

Malawi, Mozambique

Rare Metals, Uranium, Fluorine

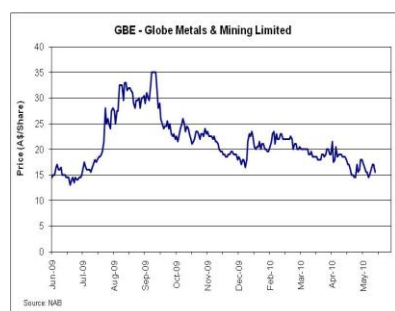
Bankable Feasibility Study (BFS)

Exchanges: ASX: GBE

June 1, 2010

## Capital Profile

<b>Share price (A\$)</b>		<b>0.16</b>
52 week range (A\$/share)	0.071 to	0.38
<b>Number of shares (m)</b>		<b>93.3</b>
Options and warrants (m)		5.7
Performance shares (m)		4.5
Fully diluted (m)		103.5
<b>Market capitalisation (undiluted) (A\$m)</b>		<b>14.5</b>
Debt (A\$m) - Jun 10F		0.0
<b>Enterprise value (A\$m)</b>		<b>12.1</b>
Major shareholders: ANZ Nominees Ltd (10.7%)		
Ragusa Investments Ltd (9.0%), National Nominees Ltd (5.8%)		
Avg monthly volume (m)		4
<b>Cash (A\$m) - Jun 10F</b>		<b>2.4</b>
Price/Cash (x)		6.1
Price/Book (x)		1.0
Listed company options:		No
<b>Unlisted options:</b>		
Number (m)	Expiry date	Strike price (A\$)
0.1	04-Jun-10	0.75
0.15	25-Jun-10	1.00
2	30-Jun-10	1.00
0.5	30-Jun-10	0.88
2.2	20-Jul-13	0.15
0.2	26-Oct-13	0.25
0.35	01-Sep-14	0.3



## Directors

M Sumich (Exec Chair, MD)  
 D Sumich (Non Exec)  
 J Stephens (Exec)  
 W Hayden (Non Exec)

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# GLOBE METALS & MINING LTD

Current price: A\$0.16

**A resource upgrade of the 55mt Kanyika Niobium Project (Malawi) is imminent (June 2010). BFS expected 2011. Company MOU's in place for offtake covering 45% of production. NAV is A\$141m, compared to market cap A\$15m - a valuation gap that should close as project milestones are reached.**

## INVESTMENT POINTS

- **Valuation gap:** Globe NAV based on scoping and feasibility study conditions is **A\$141m** or **A\$0.50/share** post development funding - current market cap **A\$15m**.
- **Kanyika** (central Malawi) – **multi-commodity Nb-U-Ta-Zr deposit**. Contained ore value ~US\$150/t (~3.8g/t Au eq at gold price US\$1200/oz).
- Key economic driver is **niobium**, Nb (>85% of forecast revenue) - used in steel. Nb contract price held relatively steady during the GFC. **MOUs in place for ~45% offtake**.
- Kanyika **Bankable Feasibility Study** results expected 2011. Scoping Study (Jun '08, Coffey; update May '09) - 4ktpa Nb as FeNb, opex US\$13/kg-US\$20/kg Nb, capex US\$156m.
- Kanyika resource of 55.3mt includes **165.9kt Nb<sub>2</sub>O<sub>5</sub>** grading 0.30%, with 16.8mlbs tantalum as Ta<sub>2</sub>O<sub>5</sub> and 9.8mlbs uranium as U<sub>3</sub>O<sub>8</sub>. **Significant upgrade expected 2Q10**.
- Portfolio of exploration projects, focused on rare earth elements (REE), Nb/Ta, fluorite and uranium. Recent strong HREE results from **Machinga Project**, Malawi (GBE acquiring 80%).
- **Price risk** from GBE (small, low grade) entering Nb market is **minimal**, if competitors show rational pricing behaviour.

## KEY FINANCIAL STATISTICS

YEAR END: 30 June	2009a	2010F	2011F	2012F	2013F
Niobium Price (US\$/kg)	21.8	32.0	33.8	34.5	41.0
Exchange Rate (A\$/US\$)	0.75	0.88	0.84	0.80	0.80
Ore Milled (kt)	0.0	0.0	0.0	0.0	1740.8
<b>Equity Production (t contained Nb)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2205.1</b>
Total Revenue (A\$m)	0.6	0.2	0.1	0.0	189.5
EBIT (A\$m)	-4.7	-4.8	-4.3	-4.4	71.3
<b>Net Profit (norm) (A\$m)</b>	<b>-4.7</b>	<b>-4.8</b>	<b>-4.3</b>	<b>-4.4</b>	<b>40.6</b>
EPS (norm) (A¢/share)	-6.8	-4.9	-4.0	-3.9	36.6
<b>CFPS (A¢/share)</b>	<b>-6.5</b>	<b>-4.9</b>	<b>-4.0</b>	<b>-4.0</b>	<b>64.4</b>
Dividends (A¢/share)	0.0	0.0	0.0	0.0	0.0
PER (x)	-2.3	-3.1	-3.9	-3.9	0.4
P/CF (x)	-2.4	-3.1	-3.9	-3.9	0.2
Yield (%)	0	0	0	0	0.0
<b>EV/EBITDA (x)</b>	<b>-2.6</b>	<b>-2.5</b>	<b>-2.8</b>	<b>-2.8</b>	<b>0.2</b>
Shares on Issue (30 June) (m) *	69	94	108	108	108

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## Introduction

**Globe Metals and Mining Limited is listed on the ASX.**

**Its focus is on the Kanyika niobium-tantalum-uranium project in Malawi.**

Globe Metals & Mining listed on the ASX in December 2005. It is an African-focused rare metals resource company. GBE's main project is the multi-commodity (niobium, uranium, tantalum and zircon) Kanyika Niobium Project in central Malawi.

Kanyika has a 55.3mt JORC resource grading 0.3% Nb<sub>2</sub>O<sub>5</sub>. A Bankable Feasibility Study (BFS) commenced in August 2009 and production is planned for 2012, at a rate of 3,000tpa niobium metal, principally in the form of ferro-niobium. **Niobium has a growing market in the steel industry**, where it is used in high-strength low alloy (HSLA) products.

Globe also has exploration projects focused on rare metals, fluorite and uranium projects in Malawi (175,000 hectares) and Mozambique, which are managed from its regional office in Lilongwe, the capital of Malawi, and its corporate head office in Perth, Australia.

## Globe Metals & Mining valuation

**Conceptual NPV for GBE's 75% of the Kanyika Project (with 25% to JV partner) is A\$120m ...**

**... while NPV for the company is A\$141m, or A\$1.46/share, compared to the current share price of A\$0.155/share.**

Based on GBE's forecast Kanyika production and cost parameters (June 2008 Scoping Study and May 2009 update), and assuming prices of Nb (in FeNb) US\$39/kg (current market price ~US\$37/kg), Ta raw material US\$65/lb (pure Ta<sub>2</sub>O<sub>5</sub>) and U<sub>3</sub>O<sub>8</sub> at US\$46/lb (RCR long term forecast), **project** net present value (NPV) at 10% (real) is **A\$120m**.

There is potential, if Exploration Targets are achieved, to expand mine life to 40+ years (with the first ~15 years in high-grade, +0.3% Nb<sub>2</sub>O<sub>5</sub> mineralisation), and add another A\$21m to NPV. **Total valuation for Globe Metals & Mining is A\$141m, or A\$1.46/share fully diluted.** This value compares very favourably with GBE's current, fully diluted market capitalisation of ~**A\$15m**.

We attach no specific time component to GBE bridging this valuation gap; rather, achieving it will be dependent on reaching milestones such as the BFS (now expected in 2011), and the expansion of the resource, towards the exploration target of 100mt-110mt. There is potential for further dilution of the capital structure to affect this valuation, on the downside: for example, if the capital cost of the Kanyika Project is US\$150m and 50% (A\$94m) is raised as equity at A\$0.50/share

## Globe Metals & Mining Valuation, May 2010

	Equity	Niobium (kt)	Valuation US\$/kg	Target	Valuation Sensitivity	
				Price A\$m	(Low) A\$m	(High) A\$m
<b>Projects</b>						
+ Kanyika Resource	75%	165.98	0.77	120	8	449
+ Kanyika exploration	75%	160.00	0.11	16	1	39
+ Regional exploration	100%			5	1	10
Sub Total				141	10	498
+ Cash				2.4	2.4	2.4
+ Tax Losses				0.0	0.0	0.0
- Debt				0.0	0.0	0.0
- Corporate				2.2	2.2	2.2
Sub Total				0.2	0.2	0.2
<b>GBE NET ASSET VALUE</b>				<b>141</b>	<b>10</b>	<b>498</b>
<b>Capital Structure</b>						
Shares				93.8	93.8	93.8
Fully Diluted Shares				96.7	96.7	96.7
<b>GBE NET ASSET VALUE PER SHARE</b>			<b>:A\$/share</b>	<b>1.51</b>	<b>0.11</b>	<b>5.31</b>
<b>GBE NET ASSET VALUE DILUTED</b>			<b>:A\$/share fully diluted</b>	<b>1.46</b>	<b>0.11</b>	<b>5.16</b>
With added dilution at A\$0.50/share to raise 50% of US\$150m			:A\$/share fully diluted	0.82		
With added dilution at A\$0.25/share to raise 50% of US\$150m			:A\$/share fully diluted	0.50		

### KANYIKA SPECIALTY METALS PROJECT (NPV based on current resource, June 2008 Scoping Study and May 2009 update)

	Equity		Sensitivity			
LONG TERM NIOBIUM PRICE (per kg in FeNb alloy) <sup>^</sup>	:US\$/kg	25	35	45	55	65
EXCHANGE RATE	:AUUS	0.80	0.80	0.80	0.80	0.80
KANYIKA NPV @ 10% REAL*	:A\$m	75%	8	86	207	328
KANYIKA NPV @ 10% REAL*	:US\$m	75%	7	68	165	262
<b>NPV/SHARE</b>	<b>:A\$/share</b>		<b>0.09</b>	<b>0.91</b>	<b>2.20</b>	<b>3.50</b>
* Includes a pre-BFS discount of 30% of the project valuation: 30%						
<sup>^</sup> Niobium prices are modelled as flat line from start of production. Long term FeNb is US\$39/kg (Nb), Ta <sub>2</sub> O <sub>5</sub> US\$65/lb, U <sub>3</sub> O <sub>8</sub> US\$46/lb						
<b>GBE's equity assumed to be 75% due to Thuthuka Group investment of US\$10.6m, to obtain 25%</b>						

