

Breakaway Research

March 2016

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Company Information

ASX Code	VML
Share Price (8/03/2016)	A\$0.013
Ord Shares/CDI's	346m
Options	92m
Market Cap (Undiluted)	A\$4.5m
Cash (31 Dec 2015)	A\$0.39m
Total Debt (31 Dec 2015)	A\$3.16m
Enterprise Value	A\$7.27m

Directors and Management

Non-Executive Chairman	David Macoboy
Chief Executive Officer	Mark Strizek
Non-executive Director	Peter Cordin
Non-executive Director	Andrew Simpson

Company Details

Address	Suite 1, 91 Hay Street Subiaco WA 6008
Phone	+618 9388 7742
Web	www.vitalmetals.com.au

Top Shareholders (March 7, 2015)

Citicorp Nominees Pty Ltd	8.82%
Nerena Pty Ltd	5.28%
Rex Harbour	5.06%
Consolidated Minerals	4.13%
Sedgman Limited	3.77%

1 Year Price Chart



Source: IRESS

Vital Metals (VML)

Development Ready

Recommendation: Maintain Speculative BUY

Company Update

Key Points

- **Development ready Watershed Scheelite Project in North Queensland**
- **Vital recently reverted to 100% ownership of Watershed, with JOGMEC relinquishing their 30% equity stake**
- **Positive Definitive Feasibility Study completed in 2014**
- **Ongoing cost refinement to improve project economics**
- **Significant resource upside potential**
- **Recently acquired Aue Project in Germany has the potential to host major W/Sn/Ag mineralisation and is in a region of significant historical production**
- **Risked base case valuation of \$0.15/share, contingent upon, and highly leveraged to marked improvements in tungsten prices**

Vital has concentrated activities on capital and operating cost refinements on its 100% owned development ready Watershed Scheelite Project, located north of Cairns in North Queensland. A positive DFS was completed in 2014, however subsequent falls in tungsten prices (somewhat mitigated by a falling exchange rate and which appear now to be improving) have affected the economics hence the current emphasis on cost reduction and resource optimisation.

The cost work is yielding positive results, with the belief that operating costs can be reduced by at least 15% and, importantly, capital costs by at least the same, and potentially significantly more via processing route modifications.

Forecast medium term increases in tungsten prices, combined with ongoing positive results from the optimisation work should deliver the economics required for financing and development. Given the development ready status of the project we see with the potential for a relatively quick lead time to production of less than two years once financing is secured.

Key share price drivers for Vital will include realisation of implicit value with improvements in the resource market in general and sustained recoveries in tungsten prices in particular, which should then lead to progress on financing and potentially development.

Company Overview

Vital Metals (ASX: VML) is a tungsten development company with its flagship project being the 100% held Watershed Scheelite Project in North Queensland. Watershed, which is one of the 10 largest un-exploited tungsten deposits in the world, has a Measured, Indicated and Inferred JORC-compliant resource of 49.3Mt @ 0.14% WO₃ for 70,400t of contained WO₃.

The Aue Project in the German state of Saxony has recently been granted. Aue is within a region that is a historical producer of tungsten, tin and silver, with good potential to host further economic mineralisation.

The Company is looking at farming out its 100% held gold projects in Burkina Faso.



Company Update

Refining Watershed Economics

Vital Metals (“Vital” or “the Company”) has continued to progress its flagship Watershed Scheelite Project (“Watershed” or “the Project”) since our May 2014 initiation note.

Work has concentrated on refining costs at Watershed

This work has concentrated on refining costs as originally published in the September 2014 Definitive Feasibility Study (“DFS”), due to significant falls in tungsten prices since that time – APT prices are currently at ~US\$185/mtu, compared to US\$375 at an exchange rate of 0.90 as used in calculating reserves in the DFS, however look as though they are on the way up again. This period has also seen costs falling across the Australian mining industry, and falls in the Australian dollar, somewhat mitigating the fall in the USD denominated tungsten prices.

The JV agreement with JOGMEC has been recently terminated, with project ownership reverting 100% to Vital

A key event for Vital was JOGMEC’s forfeiture of its 30% stake in the Project at no cost to the Company, following from the failure to transfer the interest to another party as required under the JV agreement.

A summary of key announcements and activities follows (in order of release):

- Extension of Macquarie \$3m convertible loan facility (May 29, 2014)
- Strategic investment by Sedgman (July 1, 2014)
- Feasibility study results (September 17, 2014 – this was covered by our September 2014 flash note)
- New tungsten prospect (October 13, 2014)
- Lower operating costs enhance project economics (January 22, 2015)
- Extension of Macquarie \$3m convertible loan facility (June 10, 2015)
- Lower capital costs enhance project economics (June 29, 2015)
- JOGMEC forfeits interest in Watershed (January 4, 2016)
- Flowsheet optimisation points towards further capital savings (January 22, 2016).

In addition the Company periodically raised working capital, and was granted exploration licences in the German state of Saxony.

