

# Thor Mining PLC 1.00p

DFS delayed to include flotation study

11 January 2012

## Share Price: 1.00p



**12m High:** 4.80p  
**12m Low:** 0.85p  
**Market Cap:** £6.5m  
**Shares in Issue:** 639,762,950  
 639,762,950 fully diluted

**Debt:** Nil  
**Cash at Hand (31/12/11):** £0.3m  
**Current Exploration Phase:** ~ £400,000

**LSE Code:** THR  
**Sector:** Mining  
**Market:** AIM/ASX  
**Website:** www.thormining.com  
**Broker:** Simple Investments  
**Company Contact:**

**Description:** Greenfields gold exploration in Australia with a fully permitted tungsten/molybdenum mine ready to finance

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Dual-listed Thor Mining (AIM, ASX:THR) has released its Q2 FY 2012 activities report. The revised DFS for Molyhil Mine had been expected before the market closed for the holidays. In this report we find out why it has been delayed.

We have mentioned several times that, at current prices, Molyhil could well be a tungsten mine rather than a molybdenum mine. This report seems to confirm that. The initial DFS was carried out at a high-stand in molybdenum pricing and a relatively low tungsten price. These positions have now been reversed and, if recent drill results are reflective of the eventual resource definition, to the advantage of shareholders.

On raw figures there should be more recoverable tungsten than molybdenum in the skarn bodies. Of course the final figures depend on the recovery rates and it is good to see that Thor has taken independent advice to re-run some metallurgical tests to optimize tungsten recovery. The initial recovery rate was reported at 67%, which is a decent enough for a tungsten by-product, but there are measures available to focus on maximising tungsten recovery at both ends of the process flow sheet. Thor has chosen flotation as a bolt-on to the end of the flow sheet. Tungsten has a very high specific gravity in comparison to both gangue and other mineralisation, which should make separation relatively easy and effective. See Technical Note below

Of course new processing plant means new CAPEX and OPEX, however a couple of flotation cells and enough power, water and flotation reagents to run them shouldn't break the bank. These are simple, everyday processing units and reagents.

The key metric is how much extra revenue is generated after the flotation process. Thor suggests \$900kpa gross revenue is added for every extra 1% of tungsten recovered. That sounds perfectly plausible and we would expect several percentage points of extra tungsten recovery, possibly up to 10, should it be implemented. Moly recovery should stay the same as the moly will have already been recovered from the circuit before flotation.

A final justification for improving the tungsten recovery is that in doing so the concentrate grade should also improve, making it more attractive to a wider range of customers at a higher price per mtu.

In other news the confirmation of mineralisation below the current resource envelope is good news for Spring Hill, but with rain stopping play for the rest of the antipodean Summer there isn't enough data to really comment on yet.

Y/E	Group Sales	Declared Profit	Adjusted Profit	Adjusted EPS	P/E ratio	Divi	Yield
	£ 000s	£ 000s	£ 000s	p/sh		£	%
2009A	0	(1,230)	(1,100)	(0.77)	N/A	N/A	N/A
2010A	0	(1,762)	(588)	(0.79)	N/A	N/A	N/A
2011A	0	(2,852)	(1,498)	(0.65)	N/A	N/A	N/A
2012E	0		No	Estimates			

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Technical Note

Thor reports that very fine-grained tungsten mineralisation does not respond well to gravity separation methods. A quick word to explain why and how that is overcome.

The problem with main tungsten mineral, scheelite, is that the smaller the particle size the more 'platey' the particle shape becomes. This shape change issue gets progressively worse until tiny, flat sheets of nearly pure scheelite are more affected by turbulence in the liquid medium than the external force of gravity can overcome and the particle shape reverses the expected separation. You get a preferential rejection to tailings of small, relatively pure scheelite particles.

In a standard, unenhanced, gravity separation technique such as spiralling, tabling or jigging the medium in which the mineral particles are suspended or moved through is required to be turbulent so that individual particles can be sorted by the action of gravity.

Flotation overcomes this issue chemically. It activates the scheelite particles so that they stick to bubbles of air passing through the liquid medium and can be scraped off its surface in a bubbly froth. In tandem then, the standard gravity techniques will get the chunks of mineralisation (which can then be re-ground and processed as smaller particles) and the flotation will separate a much purer end concentrate because the reagents can selectively bind to scheelite in preference to gangue minerals.

Management		Major Shareholders		
CEO/Exec Chairman	Mick Billing	Western Desert Resources Ltd	47,220,296	7.85%
CFO/Secretary	Allan Burchard	TD Waterhouse Nominees (Europe) Ltd	38,507,483	6.40%
Non-exec Director	Michael Ashton	Barclayshare Nominees Ltd	35,020,661	5.82%
Non-exec Director	Greg Durack	Xcap Nominees Ltd	23,899,000	3.97%
Non-exec Director	Trevor Ireland	HSDL Nominees Ltd	20,911,739	3.48%
Exploration Mgr	Richard Bradey			
Key Dates		Key Milestones for 2012		
Quarterly Reports	31 <sup>st</sup> March, 30 <sup>th</sup> September	-	Revised resource estimate and recalculated reserve	
Half Yearly Report	31 <sup>st</sup> December	-	Updated DFS	
Annual Report	30 <sup>th</sup> June			
Full Year Results	31 <sup>st</sup> October			

Table 1: Key company data.

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