### KANYIKA SPECIALTY METALS PROJECT KEY ASSUMPTIONS\*

RESOURCE ESTIMATES						
Current JORC Indicated and Inferred resource (1,500ppm Nb <sub>2</sub> O <sub>5</sub> cut-off)						
	<b>Ore</b>	<b>Nb</b>	<b>Ta</b>	<b>Zr</b>	<b>U</b>	
	<b>Mt</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	
<i>Model does not include zircon production</i>	55.3	0.30	0.014	0.50	0.008	
	<b>Contained metal, mlbs</b>	<b>366</b>	<b>17</b>	<b>610</b>	<b>10</b>	
	Contained metal, kt	166.0	7.8	276.6	4.4	
MINING METHOD	Open Pit					
PROCESS METHOD	Dedicated Specialty Metals Plant Concentrate: crush, gravity (incl. separation of zircon and magnetite), flotation. Downstream: weak then strong acid leaches, calcining (Nb, Ta, U), smelting with Fe (FeNb).					
		<b>Year 1</b>	<b>Year 10</b>			
PRODUCTION RATE	:mtpa	1.72	2.3	Head grade falls from 0.38% Nb <sub>2</sub> O <sub>5</sub> to 0.29% Nb <sub>2</sub> O <sub>5</sub>		
	:tpa Nb	3,000	3,000			
	:strip ratio	0.6	1.9			
CAPITAL COSTS	:US\$	151.7m		Excludes working capital; sustaining capex \$4mpa.		
RECOVERIES TO CONCENTRATE	:%	65		All products (Nb, Ta, U)		
DOWNSTREAM RECOVERY	:%	69				
OPERATING COSTS	:US\$/t		40 to 43	(Includes US\$2.80/t mined, US\$26 to 34/t milled)		
TAX	:%		30	Company tax in Malawi		
ROYALTY	:%		3	ASX:PDN at Kayelekera pays 1.5% for first 3 yrs, then 3%		
MINE LIFE	:Years		10+			
COMMISSION DATE	:		June 2012			

\* These figures are preliminary in nature and are intended to provide only a general indication of project potential scale and economic robustness. Considerable refinement may result from bankable feasibility study, expected in 2011.

Even allowing for reasonable future dilution, GBE appears highly undervalued.

(assuming AU/US is 0.8), then the valuation could be  $(A\$141m + A\$94m) / (97m + 188m \text{ shares}) = A\$0.82/\text{share}$ . If shares are placed at  $A\$0.25/\text{share}$ , close to the current price, **the valuation becomes A\$0.50/share**. Even allowing for such considerable dilution, the company still appears highly undervalued.

#### Potential Near to Mid Term Value Drivers for GBE

The share price can be driven from its current level towards the NPV-based fair value by catalysts, such as reaching project milestones.

- **Milestones** including BFS for Kanyika Project and successful permitting.
- **Exploration success** in Malawi and Mozambique (Nb-Ta, REE, F, U).
- Increasing **resource** size and confidence at Kanyika, and establishing ore **reserves**.
- **Cost reductions** as part of BFS to enhance the bottom line.
- **Offtake agreements** for products (ferroniobium; oxides of niobium, uranium, tantalum; possibly zircon, magnetite, fluoride)
- **Successful funding** via equity or debt, to build Kanyika.
- **Increasing demand and prices for niobium and tantalum.**

## Kanyika Niobium Project (Malawi)

The main target commodities in Kanyika are Nb, Ta and U.

GBE is targeting rare metals (niobium, tantalum) and uranium mineralisation in an alkalic granitoid in central Malawi, Africa. The main ore minerals are disseminated pyrochlore (Nb, Ta, U) and zircon (Zr). GBE aims to bring Kanyika into production in late 2012.

### Resource and grade

The Kanyika granitoid is enriched in niobium, tantalum, uranium and zirconium (as zircon), over five outcropping, strike-parallel high-grade zones within a larger mineralised envelope. There are four central zones - Pangano, Uzambazi, Etandweni and Chikoka - and a higher-grade northern zone, Milenje.

Current JORC Inferred resource is 55.3mt containing 165.9kt of Nb<sub>2</sub>O<sub>5</sub>, 17mlbs of Ta<sub>2</sub>O<sub>5</sub> and 10mlbs of U<sub>3</sub>O<sub>8</sub>, with 24mt at higher grades.

An updated JORC-qualifying, Indicated and Inferred total resource was released in April 2009, of 55.3mt @ 0.3% Nb<sub>2</sub>O<sub>5</sub> (165.9kt or 366mlbs), 0.008% U<sub>3</sub>O<sub>8</sub> (10mlbs), 0.014% Ta<sub>2</sub>O<sub>5</sub> (17mlbs) and 0.5% ZrSiO<sub>4</sub> (610mlbs or 276.6t), which has 0.15% Nb<sub>2</sub>O<sub>5</sub> cut-off. Within this total is 24mt of high grade material at 0.3% Nb<sub>2</sub>O<sub>5</sub> cut-off, which includes 91.2kt Nb<sub>2</sub>O<sub>5</sub> grading 0.38%. Indicated resources are 23.9% of the total (or 35.4% for high-grade, which run 0.42% Nb<sub>2</sub>O<sub>5</sub>).

The total resource is defined over 2.3km of ~4km known strike of mineralisation, after drilling in 2007/2008 (176 RC and diamond holes for 15,899m). A typical high-grade intersection from 4Q08 resource infill and expansion drilling (Milenje Zone extension, since included in the current resource) is 28m @ 0.553% Nb<sub>2</sub>O<sub>5</sub>, 0.029% Ta<sub>2</sub>O<sub>5</sub> and 0.008%

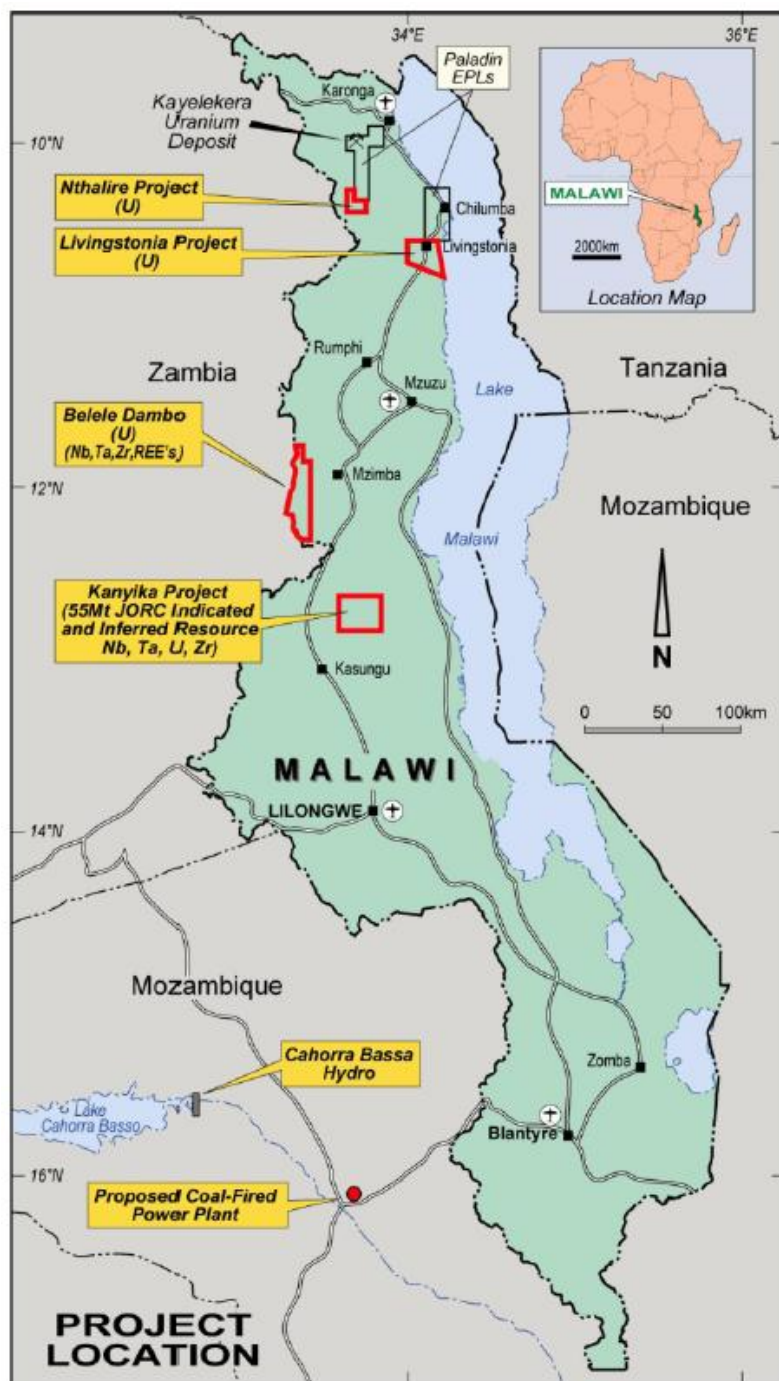
U<sub>3</sub>O<sub>8</sub> from 71m depth including 37m @ 2.604% Nb<sub>2</sub>O<sub>5</sub>, 0.191% Ta<sub>2</sub>O<sub>5</sub> and 0.138% U<sub>3</sub>O<sub>8</sub> (KARC109).