Watershed Scheelite Project (Vital 100%)

Introduction

Vital is looking to now finance and develop its advanced Watershed Scheelite Project

Watershed is located in Far North Queensland, approximately 160km NW of Cairns, and 35km NW of Mount Carbine. Access is good, via graded track off the Peninsula Development Road.

Watershed is an advanced project, with all Mining Leases, environmental approvals and an Indigenous Land Use Agreement (“ILUA”) in place. Vital completed a DFS in 2014, which envisaged a 10 year, 2.5mtpa open pit operation.

The Project is now held 100% by Vital, following the termination of the agreement with JOGMEC late in 2015. The Company is now looking at financing and development options for what is amongst the ten largest undeveloped tungsten deposits in the world.

Geology

The mineralisation is hosted in metasediments of the Hodgkinson Formation, that have been intruded by mineralising granites

The mineralisation is hosted in metasediments of the early Palaeozoic Hodgkinson Formation, which has been intruded by the Early Permian Mareeba Granite Suite, which is interpreted as being the source of the mineralisation.

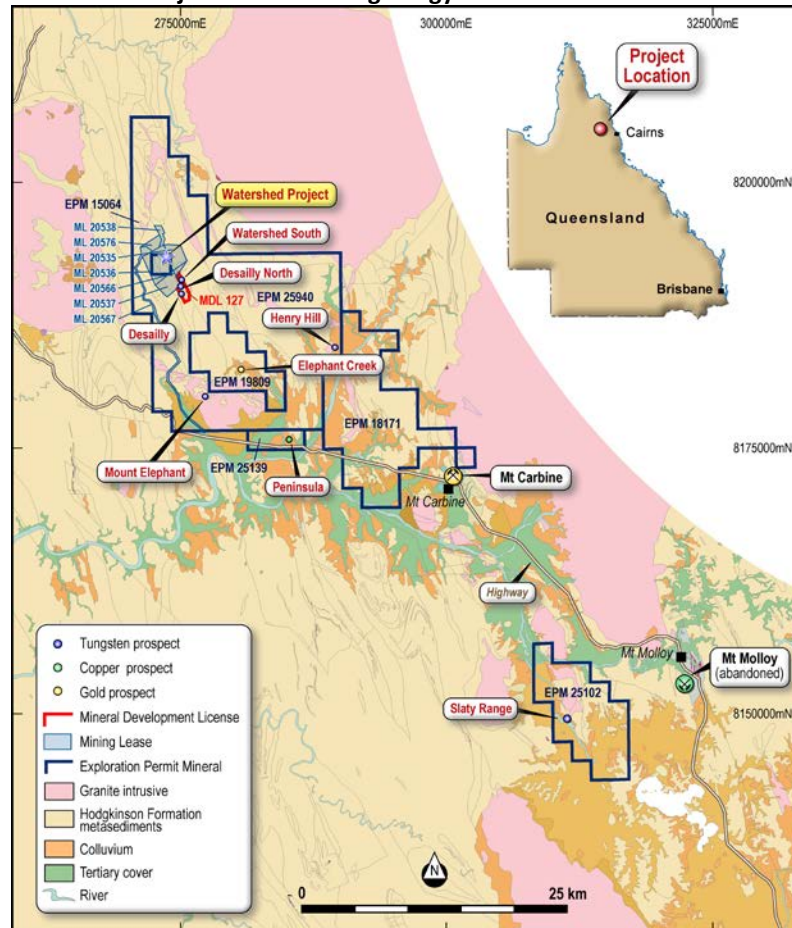
The mineralisation is hosted in a series of east-west striking steeply dipping quartz/scheelite vein swarms, controlled by a north to NW trending, steeply west to SW dipping structural zone, expressed by a prominent ridge and a regional anticline. This

At Watershed the mineralised zone is approximately 1,200m long by 250m wide, and is open at depth and along strike

zone is parallel to the regional fabric, and the strike length of the mineralised package (including all prospects) is approximately 4,000m.

At Watershed, mineralisation occurs within a zone approximately 1,200m NS by 250m EW, and has been drilled to a depth of around 550m below surface. The mineralisation is open at depth and along strike, with grades and vein widths apparently increasing at depth which is typical for this style of mineralisation. This is supported by hole MWD119 which intersected 20m @ 1.27% WO₃ from 302m downhole. This depth extension is a potential future underground mining opportunity – earlier studies have shown this to be technically viable.

