO <sub>3</sub>	0.41% WO <sub>3</sub> after ore sorting
	0.12% Mo	0.12% Mo after ore sorting
Operating throughput		
Crushing & Sorting	500,000 tpa	
Milling/Flotation etc	400,000 tpa	After ore sorting
Annual Production Average	130,000 mtu *	Approximately 1.3% of global market
		* 1mtu = 10Kg of contained WO <sub>3</sub>

**Mr Mick Billing, Executive Chairman of Thor Mining:**

“The Molyhil project has taken a significant step forward with this enhanced feasibility study. The returns are very attractive, and cash flow available for debt servicing of 2.5 times project capital cost. Substantial work has been undertaken to improve costs and we believe that Molyhil has a very attractive cost structure and a low start-up capital expense. We do not underestimate the task in securing project finance, however we believe these upgraded project economic outcomes are compelling”

For further information, please contact:

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Attachment A: Molyhil Feasibility Study Input Parameters

1. Mineral Resource estimate of 4.7 million tonnes averaging 0.28% WO<sub>3</sub> & 0.13% Mo in Indicated and Inferred categories
2. Open Cut Ore Reserve for the Molyhil deposit of 3.0 million tonnes averaging 0.31% WO<sub>3</sub> & 0.12% Mo categorised as Probable
3. Revenue factors:
  - Revenue / mtu scheelite concentrate = US\$354/mtu after concentrate discount
  - Revenue / pound molybdenum concentrate = US\$10.56
  - A\$1.00 = US\$0.77 over life of mine

APT Tungsten Price Forecast *	2015	2016	2017	2018+
US\$/mtu	471	481	446	466

\* Source: Tungsten Market Research Ltd January 2014
4. Metallurgical recovery (post ore sorting)
  - Tungsten = 85%
  - Molybdenum = 77.8%
5. Capital cost = A\$70 million
6. Operating Factors
  - Mining waste to ore ratio = 5.2 : 1
  - Mining costs = A\$19.35 / tonne ore milled
  - Processing & admin costs = A\$65 / tonne ore milled
  - Ore Sort reject = 25% of ore crushed

The Molyhil Mineral Resource is summarised in Table 2 Below:

**Table 2: Summary of Molyhil Mineral Resource Estimate: (Reported on 30 January 2014)**

Classification	Resource Tonnes	WO <sub>3</sub>		Mo		Fe
		Grade %	Tonnes	Grade %	Tonnes	Grade %
Indicated	3,820,000	0.29	10,900	0.13	4,970	18.8
Inferred	890,000	0.25	2,200	0.14	1,250	15.2
<b>Total</b>	<b>4,710,000</b>	<b>0.28</b>	<b>13,100</b>	<b>0.13</b>	<b>6,220</b>	<b>18.1</b>

Notes

- Compliant with JORC 2012
- Thor Mining PLC holds 100% equity interest in this reserve.
- Mineral Resource reported at 0.1% combined Mo + WO<sub>3</sub> Cut-off and above 200mRL only.
- Minor rounding errors may occur in compiled totals.

The Molyhil Open Cut Ore Reserve Statement is summarised in Table 3 below

**Table 3: Molyhil Open Cut Ore Reserve Statement (Reported on 29 July 2014)**

Classification	Reserve '000 Tonnes	WO <sub>3</sub>		Mo	
		Grade %	Tonnes	Grade %	Tonnes
Probable	3,000	0.31	9,200	0.12	3,600
<b>Total</b>	<b>3,000</b>	<b>0.31</b>	<b>9,200</b>	<b>0.12</b>	<b>3,600</b>

Notes:

- Compliant with JORC 2012
- Thor Mining PLC holds 100% equity interest in this reserve.
- Estimate has been rounded to reflect accuracy.
- All estimates are on a dry tonne basis.
- The reserve estimate extends to a maximum depth below surface of 150 metres.