**Exploration and resource expansion potential**

A 5,200m RC infill drill program, targeting high grade mineralisation, and possible Measured and additional Indicated resources that could convert to Proven and Probable reserves, was completed in 4Q09. Results include 23m @ 1.13% Nb<sub>2</sub>O<sub>5</sub>, 0.056% Ta<sub>2</sub>O<sub>5</sub> and 0.039% U<sub>3</sub>O<sub>8</sub> (from 46m) with an impressive 2m @ 8.44% Nb<sub>2</sub>O<sub>5</sub>, 0.44% Ta<sub>2</sub>O<sub>5</sub> and 0.30% U<sub>3</sub>O<sub>8</sub> (from 46m). A 960m diamond drilling program was also completed, primarily for geotechnical purposes. An upgraded resource is expected in June 2010.

**A resource upgrade is expected in May/June 2010.**

**GBE project location map, Malawi**



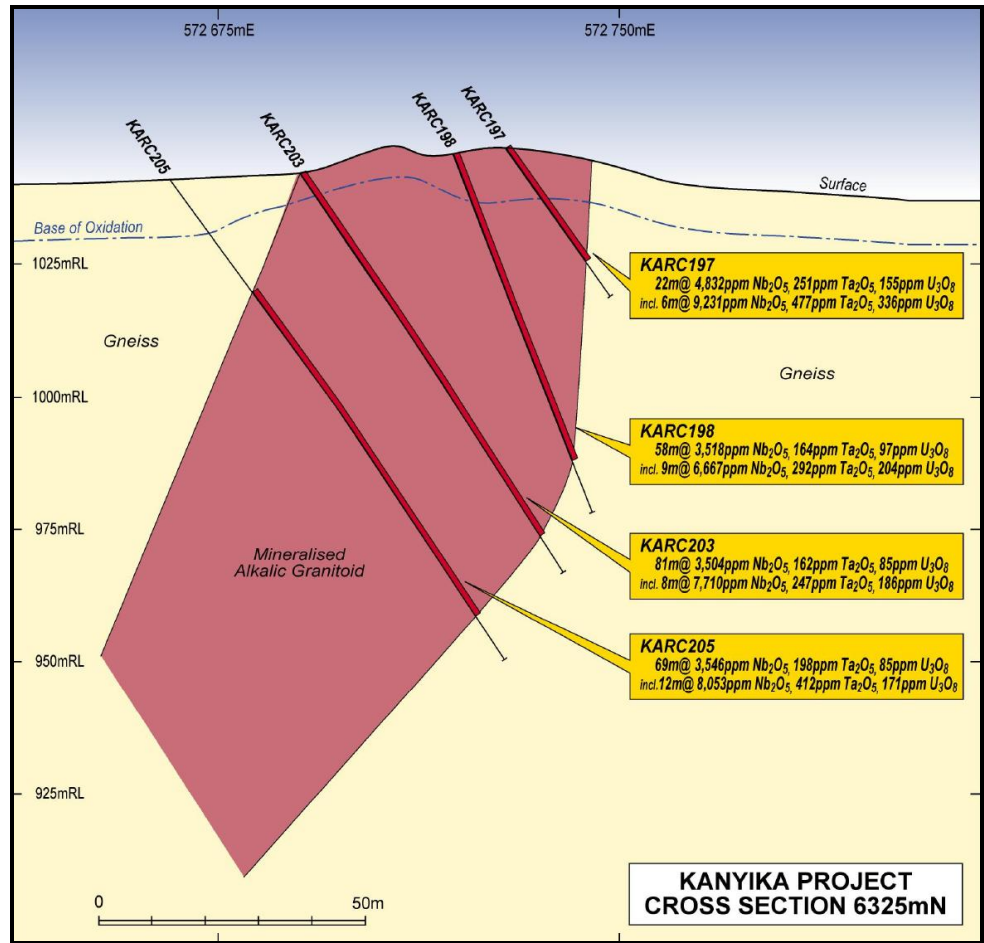
**Kanyika is Globe's most advanced project. It is located 100km north of the capital, Lilongwe.**

**GBE also has a pipeline of specialty metal and uranium exploration projects in Malawi and neighboring Mozambique.**

**GBE project location map, Malawi**

**Drilling at Kanyika has encountered multiple zones of high grade, near surface or outcropping mineralisation. Recent intercepts include 20m @ 0.56% Nb<sub>2</sub>O<sub>5</sub>, 0.026% Ta<sub>2</sub>O<sub>5</sub> and 0.011% U<sub>3</sub>O<sub>8</sub> from 18m depth, including 9m @ 0.62% Nb<sub>2</sub>O<sub>5</sub> from 19m.**

**A resource upgrade is expected in early June 210.**

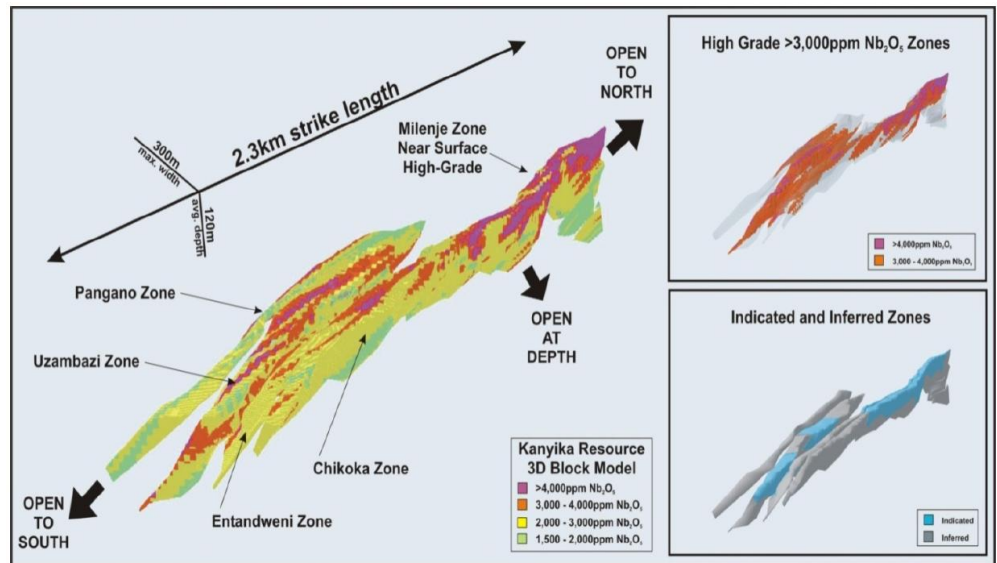


**GBE's Resources of niobium, tantalum and uranium; all are at the Kanyika Project**

Code for reporting mineral resources - Australian: (JORC)								
Nb, Ta, U	Classification	Project Equity	Ore Mt	Nb <sub>2</sub> O <sub>5</sub> %	c/off Nb <sub>2</sub> O <sub>5</sub> %	Ta <sub>2</sub> O <sub>5</sub> %	U <sub>3</sub> O <sub>8</sub> %	Nb <sub>2</sub> O <sub>5</sub> kt
<b>Reserves</b>			0.0	0.0		0.0	0.0	<b>0.0</b>
<b>Resources</b>								
Kanyika Niobium Project	Inferred	75%	<b>55.3</b>	<b>0.30</b>	<b>0.15</b>	<b>0.014</b>	<b>0.008</b>	<b>165.9</b>
<b>Mineralised Material (est., non compliant with JORC)</b>			0.0	0.0		0.0	0.0	<b>0.0</b>

## Block model of current Kanyika resource

Strike length of the resource is 2.3km, with 1.7km of known mineralisation still left to drill. The deposit remains open at depth.



Exploration target is 100mt-110mt, including the current 55mt resource, i.e. there is potential to double the known mineralisation.

Kanyika still has 1.7km of known Nb-Ta-U-Zr mineralised strike, to the south of the current resource, which is yet to be drilled. The deposit is also open to the north, beneath cover, and at depth. In September 2009, GBE announced an Exploration Target of 100mt-110mt at grades of 0.29-0.32% Nb<sub>2</sub>O<sub>5</sub> (inclusive of current 55Mt Indicated & Inferred resources), with a high-grade Exploration Target component of 40-50Mt @ 0.37-0.4% Nb<sub>2</sub>O<sub>5</sub>. If the Exploration Target is achieved, high grade material could provide feed for the first ~15 years of planned production, and total mine-life could be 40+ years.

### Kanyika Metallurgy

Products from Kanyika could include ferroniobium and oxides of Nb, Ta and U.

Globe intends to produce several products from Kanyika, including ferro-niobium (FeNb) for the steel industry, as well as oxides of niobium, tantalum and uranium. Other possible products are magnetite (iron oxide) and zircon.

**Phase 1** metallurgy (2008) reported good recoveries via physical separation of pyrochlore and zircon concentrates (pyrochlore 72%) and acid leaching (eg Nb<sub>2</sub>O<sub>5</sub> and Ta<sub>2</sub>O<sub>5</sub> 98%, and U<sub>3</sub>O<sub>8</sub> 89%). It found that an FeNb alloy could be produced by pyrometallurgy.

Ongoing metallurgical tests on the Kanyika mineralisation are proving favourable ...

**Phase 2** of metallurgical testing began May '08, as part of a Pre Feasibility Study (PFS). The aim is to show that steel-grade FeNb can be produced from Kanyika and create a sample product for assessment by potential off-take partners. A secondary objective of the program is to assess the viability of producing tantalum and uranium by-products. The program has treated 6 tonnes of Kanyika run-of-mine grade material (Milenje Zone, 0.49% Nb<sub>2</sub>O<sub>5</sub> and 0.4% ZrO<sub>2</sub>), to produce a niobium-rich concentrate (46kg), and ultimately 5 to 10kg of FeNb by hydrometallurgy.