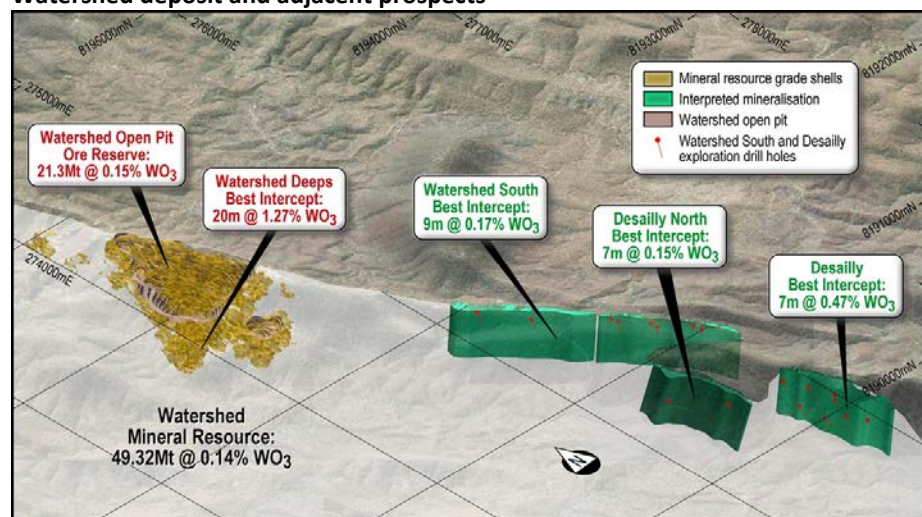
Watershed Project location and geology



Source: Vital Metals

Watershed deposit and adjacent prospects

Watershed is just one of a number of mineralised zones along a 3km ridge

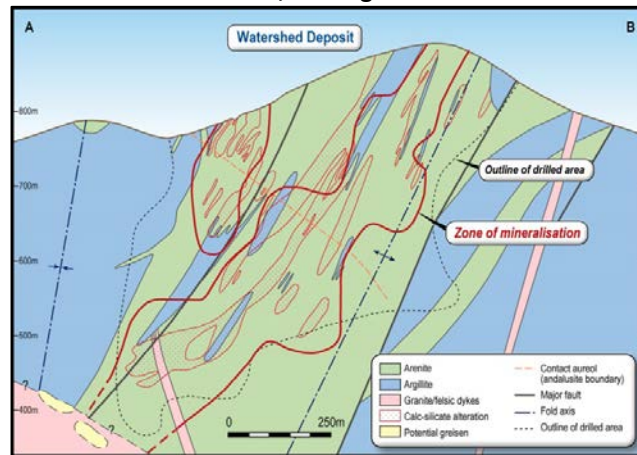


Source: Vital Metals



Watershed cross section, looking north

The mineralised zone dips steeply to the west and SW



Source: Vital Metals

Scheelite is hosted as disseminated mineralisation within calc-silicate and albite-muscovite altered rock units and within quartz-feldspar veins penetrating both the altered and surrounding unaltered rock units. Scheelite is the only tungsten mineral – there is no wolframite. Minor pyrrhotite, pyrite and arsenopyrite are sometimes present.

In addition to Watershed there are a number of other prospects within the project area, with these returning encouraging drill results and providing upside potential.

Resources and Reserves

JORC 2012 compliant Mineral Resources were originally published on July 30, 2012, with Mineral Reserves published as part of the DFS results release of September 17, 2014. The Resources are inclusive of the Reserves. In addition Exploration Targets have been published for a number of nearby prospects.

Reserves were defined in the 2014 DFS

Watershed Mineral Resources – 0.05% WO₃ Cutoff

Watershed Mineral Resources	Tonnage Mt	WO ₃ %
Measured	9.5	0.16
Indicated	28.4	0.14
Sub Total: Measured and Indicated	37.8	0.15
Inferred	11.5	0.15
Total: Measured, Indicated and Inferred	49.3	0.14

Source: Vital Metals

Watershed Mineral Reserves – 0.05% WO₃ Cutoff

Watershed Ore Reserves	Tonnage Mt	WO ₃ %
Proved	6.4	0.16
Probable	15	0.14
Total: Proved and Probable	21.3	0.15

Source: Vital Metals

Exploration Targets

The project area includes a number of exploration targets

Prospect	Tenement	Elements of Interest	Tonnage Range (kt)	Grade Range
Watershed Deeps	ML20536	W	10,500 – 14,000	0.14 - 0.25%
Watershed South	MDL127	W	830 - 1,000	0.06 - 0.15%
Desailly North	MDL127	W	830 - 1,000	0.06 - 0.15%
Desailly	MDL127	W	1,150 – 1,500	0.06 - 0.15%
Mt Elephant	EPM 25940	W, Sn	1,000 - 3,000	0.06 - 0.15%
Slaty Range	EPM 25102	W, Sn	35,000 – 60,000	0.10-0.18%
Exploration Potential exclusive of current Mineral Resource		W	49,000 – 80,000	0.10-0.19%