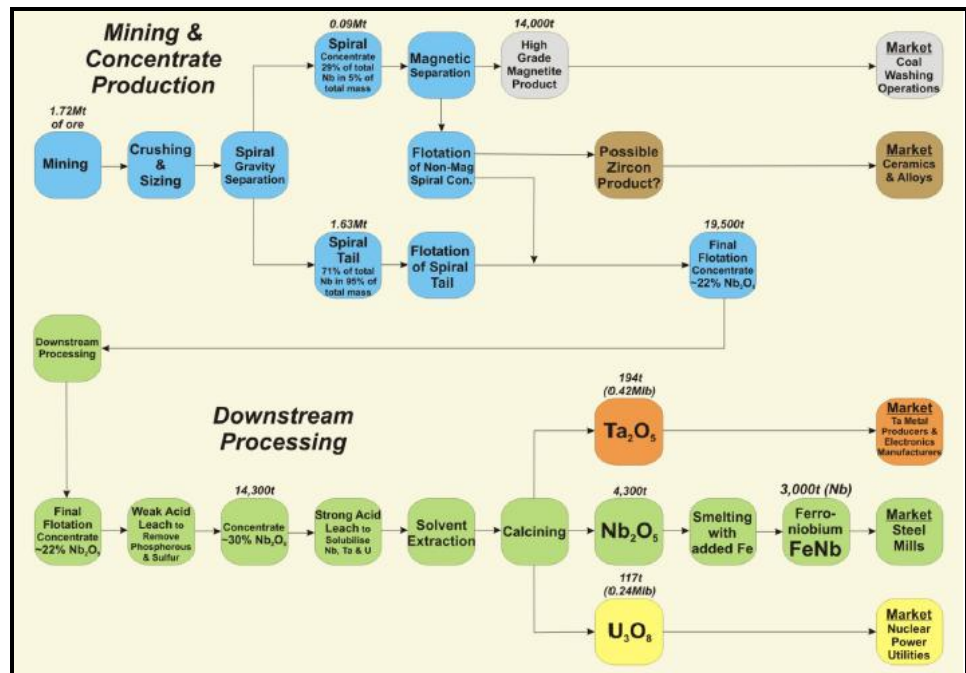
The first stage of the Phase 2 testing (Nagrom, WA) was crush-and-grind along with gravity (spiral) and magnetic separation to produce 150kg of concentrate. Test results include recovery of 31% of zircon in the non-magnetic fraction, and the potential to produce a magnetite product by re-grinding and re-separating the +500µm magnetic fraction.

## Kanyika Project summary and production forecasts

Kanyika	75%	2010F	2011F	2012F	2013F	2014F	2015F
		<b>Assumptions</b>					
Ferroniobium Price (FeNb)	:US\$/kg	32	34	35	41	41	42
Tantalum Price	:US\$/lb	67	70	71	68	69	70
Uranium Price	:US\$/lb	42.86	40.71	41.53	42.28	42.73	43.16
Exchange Rate AUD/USD		0.88	0.84	0.80	0.80	0.80	0.80
<b>Mill Production, Niobium</b>							
Ore Treated	:kt	0.0	0.0	0.0	1740.8	1796.2	1851.5
Head Grade	:%	0.00	0.00	0.00	0.38	0.37	0.36
Recovery	:%	0	0	0	45	45	45
Recovered grade	:%	0.00%	0.00%	0.00%	0.17	0.16	0.16
<b>Payable Metal</b>							
<b>Contained niobium</b>	<b>:t</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>2940.2</b>	<b>2960.9</b>	<b>2977.2</b>
Tantalum	:t	0.0	0.0	0.0	109.3	112.8	116.3
Uranium	:t	0.0	0.0	0.0	62.5	64.4	66.4
<b>Profit &amp; Loss</b>							
Revenue	:US\$m	0.0	0.0	0.0	138.3	145.6	148.5
Operating Cost	:US\$m	0.0	0.0	0.0	78.2	79.3	80.4
Depreciation	:US\$m	0.0	0.0	0.0	2.3	3.2	3.3
PBIT	:US\$m	0.0	0.0	0.0	57.9	63.1	64.8
Tax	:US\$m	0.0	0.0	0.0	16.1	17.6	18.1
<b>Net Profit</b>	<b>:US\$m</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>41.7</b>	<b>45.5</b>	<b>46.7</b>
<b>Cash Flow</b>							
Add Back - Depreciation	:US\$m	0.0	0.0	0.0	2.3	3.2	3.3
Less - Capex	:US\$m	0.0	0.0	101.1	52.6	4.0	4.0
<b>Free Cash Flow</b>	<b>:US\$m</b>	<b>0.0</b>	<b>0.0</b>	<b>-101.1</b>	<b>-8.5</b>	<b>44.7</b>	<b>46.0</b>
<b>Unit Operating Costs/kg</b>							
Direct Mining Expense	:US\$/kg	0.00	0.00	0.00	2.71	2.77	2.84
Refining and Transport	:US\$/kg	0.00	0.00	0.00	20.07	19.93	19.82
By product credit	:US\$/kg	0.00	0.00	0.00	7.64	7.83	8.11
<b>Cash Operating Cost (C1)</b>	<b>:US\$/kg</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>15.13</b>	<b>14.87</b>	<b>14.55</b>
Royalty	:US\$/kg	0.00	0.00	0.00	1.41	1.48	1.50
<b>Total Cash Cost (C2)</b>	<b>:US\$/kg</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>16.55</b>	<b>16.34</b>	<b>16.05</b>
Depreciation/Amort	:US\$/kg	0.00	0.00	0.00	0.79	1.07	1.10
<b>Total Production Cost (C3)</b>	<b>:US\$/kg</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>17.33</b>	<b>17.42</b>	<b>17.15</b>
<b>Unit Operating Costs/t</b>							
Mining	:US\$/t	0.0	0.0	0.0	2.8	2.8	2.8
Milling	:US\$/t	0.0	0.0	0.0	33.9	32.8	31.9
Overhead	:US\$/t	0.0	0.0	0.0	4.1	4.3	4.6
<b>Total Operating Costs</b>	<b>:US\$/t</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>40.8</b>	<b>40.0</b>	<b>39.2</b>

**Kanyika: proposed processing flowsheet**

... and suggest that a final process flow sheet can be devised that involves widely used and well tested techniques, such as magnetic separation, flotation, acid leach and smelting.



The second stage (results released Oct '09) was flotation of both non-magnetic spiral concentrate and the spiral tailings to produce 46kg of concentrate @ 26% Nb<sub>2</sub>O<sub>5</sub>, 1.74% Ta<sub>2</sub>O<sub>5</sub> and 0.79% U<sub>3</sub>O<sub>8</sub> (SGS Lakefield, Canada).

The next stage could be a large scale test using ~750t ROM material.

Met work is on hold while a dispute with GBE's JV partner is resolved.

The third stage (in progress) will consist of hydrometallurgy, acid leach and solvent extraction to produce Nb<sub>2</sub>O<sub>5</sub>, Ta<sub>2</sub>O<sub>5</sub> and U<sub>3</sub>O<sub>8</sub>, and also smelting to produce FeNb (Keech, South Africa).

A **Phase 3** (BFS) pilot program, testing ~750t run-of-mine (ROM) material, should form part of the ongoing BFS. However, all metallurgical work is currently on hold, due to a disagreement with GBE's joint venture partner, Thuthuka Groip Limited, over aspects of the Bankable Feasibility Study: specifically, the timing and mode of conducting the concentrate optimization program and bulk sample extraction (see below).

**Kanyika Scoping and Feasibility studies**

Kanyika has a favourable Scoping Study (Coffey, 2Q08 and revised 2Q09) for production of 3ktpa of Nb in FeNb.

Globe has discussed the feasibility and economics of the Kanyika Project in a Scoping Study (Coffey, Jun '08), with an update of production, cost and price assumptions in May '09.

The Scoping Study examined 4000t per annum Nb production as FeNb alloy, with 59tpa Ta<sub>2</sub>O<sub>5</sub> and 11.4-13.7ktpa ZrSiO<sub>4</sub> (processing 2.2-3.5mtpa). Uranium, in the scoping model, reported to aluminous slag for potential future processing.

A Pre Feasibility Study started before the GFC was put on hold and has now been overtaken by a Bankable Feasibility Study.

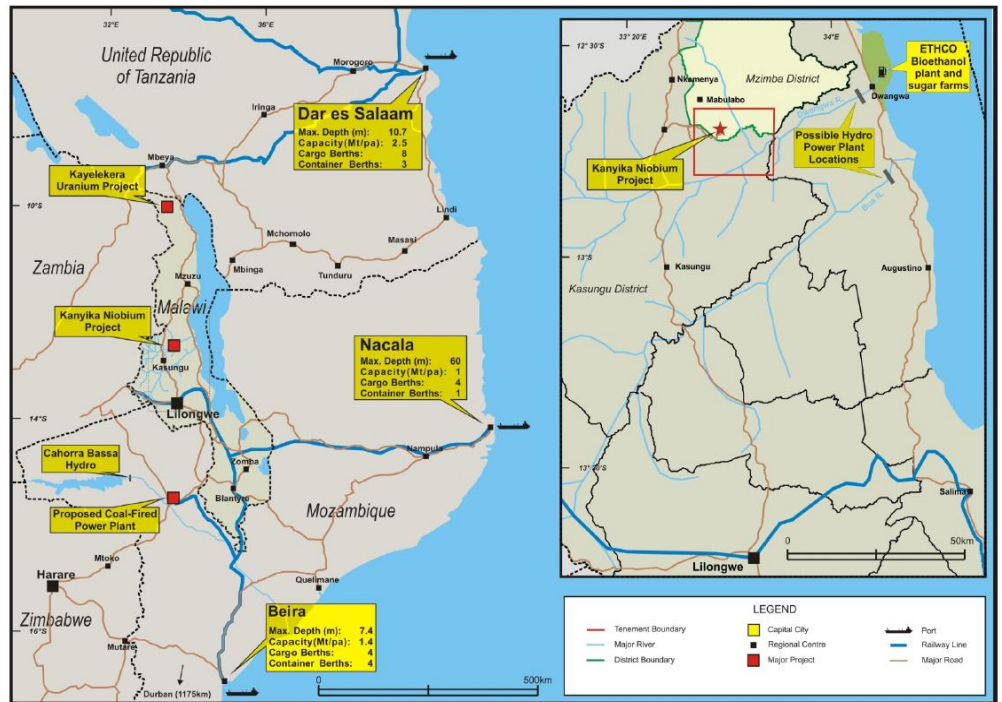
The revised model preferred mining 1.72mt-2.26mtpa, for constant production of 3,000tpa Nb over life-of-mine; it included uranium but ignored zircon. The deposit could be mined open-pit with relatively low strip ratio of 0.5:1 to 0.9:1 and has a higher-grade, near surface area - critical for early capex payback.

**The BFS commenced in August 2009. Its completion date has been put back until the dispute with Thuthuka is resolved.**

A Bankable Feasibility Study began in August 2009. It was expected to be completed in 4Q10 but has been delayed due to the dispute with Thuthuka. Some elements (e.g. ongoing metallurgy) have already been released. An open pit geotechnical study could be released shortly, and pit optimization and scheduling work should commence after release of the new resource estimate in June 2010.

**South-eastern Africa already has sufficient transport infrastructure to support the Kanyika Project. The region also has a number of power generation sources, especially hydro-electric, with others proposed.**

**Location of Malawi's main transport infrastructure**



**Kanyika opex is expected to be US\$40.3/t-US\$42.8/t, while capex is forecast to be moderate US\$152m.**

The mine is expected to bring revenue of US\$152m per annum, with an operating margin of 49%, over a 20+ year Life of Mine (LOM). As of May '09, capex is expected to be US\$156m (Scoping Study used US\$177m) with a 2.1 year payback. Opex is US\$40.3/t (year 10 mill feed 2.26mt) to US\$42.8/t (year 1 mill feed 1.72mt). This includes mining at US\$2.80/t, and US\$26-US\$34 per tonne milled and processed (unit costs US\$11.5/t to con, US\$250/t through weak acid, US\$2,250/t through strong acid, US\$500/t smelted). A constant recovery of 65% for all elements to concentrate is assumed in the GBE model, with a total mass pull to concentrate of 19,508t and mass post weak acid leach of 14,306t. The overall recovery (ie 3,000tpa Nb from the run-of-mine ore) is 44.6%-45.5%. The forecast revenue split is Nb 77%, Ta 15% and U 8%. The accuracy of the GBE Scoping Study is +/-30-50%.

**Investment by Thuthuka Group**

**The engineering aspects of the Bankable Feasibility Study are being run by the African based Thuthuka Group, which will also invest US\$10.6m to earn 25% of Kanyika.**

In August 2009, Globe announced that Thuthuka Group Limited (Thuthuka), a South African multi-disciplinary engineering company, had entered into a joint venture agreement to directly invest US\$10.6m into Kanyika to earn a 25% interest. This will fund ~85% of the estimated US\$12.5m cost of the Bankable Feasibility Study, which commenced in August 2009.

It was planned that Thuthuka would fund and manage most engineering aspects of the BFS, including metallurgy, mining design, environmental and social studies, infrastructure, procurement, transport and power

**Thuthuka's part of the BFS is on hold while the dispute over the metallurgical program is resolved.**

plant design. This work has been suspended due to a disagreement between GBE and Thuthuka over logistical and technical aspects of the metallurgical program (announced April 2010). Globe is continuing to manage geological and geotechnical studies including resource and reserve estimation, and also marketing of all products.

In addition to Thuthuka's investment in Kanyika, GBE has raised A\$5.2m at A\$0.26/share (20m shares) in a placement to professional and sophisticated investors in Australia, Asia and Europe. The funds are being used for Globe's share of the BFS, and for working capital (September 2009).

### **Permitting and discussions with Malawi Government**

**Talks with the Malawian Government about planning and permitting are under way. An EIS should be submitted soon.**

Discussions about Kanyika are ongoing with the Mutharika Government (Democratic Progressive Party [DPP], elected May 2009). The talks are relevant to the planned application for a Mining Licence, and include mining, engineering, legal, revenue/fiscal, operating, social and environmental issues. These discussions form part of the PFS (and simultaneous BFS). GBE has already submitted a scoping-level Social Impact Study, and expects to submit a Development Agreement and an EIS in the near future.

### **Marketing and offtake**

**MOUs have already been signed, for offtake of 45% of the project's Nb output.**

A London-based materials trader, A & M Minerals, is assisting GBE with advance marketing of the potential Kanyika production, e.g. introductions to prospective offtake customers. To date, GBE has signed three non-binding MOUs for the combined offtake of 1360tpa of Nb metal, or ~45% of the planned 3000tpa production from Kanyika. The first MOU (Jan '09) is for 500tpa of Nb<sub>2</sub>O<sub>5</sub> as either as FeNb, or as another alloy or clean (non-radioactive) Nb<sub>2</sub>O<sub>5</sub> concentrate. The second MOU (Jun '09) is for 1000tpa of FeNb, while the third (Feb '10) is for a further 500tpa of Nb<sub>2</sub>O<sub>5</sub>. The identity of the customers remains confidential. GBE staff visited China in 2009 for further discussions of possible offtake agreements with steel mills, metal trading houses and/or mining groups.

## **Exploration projects**

### **Machinga and Salambidwe Rare Earth Projects (Malawi)**

**Drilling at the Machinga REE Project could commence in 2010. GBE is acquiring 80% from ASX:RSL.**

Both projects lie within the underexplored Chilwa Alkaline Suite of southern Malawi. GBE plans to acquire up to 80% of **Machinga** from Resource Star Limited (November 2009), which is an Australian and African-focused uranium explorer (ASX:RSL, diluted mkt cap A\$4.2m). Globe is managing the project. Rock chip sampling has indicated up to 2.64% TREO (total rare earth oxides), with a high grade average of 1.1% TREO, as well as 0.84% Nb<sub>2</sub>O<sub>5</sub> and 0.047% Ta<sub>2</sub>O<sub>5</sub> (top 25% of 126 samples). The more valuable, heavy rare earth oxides (HREE) average 32-38% of TREO. There is also 2.5-2.7% (of TREO) of the high-value element dysprosium. The mineralisation is hosted by pegmatites in a nepheline syenite (granitoid) pluton. There is an associated radiometric and soil anomaly, which has a +7km strike (x2 radiometric background), with a 2.7km x 0.3km core (x5 background) containing four soil anomaly clusters. Peak trenching results to date show **high grades and significant widths** of TREO (7m @ 1.26% TREO inc. 2m

**If Machinga moves to production, its output could be sold into a rapidly growing market for the REE, especially the HREE**

@ 1.54% TREO, and 33m @ 0.71% TREO), with **only two trenches of eight reported to date**. The area is serviced by power, road and rail infrastructure. GBE plans to drill in May 2010. Phase 1, of US\$250k exploration funding in Year 1, will earn 20%. The 80% interest will require funding to a completed feasibility study, over ~8 years.

**A second REE project has recently been acquired.**

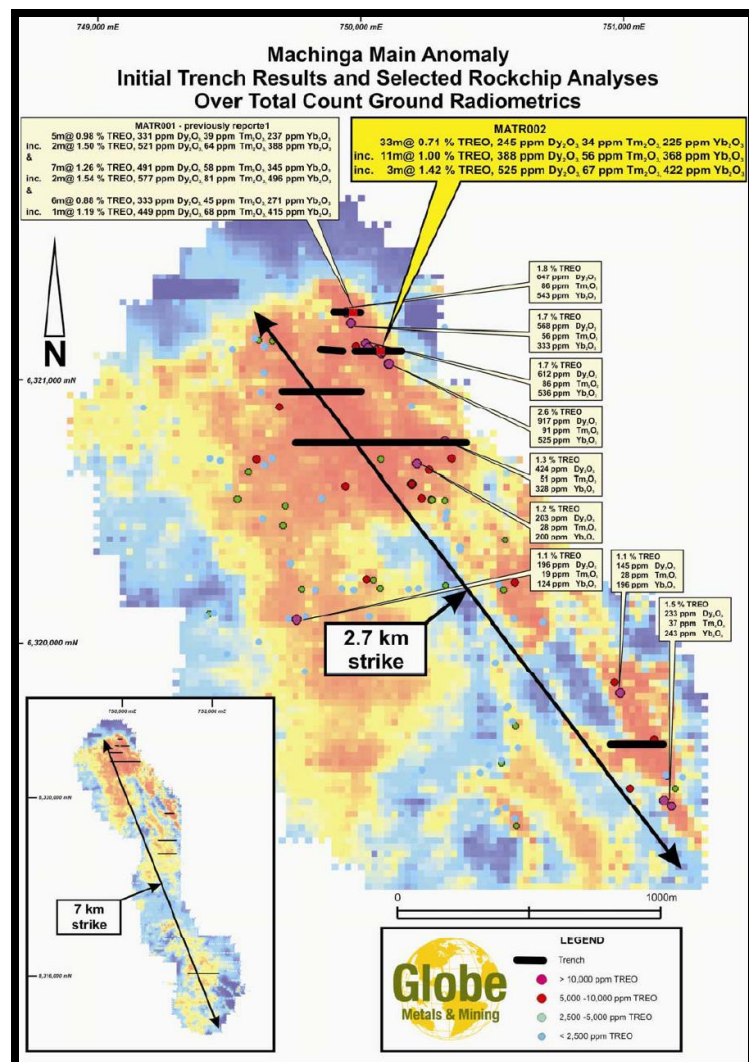
**Machinga has a high proportion of heavy REE, (at 32-38% of total rare earth oxides) which are more valuable than the light REE.**

**Salambidwe** is an early stage project, over which GBE was granted 100% rights in May 2010. It is geologically similar to Machinga, being prospective for the REE, Nb, Ta, uranium and other metals commonly associated with alkaline ring complexes. Fieldwork is planned for 3Q10.

“Rare earth elements” is the name given to the 15 lanthanide elements of the periodic table. They are vital to the manufacture of many high-tech products – including hybrid vehicles, ceramics and mobile phones – and in recent times there has been strong interest from end users, especially in China (which produces 95% of REE) and Japan, in securing long-term supplies. Machinga’s heavy REO (HREO) content, at 32-38% of TREO, is higher than that of many other REE deposits (e.g. Avalon Rare Metals’ Nechalacho Deposit [Canada] has a HREO ratio of 20% and Bayan Obo [China] has 2%). HREO are scarcer and more valuable than the light oxides (LREO), for example, in April ‘10, dysprosium oxide was priced at US\$197.50/kg, compared to US\$6.30 for lanthanum oxide.