Source: Vital Metals

There is good potential for resource expansions

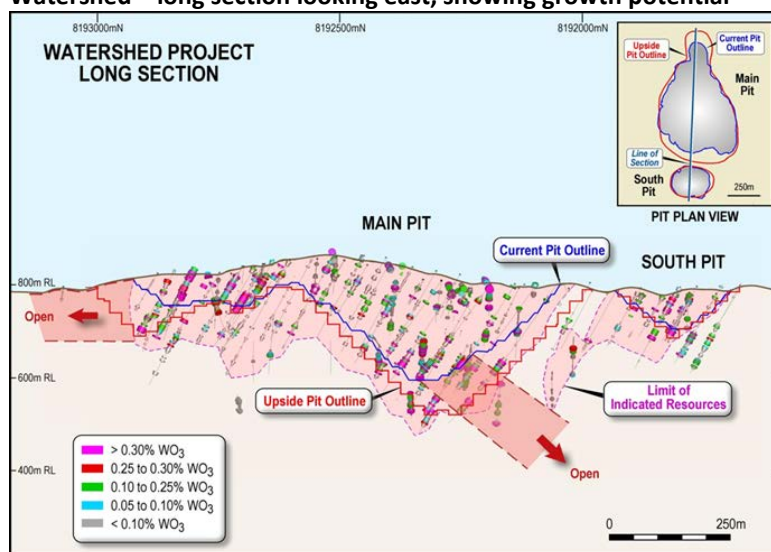
Tungsten Upside Potential

There is resource upside potential at Watershed, with the scope, through drilling, to convert Exploration Targets to Resources. In addition, at Watershed, there is underground potential, with previous drilling intersecting up to 20m @ 1.27% WO₃ in the down plunge extension of the mineralisation – increasing grade with depth is a common feature in this style of mineralisation.

Grade control drilling in 2008 also delineated higher grade zones, that through selective mining (the ore is visual) could potentially deliver higher grade material to the mill. In addition there is the potential to drill out more low strip ratio ore to the north of the planned pit (orange shaded orange area on left of figure below).

Positive results from regional exploration have also pointed to the potential for the discovery of new resources.

Watershed – long section looking east, showing growth potential



Source: Vital Metals

A positive DFS was completed in 2014

Definitive Feasibility Study

Vital completed a DFS in 2014, based on a 10 year, 2.5mtpa operation, with a ~3:1 strip ratio. This has been followed by updates, with the results of the DFS and one of the updated cases presented below.

Results of 2014 Watershed DFS and subsequent updates

Item	Unit	DFS	29/6/15 Update
APT Price/mtu	USD	455	300-375
Exchange Rate	AUD:USD	0.90:1.00	0.76:1.00
Project NPV g real Pre Tax Ungeared	A\$M	178	119
Project NPV g real Post Tax Ungeared	A\$M	112	73
IRR Pre Tax Ungeared	%	28	25
IRR Post Tax Ungeared	%	22	19
Life of Mine Revenue	A\$M	1,080	Not Given
Life of Mine EBITDA	A\$M	526	Not Given
Free Cashflow Pre Tax	A\$M	364	258
Free Cashflow Post Tax	A\$M	256	181
Project Capital	A\$M	172	143
Life of Mine C1 Cash Cost	A\$/mtu	228	194
Recovered WO ₃	Tonnes	25,000	25,000
Payback from First Production	Years	2.6	Not Given
Project Life	Years	10	10

Source: Vital Metals

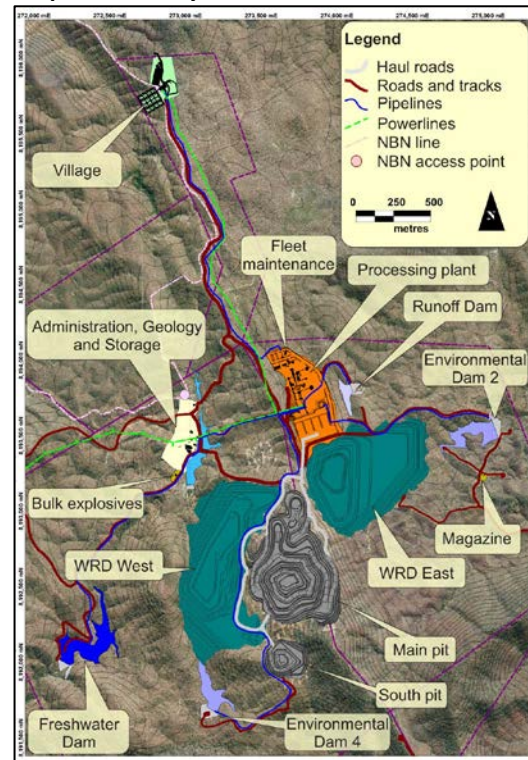


This was based on open cut mining, and processing through the following circuit to produce a highly marketable, >65%, low contaminant WO₃ concentrate, with product being trucked 500km to the Port of Townsville:

- Two stage crushing to -80mm;
- X-Ray Transmission (XRT) ore sorting at three sizes -80+40mm, -40+20mm, and - 20+10mm;
- Rod mill grinding of -10mm and XRT accept material to -600 microns;
- Gravity Separation Circuit incorporating Spirals and Screening;
- Ball mill grinding to 100% -125 microns, and
- Three stage flotation circuit:
 - sulphide flotation
 - scheelite flotation, and
 - modified Petrov Process heated scheelite flotation.

Further details are provided in Vital's September 9, 2014 release.