**Northern Machinga Main Anomaly showing trench results, other completed trenches and selected previous rock-chip results.**

**The unusually high dysprosium oxide (Dy<sub>2</sub>O<sub>5</sub>) content of 3.3-3.7% TREO, in trenches MATR001/2, compares favourably with the typical range for global REE deposits, of 0.1-0.5%.**



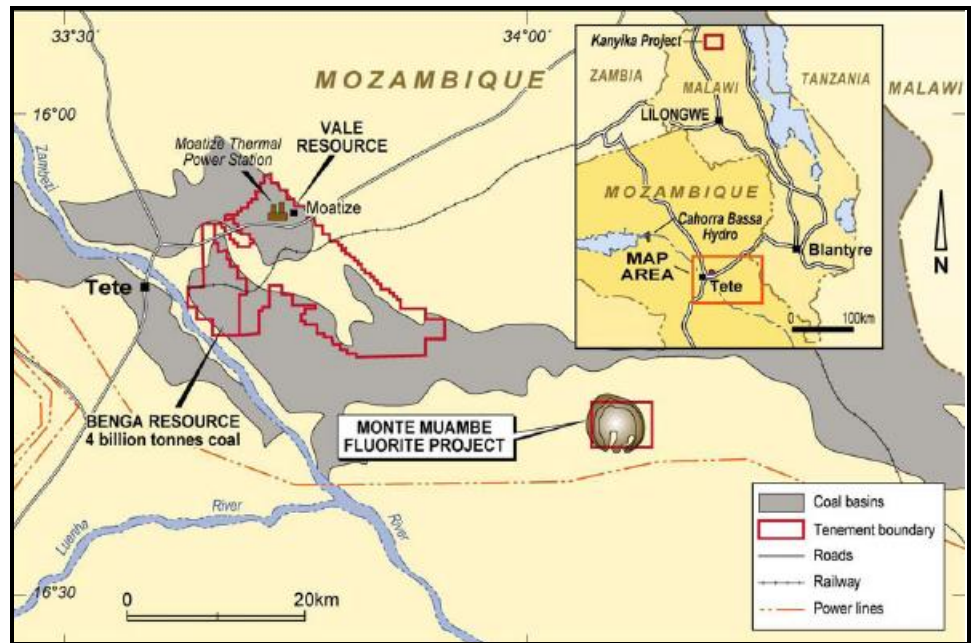
**Mount Muambe (fluorspar; Mozambique)**

This ~35km<sup>2</sup> project is a recent JV acquisition (December 2009). GBE is earning up to 90% (cash and GBE scrip to a maximum US\$750k).

**Mount Muambe is a fluorspar project but is prospective for other commodities ...**

Muambe has historic trench results that include 17m @ 70% CaF<sub>2</sub>, and metallurgical work demonstrates that concentrates of >97% CaF<sub>2</sub> (i.e. acid grade) can be produced. GBE due diligence sampling found an average >58% CaF<sub>2</sub> in 26 samples. It is likely that grades have been underreported due to analytical fault; a new process is being developed.

**Location of the Mount Muambe Project**



**... which include rare earths, niobium, uranium and base metals. Drilling (1000m) is planned for May, 2010.**

The fluorspar (also called fluorite) mineralisation is hosted in and around a carbonatite, a type of igneous rock that is often associated with deposits of base and rare or specialty metals (e.g. Cu, REE, Nb-Ta, U, F). Historic sampling detected anomalous levels of both Nb and Ta. A 1,000m drilling program is planned for 2Q10. The area is serviced by power and transport infrastructure.

**Fluorspar is used to make HF (hydrofluoric acid). China is the largest consumer and is attempting to conserve its resources. Globally, fluorspar projects have been the recent focus of corporate activity.**

Fluorite is used for the production of hydrofluoric acid, which is a reagent in the Kanyika flowsheet (acid leach). Mount Muambe's fluorspar grades compare well with those of global producers, e.g. 80% CaF<sub>2</sub> at Las Cuevas in Mexico (800ktpa, the world's largest producer) and 22.5% CaF<sub>2</sub> at Vergenoeg, South Africa (180ktpa). Of the ~5.5Mt of global fluorspar production in 2009, China accounted for over 50% of production (~3.25Mt) and was also the single largest consumer. To conserve future supplies and encourage internal HF production, China has imposed export quotas and a 15% resource "Scarcity Tax" on fluorspar. The price of spot acidspar (China FOB) rose from \$US130-140/t in January 2003 to US\$530-550/t in December 2008, and is currently US\$250-270/t. Firming market conditions have led to a spate of fluorspar-related corporate activity (see GBE ASX release 22 Feb 2010). GBE plans to complete current drilling before considering potential transactions at Muambe.

**Livingstonia (uranium, northern Malawi)**

**GBE has discovered roll front uranium mineralisation at Livingstonia.**

GBE has drilled ~11,000m, targeting roll-front deposits in Karoo sandstones similar to, and in the region of, the Kayelekera deposit (15.6kt, 34.3mlbs U<sub>3</sub>O<sub>8</sub>, ASX:PDN). **Chombe** (roll-front style). It has found economic grades over an area of 600m x 1,000m in three parallel zones, up to 15m thick. Results include 8.1m @ 0.064% U<sub>3</sub>O<sub>8</sub> with 3.1m @ 0.081% U<sub>3</sub>O<sub>8</sub> (2Q08) - similar results were returned Sep '08 for the third, eastern zone. Drilling was suspended during the GFC. In March '10, a JV was announced with Resource Star Limited (ASX:RSL), which is earning up to 80%, including 20% for 1,000m drilling and an initial resource estimate. Application for a further 750km<sup>2</sup> in the adjacent South Rukuru area has been made by the JV. South Rukuru includes a ~1km x 1km radiometric anomaly and sandstone chip samples to 193ppm U<sub>3</sub>O<sub>8</sub>. The initial Livingstonia resource is expected by mid-June 2010, after which expansion drilling could be undertaken.

**Salta Province (uranium, Argentina)**

**Salta in Argentina was formerly a main focus for GBE but a controlling stake of the project was divested in late 2008.**

Until 4Q08, Globe operated several projects in the Salta Province of Argentina, which is prospective for sandstone-hosted roll-front uranium deposits. GBE-discovered the Las Barrancas – Las Casitas trend (Cerro Tin Tin West and South), with anomalous uranium assays over a 40km+ N-S strike. It sold the majority of its Argentine assets for A\$0.15m in 4Q08. GBE retains a 15% free-carried interest until a positive BFS has been carried out on a deposit within the project area, after which GBE must contribute to ongoing development to retain its equity interest.

**Investment Comment**

**GBE is well positioned to take advantage of the growing market for specialty metals, including niobium and tantalum.**

Globe Metals & Mining is positioning itself as a long-term, alternative producer of ferro-niobium and tantalum, niobium and uranium oxides. Niobium in particular is a growth commodity that is finding increasing favour with steelmakers, especially in China, in the place of more traditional alloying elements such as vanadium and molybdenum. Long-term growth of Nb consumption has been 7.9% pa (1990-2007), compared to 4.1%pa for steel over the same period. Nb sector price risk is considered to be low. The cost to dominant producer and price maker CBMM (Companhia Brasileira de Metalurgia e Mineração) of lowering the price to kill GBE's operating margin would be greater than the potential tiny loss of market share to a much smaller and lower-grade project (i.e. Kanyika).

**Kanyika has advanced rapidly to the BFS stage ...**

GBE's management has proved to be capable of operating on the sometimes difficult exploration frontier of Malawi. Kanyika was developed quickly and at low cost (2 years and A\$4m), to the stage of having a JORC resource (supporting a potential 40+ year operation) and Scoping Study. The Bankable Feasibility Study began in August 2009 on the basis of encouraging metallurgy, high-grade (Nb-Ta) intercepts, and early stage indications of robust project economics.

**... and the US\$10.6m contribution of Thuthuka should see the BFS completed in 2011.**

New 25% JV partner Thuthuka's contribution of US\$10.6m should see the BFS through to completion in 2011, if the current dispute is resolved. Thuthuka has experience of a wide variety of engineering projects in Africa (water, mining, process, solid waste, chemical, power, etc) and the fact that Kanyika passed its due diligence checks is a strong vote of confidence in the project; however, its continued participation is not critical to the project's long-term success.

**In RCR's view, Globe is highly undervalued and should be re-rated in the near to mid term, subject to reaching important milestones at Kanyika.**

The valuation gap defined by our DCF (discounted cash flow) modeling, of NPV A\$141m against a current market capitalisation of A\$15m, shows that GBE offers considerable share price upside. The main value driver will be Kanyika, as project milestones are met: for example, a resource upgrade in June 2010, BFS in 2011 and potential doubling of the known mineralisation to reach the 100-110mt exploration target. Permission from Malawi to mine 750t for Phase 3 metallurgy would be a significant step in terms of permitting and permissions. Ongoing exploration at GBE's earlier-stage projects – especially the highly prospective Mount Muambe (F) and Machinga (REE) – could add further value for shareholders through 2010/11.

## Company Directors

### **Mark Sumich LLB (UWA); MBA (Lon); ASIA Executive Chairman**

Mark brings managerial, financial and legal expertise to Globe. He has been a director of a number of public and/or ASX-listed companies. Advisory experience includes corporate and securities law in the Perth office of Clayton Utz, corporate finance with PricewaterhouseCoopers and financial consulting to the NAB and Commonwealth Bank.

### **David Sumich B.Bus(Hons); HKSFC Non-Executive Director**

David has more than 10 years in the investment banking and corporate finance fields, including work for Merrill Lynch and HSBC in Africa, the Middle East and Hong Kong. Currently, David is the Executive Chairman of ASX Listed DMC Mining Limited (ASX: DMM) which is developing the Mayoko Iron Ore Project in the Republic of Congo.

### **Julian Stephens Exploration PhD; BSc (Hons); MAIG Executive Director**

Dr Stephens is a geologist with more than 13 years in the exploration and mining sectors, and economic-structural geology research. He has explored for mineral systems in Australia, Africa, Central Asia, eastern Europe and Canada. As project geologist for AMX Resources (1997-1999), Julian oversaw much of the exploration and resource definition drilling on the Golden Cities project, near Paddington, WA, resulting in discovery of a resource of ~880koz Au. Before joining GBE, Julian was a senior structural/economic geology consultant for RSG Global.

### **Brad Wynne Company Secretary and Chief Financial Officer**

Mr. Wynne is highly experienced in the mining, oil and gas and engineering industries. He has held senior financial management positions in the mining sector with companies including Xstrata Zinc and St Barbara Mines, and was previously Chief Financial Officer and Company Secretary with GME Resources.

### **William (Bill) Hayden BSc (Hons) Non-Executive Director**

Bill is a geologist more than 33 years' experience in mineral exploration, mostly in Africa and the Asia-Pacific. Bill was the president of Ivanhoe Nickel and Platinum, a Canadian company which has mineral holdings in South Africa, Zambia, and the Democratic Republic of Congo. Bill is President of Ivanhoe Philippines, Inc, a director of Pan Palladium South Africa Ltd, GoviEx Niger Holdings Ltd., Ivanhoe Nickel and Platinum Ltd (and its Australian subsidiaries), and Ivanhoe.

**The board of GBE very is experienced in running public companies ...**

**... with a focus on the requirements of successfully operating in Africa.**

## Market update: Niobium

**Niobium is used primarily by the steel industry and is sold as ferroniobium alloy.**

**Prices are decided by negotiation of individual contracts.**

**The Nb market has grown at the rate of 7.9% per annum between 1990 and 2007.**

**Ferroniobium producer Niobec is forecasting 15% compound annual growth rate (CAGR) for FeNb consumption in 2010.**

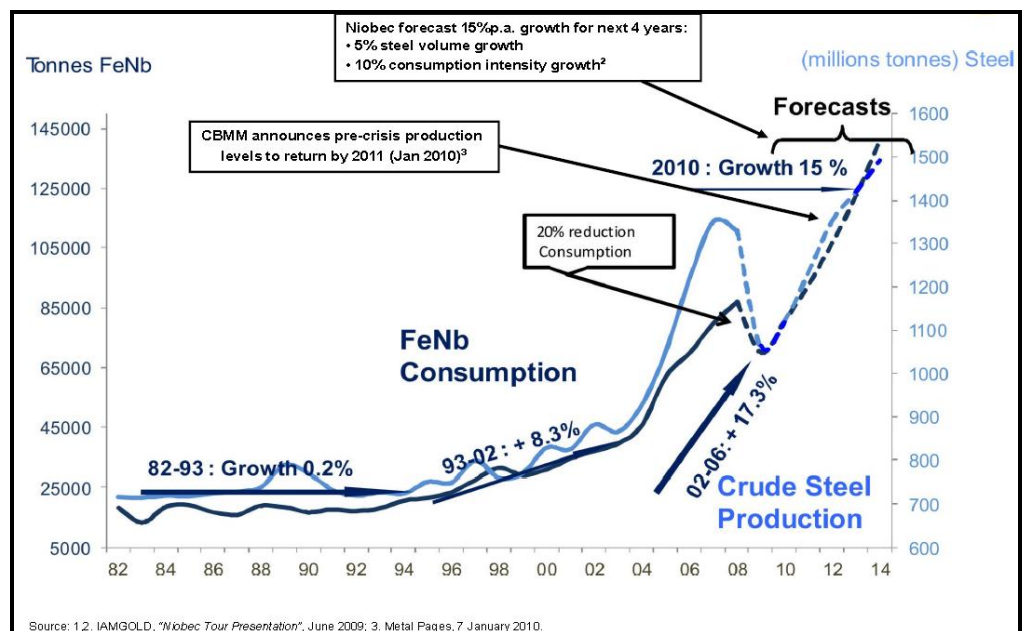
### Consumption

According to GBE, ~90% of Nb is consumed as FeNb by the steel industry, predominantly in high-strength low alloy (HSLA) steel products for major construction projects, oil and gas pipelines and the automobile and shipping industries.

Niobium is not an exchange traded commodity: 95% of FeNb is sold under individually negotiated contracts based on a benchmark price set by the main producer, CBMM (Brazil). There is also a spot market, where alloy is traded using private bids and offers (e.g. online via metalpages.com).

Global usage of niobium has increased during the past decade. Over the period 2002-2007, the annualised rate of growth in global production of FeNb (21%) was more than 2.5x the rate of growth in steel production (8%). Long-term growth of Nb consumption has been 7.9% pa (1990-2007), compared to 4.1%pa for steel over the same period.

### Historic and forecast FeNb consumption versus crude steel production



Consumption in 2007 was a record 58,200t Nb and there was significant further growth into early 2008. Shipments in 1H08 were 18% higher than during the first half of 2007 and 13% up on the second half of the year. A downturn in Nb demand in 2H08 meant that full-year growth was probably <5%. Little, if any, growth occurred in 2009 but growth is likely to return in 2010.

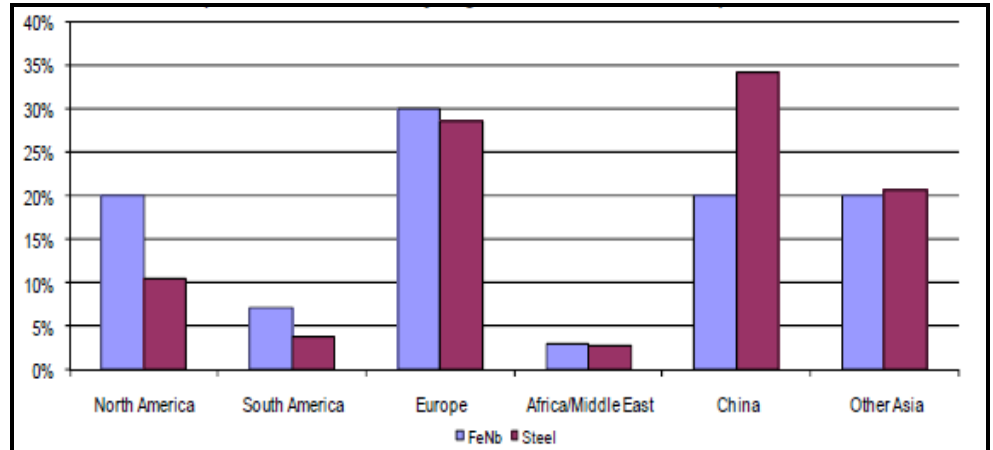
**China currently consumes 20% of FeNb but is the driving force behind increasing intensity of usage.**

China is a major force in consumption of the metal: it currently represents ~20% of FeNb use and >50% of the growth in this market. Over the first 11 months of 2008, Chinese imports of Brazilian FeNb (being 95% of the total imports) grew 69% year-on-year compared to 2007 even though imports reduced 24% in November 2008 from October. "Unit consumption" of niobium in China (total niobium

consumption divided by total steel consumption) is currently ~40 grams/tonne, compared to more than 100g/t for parts of Western Europe and North America.

### Market Share by Region: FeNb v Steel Consumption, 2006

This is due to modernisation of Chinese industry, which has led to production of more sophisticated steels and, therefore, higher Nb consumption.



GBE expects this gap to close over the next 20 years due to modernisation and increasing sophistication of steel production in China and other developing markets; over this period, the percentage of steel products using niobium could increase from 10-12% presently to over 20% (Sources: GBE and Roskill Information Services; RCR).

The Kanyika production of 3000tpa Nb metal will represent no more than 3% of current global niobium production per annum.

### Production, current and prospective

World Nb production is dominated by Brazil (93.5% in 2008) ...

Globe's planned production of 3ktpa niobium metal would establish it as the world's 4th major producer of ferro-niobium. In 2008, global Nb production was 62.9kt of niobium metal, and was similar in 2009 (~62kt). Brazil is by far the largest producer, with 93.5% of production (Source: USGS). Chinese production of FeNb in 2008 was no more than 1kt.

... and specifically by one producer, CBMM, which sets the FeNb price.

In terms of companies, there are currently three major producers of ferro-niobium: industry leader CBMM (Araxa deposit, Brazil), and two 'second tier' producers, Anglo American (Catalao mine, Brazil) and IAMGOLD (Niobec mine, Canada). CBMM currently holds 76% market share, with 6-8% each for the others. The Araxa reserve grade at 2.5% Nb<sub>2</sub>O<sub>5</sub> is orders of magnitude higher than its competitors' (1.2% Catalao, 0.6% Niobec) and at 500mt it is more than ten times as large as the other two put together. In other words, CBMM dominates global Nb production. In terms of new projects coming online, only Mabounié in Gabon (Eramet) could threaten any of CBMM's market share (resource 350mt @ 1% Nb<sub>2</sub>O<sub>5</sub>) but the project must overcome poor recoveries and high capex before it can enter production.

Kanyika compares quite favourably to other niobium mines and projects, especially in terms of potential costs and permitting.