Proposed site layout



Source: Vital Metals

Subsequent Developments

Given recent falls in the tungsten price (the 2015 APT price averaged ~US\$250/mtu, and is increasing from 10 year lows), subsequent work has concentrated on looking at ways to reduce both capital and operating costs to improve project economics in the light of the decay in revenues, to which the project value is highly geared. Reduced capital costs may also help obtaining financing given the tight capital markets.

This has been helped by general decreases in Australian denominated costs across the board driven by both the end of the mining boom (and increased competition for work) and falls in fuel, labour and consumable prices. In our view these can lead to falls of at least 15% (and potentially significantly greater) in operating costs, and similar reductions in capital costs. Capital considerations include the availability of second hand equipment.

With costs being largely denominated in Australian dollars and metal prices in US dollars, falls in the Australian dollar will also lead to increases in Australian denominated metals

The Company has continued to refine operating and capital costs given falls in the tungsten price

This has been helped by falls in the AUD, and general decreases in mining costs in Australia



prices, thus improving margins.

Published results from this work has used operating costs 15% below those used in the DFS, and capital costs of A\$143m, compared to the original figure of A\$172m. The Company believes that both operating and capital costs can be further significantly reduced (with capex to possibly under A\$100m through simplification of the circuit). This follows on from work carried out by GZRINM, a Guangzhou based scheelite flotation expert.

Optimisation work is ongoing, with further updates to the DFS planned over coming months. This will also look at the economics of a smaller, higher grade operation (economics are sensitive to changes in grade) in addition to the work being carried out on costs.

Other Exploration Potential

Vital’s tenement package is also considered prospective for gold and copper, with only limited exploration by Vital to date due to restrictions in the JOGMEC JV agreement.

The Watershed tenement package is also considered prospective for gold and copper

This includes a number of gold prospects on 19089, where vein style mineralisation occurs in a 1.5km x 1.6km zone north of the Elephant Granite, and is considered to be mesothermal in style, similar to other gold mineralisation in the Hodgkinson Province.

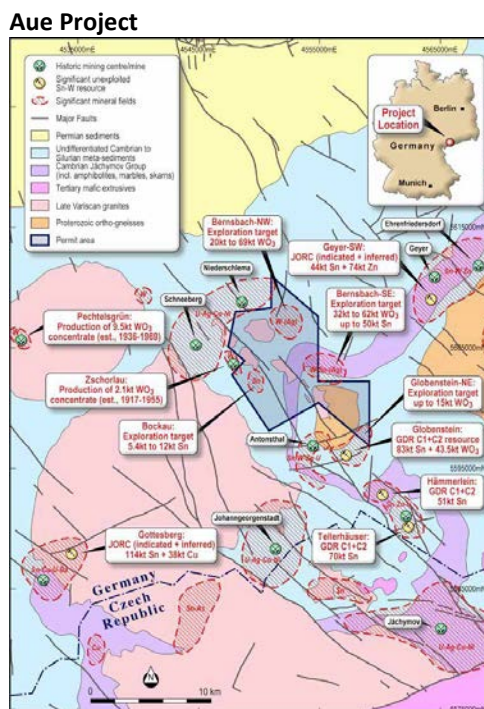
Historical drilling on the Ivory Vein has returned intercepts of up to 10M @ 5.9g/t Au and 15m @ 2.7g/t Au. The Ivory Vein is associated with a 700m long gold-in-soil anomaly.

The nearby EPM25139 contains the early stage Peninsula copper prospect, defined by stream sediment anomalies. Vital has compiled historical data and completed a soil sampling programme and grab sampling of rock chips. This has returned values up to 19% copper, with elevated cobalt and zinc, indicative of an underlying sulphide source.

Aue Project, Saxony, Germany (VML 100%)

The Aue Project, located in the German state of Saxony, was granted for an initial period of five years in the March 2015 quarter.

The recently granted Aue Project in Saxony, Germany, covers areas of historic W, Sn and Ag mining



Source: Vital Metals

The project, of 78km², covers areas of historical mining, and is considered highly prospective for tungsten, tin and silver mineralisation. Drilling in the 1970’s by the

The area contains a number of prospects that require follow up

Soviet-German SDAG Wismut company over what is now called the Bernsbach-NW area resulted in a “prognostic” resource estimate (non-JORC compliant, and broadly comparable with an Exploration Target) of 20,000-69,000t of contained WO₃ at a grade of between 0.18-0.23% WO₃.

The Company is currently compiling historic data with a view to planning drilling programmes to follow up historic work.

Burkina Faso (VML, 100%)

The Company is seeking farm-in partners for its Burkina Faso exploration properties, and has thus completed no further exploration work over the properties. Exploration has targeted gold mineralisation from surface that is suitable for open pit mining. Project best mineralisation intercepts include 5m @ 60.36 g/t gold from 75m, including (2m @ 128.50 g/t gold from 76m).

Corporate

Equity Placements and Rights Issue

Vital has raised approximately A\$2.6m through five rights issues or placements since our initiation note. This has been used largely for progressing Watershed and administration.