## Kanyika: Comparable Projects and Nb Producers

**Kanyika is of a lower order of magnitude than CBMM's Araxa deposit, both in terms of size and grade. This could be an advantage in terms of future price risk to the Nb market, of Kanyika entering production.**

Nb producers	Project	Araxa	Catalao	Niobec	Kanyika
Reserves	mt	500	14.6	23.5	—
Grade	% Nb <sub>2</sub> O <sub>5</sub>	2.5	1.19	0.59	—
Resources	mt	—	45.1	52.3	55
Grade	% Nb <sub>2</sub> O <sub>5</sub>	—	1.20	0.59	0.5
Mine type		Open	Open	U/G	Open
Head grade		1.85	1.11	0.62	—
Capacity	ktpa FeNb @ 66% Nb	90	6.7	6.8	4545.5
Mined 2008	mt	—	0.768	1.8	—
Mined FeNb	kt	—	7.0	4.2	—
Recovery	%	—	—	58	65
Mine life	yrs	400	20	18	10
Market share 2008	%	82	9	9	—
Operating profit (2008)	US\$m	—	78	79.6	—
Margin	%		55	56	49
Location		Araxas, MG, Brazil	Catalao, GO, Brazil	Chicoutimi, QC, Canada	Kanyika, Malawi
Ownership		CBMM (Private)	Anglo American*	IAMGOLD, TSX:IMG	ASX:GBE
Products		FeNb (standard and vacuum), NiNb (vacuum), Nb metal, Nb oxides	FeNb (st)	FeNb (st)	FeNb, Nb oxides (also Ta, U), zircon, magnetite
Comments		Increase to 150ktpa FeNb by 2013	na	Increase to 8500tpa FeNb by 2011	—

Nb, developing	Project	Blue River (Upper Fir)	Mabounié	Niocan	Luesche
Resource	mt	34.5	360	11	30
Grade	% Nb <sub>2</sub> O <sub>5</sub>	0.1	1.0	0.6	1.3
Stage		Exploration	?	?	?
Location		Canada	Gabon	Canada	Congo
Owner		Commerce, TSX:CCE	Eramet	—	—
Notes		Permitting?	Low recovery, high capex	Awaiting enviro permits since 2001	Political problems

### Potential substitution

**Niobium serves a similar purpose in steel as do vanadium, titanium and molybdenum but can be considered to produce a superior product.**

Other materials used in high-quality steels include molybdenum, titanium and vanadium. However, at the typical addition rate of 0.05%, niobium delivers steel with a ferrite grain size of 20µm<sup>2</sup>. Similar additions of titanium and vanadium result in much larger grain sizes, approximately 60µm<sup>2</sup> and 100µm<sup>2</sup>, respectively. Even at much higher rates of addition, titanium and vanadium cannot offer the degree of refinement provided by microalloying with niobium (Source: CBMM).

### Niobium market: prices

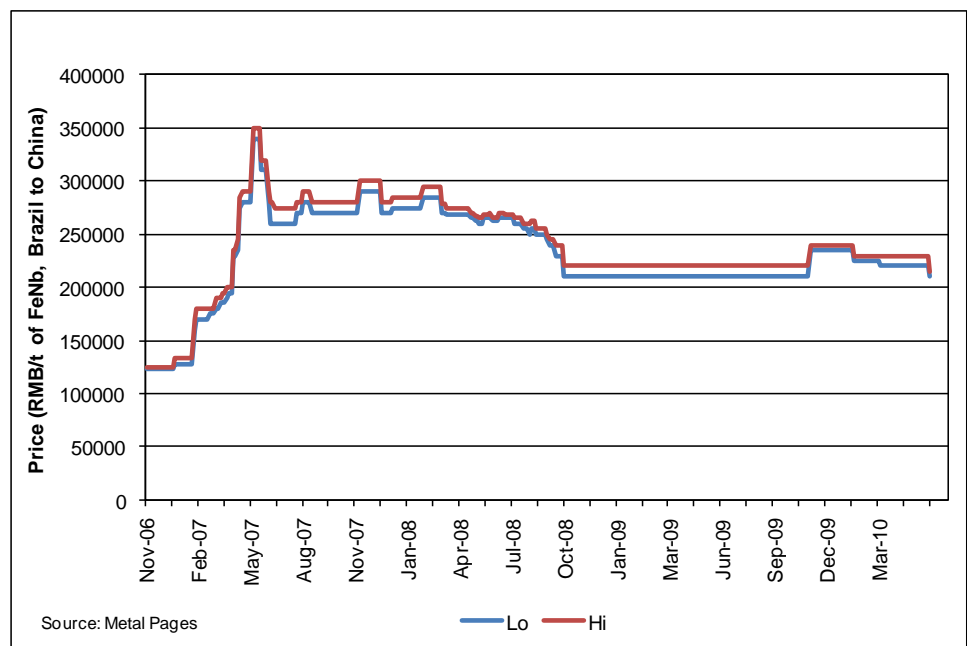
**Nb prices are available from producer financial statements or third-party news providers.**

As with most rare and minor metals, current niobium prices are hard to pin down, and can vary between sources. For investors, market prices of ferroniobium (FeNb) are available from two main places: industry news providers and financial reports of niobium producers, e.g. IAMGold (Niobec Mine). For example, the average Nb price in 1Q10 as reported

**China imposes a 20% export tariff on Nb, leading to higher prices.**

by Metal Pages (as 65% wt in FeNb, in the EU) was US\$43.50, compared to the average price achieved by the Niobec mine, which was US\$36.80/kg, and the average import price to China, which was ~US\$49/kg (with the latter reported as RMB/mt of FeNb, containing 66% Nb). China prices are higher, as the Chinese Government imposes a 20% export tariff on Nb. Producer prices are probably the best guide. All measures show that Nb prices have risen in the past several years, and were quite resistant to the GFC. The current EU price in FeNb is ~US\$42/kg, similar to the US\$41/kg in October 2008. The 2009 low, of US\$34/kg, was reached in March 2009. This fall of 20.6% compares favourably to declines in base metal prices of 40% or more over the same period.

### Ferroniobium import prices, Chinese Yuan (66% Nb from Brazil)



**Prices were resilient in the face of the Global Financial Crisis.**

**This was helped by the refusal of CBMM to lower its price, which the steel mills continued to pay.**

Why was the FeNb price insensitive to the GFC? This relative price stability could be due to the steady pre-GFC trend of growth in Nb consumption, which occurred partly (and over many years) due to the assurance of production quality and quantity provided by the giant Araxa deposit. Also, most ferro-niobium is consumed by the steel industry in relatively small contracted quantities and forms only a minor component of steel production costs, so there was less downward pressure on Nb prices than other commodities during cost-cutting. Put simply, CBMM maintained the price and the mills, distracted by larger issues, continued to pay it. Also, it's likely that the brunt of the 2H08-1H09 reduction in global steel production was borne by smaller, low-tech steel mills that use Nb less intensively than larger mills. These factors currently protect the FeNb price from volatility. There is little incentive for the smaller producers to undercut CBMM and start a suicidal price war, which only CBMM could hope to win. GBE would have the same policy, of adhering to CBMM's benchmark.

### Price risk

**The Kanyika Project will be of small scale in comparison to CBMM's operations ...**

The price risk from GBE entering the Nb market is considered to be low. The cost, to CBMM and the other producers, of losing a small portion of market share to GBE would be far less than the outcome of CBMM cutting the contract price to force the Kanyika Project permanently out

**... meaning it should present little risk to the Nb market, in terms of a reaction from CBMM and a possible price war.**

of play. Both of the second-tier mines, Catalao and Niobec, have been operating for many years without any such pricing aggression from CBMM, which in the case of GBE would require lowering the FeNb price to US\$20/kg, i.e. below GBE's margin, and keeping it there. Such an irrational strategy would represent, at current prices, a ~100% decline in revenue for CBMM (and its 25% owner, the State of Brazil), far more than the ~3%-3.5% of market share that the relatively "inefficient" or low-grade Kanyika Project could gain. Also, Kanyika's production would likely be soaked up by the forecast increases in Nb consumption – 3000ktpa is less than six months' growth – rather than threatening CBMM's market position.

## Market update: Tantalum

### Consumption

**Tantalum is used in high-tech applications such as capacitors and alloys.**

Tantalum is used in diverse high technology applications. It is resistant to corrosion, has a low thermal coefficient of expansion, and a high dielectric constant, so its main uses are in capacitors (e.g. for consumer electronics), chemical plant and equipment, aviation turbine blades and, as tantalum carbide, for cutting tools. The majority of the world's tantalum is sold via long-term offtake agreements. Before the GFC, global Ta<sub>2</sub>O<sub>5</sub> consumption was estimated to be 6mlbs per annum. Industry commentators suggest that the market is growing at ~ 7% per annum (Sources: GBE, Gippsland Ltd). Leading commercial consumers are HC Starck GmbH (part of German conglomerate Bayer AG), as well as Cabot Corporation (USA), Ulba OJSC (Kazakhstan), Mitsui-Kinzoku (Japan) and Ningxia Non-Ferrous Metals (China) plus various other Chinese groups.

**Consumers are the manufacturers of these advanced technologies, in Europe, Asia and the USA.**

### Production

**Brazil and Australia were major producers of tantalum from 2005-2008 but the latter has ceased production. DRC artisanal production complicates the market.**

The state of play in tantalum production is quite unclear. According to the USGS, world mine production of Ta metal in 2008 and 2009 was ~1.16kt-1.17kt. From 2005-2008, approximately equal proportions were supplied as ores and concentrates, metal, and scrap. For concentrates, 53% were supplied by Australia. The major Ta metal producer was Brazil (23%) and the biggest secondary producer (waste and scrap) was China (27%). Until 2009, the major corporate producer of tantalum was Talison Minerals (ASX) from its Wodonga mine in WA's Pilbara. However, this closed during the GFC. It is uncertain when or if this mine will re-open. Obviously, the downturn in Ta-intensive industries during the GFC led to Wodonga's closure and prevented any problems with undersupply. The market is complicated by the considerable black market for Ta, illegally supplied by artisanal, alluvial mines in the Democratic Republic of Congo (DRC), ie. "conflict tantalum". This historic market uncertainty could provide a long-term competitive advantage to GBE, which plans to produce reliable quantities of Ta at Kanyika.

### Price

**Tantalite prices have traded between US\$30 and US\$50/lb since 2002 and are currently close to the top of this range (US\$50/lb).**

The current price of Ta as tantalite (30% Ta<sub>2</sub>O<sub>5</sub>) is US\$48-52/lb Ta<sub>2</sub>O<sub>5</sub> (Metal Pages). This is 45% higher than the 2009 low (August, 2009; US\$33.00-36.00\$/lb Ta<sub>2</sub>O<sub>5</sub>), which was the lowest price since March 2007 (US\$32.22-34.33 \$/lb Ta<sub>2</sub>O<sub>5</sub>). Note that Globe plans to market high purity Ta material, which could sell for roughly double the price of 30% concentrate (currently US\$73/lb).

## Disclosure and Disclaimer

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