Strategic Investment by Sedgman Limited

ASX-listed global mineral processor and infrastructure solution provider Sedgman Limited (ASX: SDM) made a \$500,000 strategic investment in Vital in 2014. This included a \$250,000 placement at \$0.04/share, and a \$250,000, 5% coupon convertible note, subsequently converted in June 2015 into 6,762,075 shares.

Sedgman carried out the engineering work for the Watershed DFS, and is currently under takeover by CIMIC Group Limited (previously Leighton), and the world’s largest contract miner. There could be development synergies with this relationship, given that Theiss Mining is also a part of the group.

Convertible Loan – Macquarie Bank Limited

The \$3 million Convertible Loan Facility with Macquarie Bank Limited (“Macquarie”) has been rolled over twice since our initiation note, and is now due on June 30, 2016. The revised note has an interest rate of 7% over the bank bill swap rate, with interest capitalised at Vital’s election. As part of the agreement, Vital issued Macquarie with 68.2 million options with an exercise price of \$0.044/share.

Valuation

We have revised our valuation for Vital, with key changes including using production profiles as used in the DFS (our previous valuation, which was pre-DFS was based on a hypothetical case).

Company Valuation – Risked NAV - 100% of Watershed

Project	Risked Value (\$A)	Value per Share	Notes
Watershed	\$52.65	\$0.152	DCF, 8% DR, 35% discount to NPV to reflect Reserve confidence levels Based on 2014 DFS, however with opex 10% lower than base case, capex as released in June 2015, and forecast metals prices
Doulnia	\$1.00	\$0.003	Nominal value – now written off in accounts
Aue, Germany	\$1.00	\$0.003	Nominal value
Cash	\$0.39	\$0.001	December 31, 2015
Debt	-\$3.16	-\$0.009	December 31, 2015
Total	\$51.88	\$0.150	

Source: Breakaway estimates

We have a risked valuation of \$0.15/share for Vital

Our DCF valuation for Watershed is based on the 2014 DCF, but incorporates lower operating and capital costs, and changes in metal prices and exchange rates

DCF Valuation - Watershed

We have valued Watershed using an 8% DR DCF model, based on the 2.5mtpa operation as presented in the DFS. We have largely used figures as presented in the DFS, with three important exceptions:

- **Pricing and exchange rates – we have used forecast tungsten prices of US\$250/mtu of concentrate, and an AUD/USD exchange rate of 0.70.**
- **Capex – we have used the \$143m figure as released to the market on June 29, 2015. As mentioned in the January 22, 2016 release and above, there is potential for additional decreases in capex, however we have not allowed for this given no firm figures have been released.**
- **Opex – although we have modelled Watershed using the DFS figures, our preferred value is that with opex 10% lower than this (as determined by our sensitivity analysis). As discussed earlier anecdotal evidence indicates that mining operating costs in Australia have fallen in the region of 10-20% over the last few years with the end of the mining boom as well as due to the fall in energy costs, and thus our valuation may be conservative. Our sensitivity analysis includes the case of a 20% fall in opex.**

A point that needs to be noted is that we have used reserves as for the DFS – given changes in costs and prices we would actually expect reserves to change. Whittle optimisation work using an APT price of US\$250/mtu (with a 20% discount for concentrate), a 0.70 exchange rate and a 20% decrease in costs has resulted in a larger in-pit reserve. These figures could also change with additional drilling delivering more shallow resources, and hence potentially more reserves. In addition, as mentioned the Company will look at the economics of a smaller, higher grade operation as part of ongoing optimisation work.

This is an unfunded valuation – we consider it too early to speculate on potential funding scenarios. For the same reason, given the effect of funding on tax, we have presented a pre-tax valuation.

In modelling, we have used the following key inputs. All figures are in Australian dollars unless otherwise noted, and are on a 100% project basis. Key parameters include:

- Initial capex of \$143 million – revised figures
- 10 year, 2.5mtpa mining and processing rate
- Flat LOM price and exchange rate pricing:
 - AUD/USD exchange rate of 0.70
 - Forecast APT price of US\$312/mtu, with a 20% discount for concentrate resulting in a concentrate price of US\$250/mtu. This is at a premium of around 80% to current price of around US\$185/mtu WO₃ in APT, and has been obtained from independent sources.

DCF base case model parameters and outcomes – AUD used except as noted

Parameter	Result	Notes
PRODUCTION PARAMETERS		
Total ore mined	23 Mt	Current DFS scenario
Mining Rate	2.5mtpa	
Head Grade	0.15%	Average over life of mine
Metallurgical Recovery	73.6%	Current DFS scenario
LOM WO ₃ Production	25,000t	
LOM (years)	10 yrs	Current DFS scenario
Strip Ratio	2.9:1	Current DFS scenario



DCF base case model parameters and outcomes (cont.) – AUD used except as noted

UNIT FINANCIALS		
C1 Opex/mtu WO ₃ – DFS costs/preferred costs	\$224/\$202	DFS scenario, both base case and with opex at a 10% discount to the base case Based on \$14.1/tonne or ore mining, \$1.80/ROM tonne G & A and transport, \$8.80/ROM tonne processing
Royalties and Taxes/mtu WO ₃	\$10	2.7% Qld state Ad Valorum royalty
Initial Capex/mtu WO ₃	\$58	Based on Company estimate of \$143 million initial capex. Based on other projects this may be low, however the project is least sensitive to capex
Sustaining Capex/mtu WO ₃	\$10	Based on 3% of revenue
Total Cost/mtu WO ₃ – DFS costs /preferred costs	\$302/\$280	
Sales Price/mtu WO ₃	\$357	Based on a con price of US\$250/mtu, ER of 0.70.
Lom Margin/mtu WO ₃ – DFS costs /preferred costs	\$55/\$77	

OVERALL FINANCIALS – UNGEARED, 100% BASIS	
Peak EBITDA – DFS costs/preferred costs	\$65m/\$69m
Total FCF – DFS costs /preferred costs	\$137m/\$193m
Real NPV, 8% DR – DFS costs /preferred costs	\$43m/\$77m
Payback Period – DFS costs /preferred costs	4/4.5 years
IRR – DFS costs /preferred costs	15%/20%

Source: Breakaway Analysis

Sensitivity Analysis

Our valuation is most sensitive to operating costs and the tungsten price, with comparisons presented below. The first table presents the un-risked valuation for Watershed, with the second showing the risked per share (undiluted) valuation. We have risked Watershed at a 35% discount to NPV to reflect the mix of Proven and Probable Reserves. Our preferred case is highlighted; and the tables show the significant upside potential either through lower costs or higher tungsten prices.

In addition the project is sensitive to grade – a 5% increase will add around \$26m to the our preferred valuation.

Watershed un-risked NPV₈ sensitivity – preferred case highlighted

Watershed is sensitive to operating costs and metal prices

Tungsten concentrate price (USD) – 20% discount to APT price							
		\$17,500/t	\$20,000/t	\$22,500/t	\$25,000/t	\$27,500/t	\$30,000/t
Change in Opex from DFS	-20%	-\$41	\$11	\$63	\$115	\$167	\$219
	-10%	-\$75	-\$23	\$29	\$81	\$133	\$185
	0%	-\$109	-\$57	-\$5	\$47	\$99	\$151
	10%	-\$143	-\$91	-\$39	\$13	\$65	\$117
	20%	-\$177	-\$125	-\$73	-\$21	\$31	\$83

Source: Breakaway Analysis

Watershed per share sensitivity – risked at 35% discount to NPV

Tungsten concentrate price (USD) – 20% discount to APT price							
		\$17,500/t	\$20,000/t	\$22,500/t	\$25,000/t	\$27,500/t	\$30,000/t
Change in Opex from DFS	-20%	-\$0.08	\$0.02	\$0.12	\$0.22	\$0.31	\$0.41
	-10%	-\$0.14	-\$0.04	\$0.05	\$0.15	\$0.25	\$0.35
	0%	-\$0.20	-\$0.11	-\$0.01	\$0.09	\$0.19	\$0.28
	10%	-\$0.27	-\$0.17	-\$0.07	\$0.02	\$0.12	\$0.22
	20%	-\$0.33	-\$0.24	-\$0.14	-\$0.04	\$0.06	\$0.16

Source: Breakaway Analysis



Upcoming Work

Vital's planned work programme over coming months will include:

- Renegotiating the Macquarie facility
- Sourcing and negotiating with potential offtake partners
- Infill and extensional drilling (dependent upon funding)
- Further optimisations to look at the economics of a shorter mine life, higher grade, higher NPV scenario – the minimum 10 year plan was a constraint set by JOGMEC.

Breakaway's View

In Watershed, Vital has a development ready tungsten project that has, like other projects suffered due to recent dramatic falls in the tungsten price to 10 year lows as shown in the following price chart. Technically and permitting wise Watershed is largely de-risked, and has the potential to be a quality operation in the right markets.

Given the advanced state of the Project Vital is of the view that it would take at the most two years to get up and running following a decision to go ahead and financing, as shown in the figure below.

Provisional Watershed development timetable

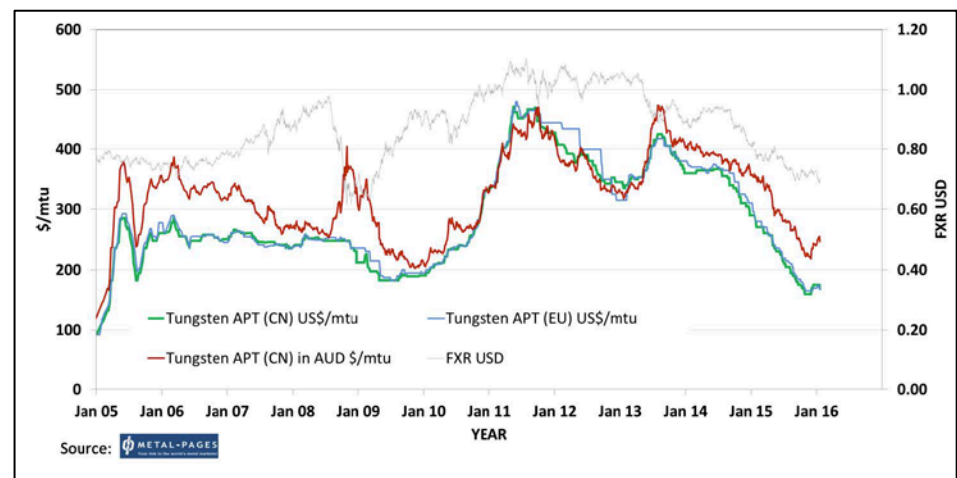
Watershed Provisional Timetable								
Activity	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Design								
Earthworks								
Construction								
Commisioning								
Commercial production								
Offtake								

Source: Vital Metals

The key to unlocking value in Watershed will be increases in the tungsten price, which some forecasters believe will increase steadily over the medium term, although this is largely reliant on the world economy driving demand.

Compared to the double price spike between 2011 and 2014 where APT prices reached close to US\$500/mtu, prices are forecast to average around US\$300-\$325/mtu for APT over the next 10 years based on a steady increase to up to around US\$400. This equates to an average price of around US\$240-\$260/mtu for WO₃ in concentrates.

11 year APT price chart



Source Vital Metals

The market is also largely controlled by China, which until recently produced some 80% and consumed around 55% of global tungsten. However it has been reported that



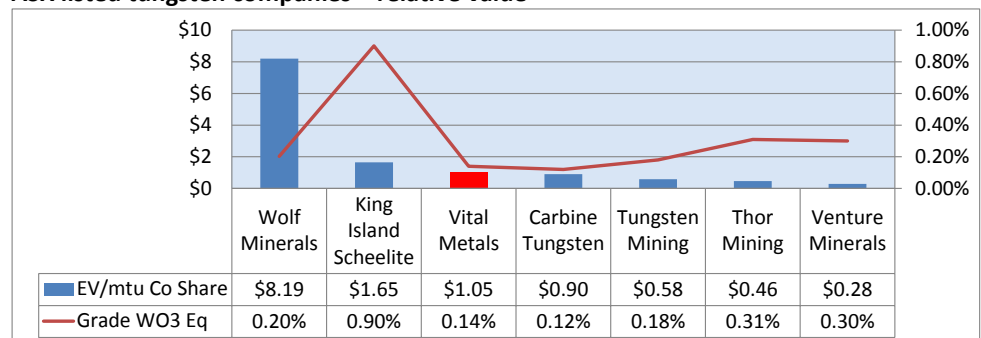
Chinese producers are now struggling to maintain output, with declining grades and rising costs (estimated to be around US\$175/mtu WO₃ in concentrate on average). Also China is focussing on moving away from being a supplier of raw materials into producing value added finished products – as such it has enacted a 6.5% resource export tax.

Another key will be to reduce operating and capital costs to accommodate the difference between prices as used in the DFS and the lower forecast prices (although all have been partially buffered by falls in the AUD since the DFS). As mentioned earlier recent years have seen significant falls in costs related to mining projects in Australia, due to both competitive pressure and falls in energy prices.

If Watershed can achieve the predicted cost savings (and our view is that they are reasonable), it should have costs in the 2nd to 3rd quartile, and thus making it a competitive long term producer once prices improve to forecast levels. Resource optimisations and delineation of new resources also have the potential to significantly enhance economics and hence project value.

Capital markets are also still very tight, and combined with the current tungsten prices makes it well-nigh impossible to raise the required development capital at the current time – this is a problem facing most potential tungsten operations and is depressing values in the sector, as shown in the table below. This compares companies based on their enterprise value/mtu of WO₃ Eq in Resources.

ASX listed tungsten companies – relative value



Source: Breakaway analysis
EV = Undiluted market capitalization less cash plus debt (including con notes)

Note here the difference between the only producer (Wolf Minerals) and the others – Wolf was financed at significantly higher tungsten prices. This also shows the potential for value appreciation should Watershed progress towards development.

On the corporate side there is still the potential overhang of the Macquarie facility. Conversion of this will lead to significant dilution of existing shareholders. However, given that this note has been rolled over a few times already, there should be a fair chance of this occurring again this year.

The Company will need to raise working capital in the short term – given the recent history of raisings we would expect this to be reasonably small, and thus not overlay dilutive to shareholders. Expenditure requirements are currently relatively minor, and will include allowances for administration, ongoing optimisation studies and potentially drilling.

We continue to rate Vital as a SPECULATIVE BUY, with a base case valuation of \$0.15/share

Despite some of the issues above we continue to rate Vital as a SPECULATIVE BUY, with a base case risked NAV valuation of \$0.15/share. Key share price drivers for Vital will include realisation of implicit value through improvements in the resource market in general and forecast recoveries in tungsten prices in particular, which should then lead to material progress on financing and potentially development.



Analyst Verification

We, Grant Craighead and Mark Gordon, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

Disclosure

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Vital Metals and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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