



1 June 2010

Berkeley Mineral Resources Plc

Money in Dumps

Berkeley Mineral Resources (BMR) is a mineral processing company with a strategy of processing tailings at former mines. It is currently principally engaged in the extraction of zinc and lead from tailings Dumps at the world-famed Kabwe mine in Zambia.

Tailings stockpiles, or 'dumps', as they are called, sound unglamorous, but represent a store of value which can be easily and cheaply realised.

They are also occasionally cheap to acquire. Berkeley Mineral Resources ('BMR') has concluded an exclusive option to acquire full rights to exploit the lead/zinc resources contained in the tailings from the historic Kabwe mine in Zambia, **subject to due diligence now being carried out¹.**

In our preliminary analysis of BRM we concentrate on the following aspects of the company's case:

- BMR is acquiring a total defined stockpile resource of 7.14m tons of ore with grades of 5.01% Zn and 4.22% Pb, with other smaller elements of silver, vanadium oxide and cadmium.
- Acquisition price of \$7.9m in cash and shares equates with potential NPV of \$61m, and the current BMR market capitalisation of about £10m.
- Within the properties BMR is acquiring wash plant tailings resources capable of providing cash flow to the company until and beyond the start of production next year from the rest of the tailings. Cash flow from this should begin in September 2010.
- Payback should be rapid, with BMR set to achieve overall positive cash flow after all capex in 2011/12.

BMR has raised a total £1.6m of equity in the current year (to June 2010) to fund the start of operations. We have not attempted to apply a risk rating to the company. Our estimate of Fair Value excluding risk comes out at 8.1p per share, compared with the current price of 2.3p

Estimates				
Year to 31 May	2010E	2011E	2012E	2012E
Pre-tax £m	-0.6	0.1	13.4	15.3
EPS, p	n/a	n/a	1.8	2.1
PER	n/a	n/a	1.3	1.1

Source: ED

¹ Cost of 60 day option \$100,000, already paid

Company Details

EPIC	BMR
Market	AIM
Share price p (last close)	2.32
52 week High/Low p	4.6 / 0.2
Issued (and to be issued) ords, m	446
Market cap £m	10.3

Share Price, p



Source: ADVFN

All our research is available at www.equitydevelopment.co.uk

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Background

The company was effectively a cash shell when the present chairman Masoud Alikhani, became involved in 2007-2008, resulting in a change of direction and name.

The company's business now is the exploitation of metals resources contained in the Kabwe mine tailings dumps in Zambia. Having already acquired three of these dumps, it is now acquiring the remaining and much larger part of the stockpile resource.

THE KABWE MINE



Historic Production

During its long history the Kabwe mine produced 1,800,000 tons of zinc and 800,000 of lead – worth \$4.1bn and \$1.7bn respectively at today's prices.

In smaller quantities, the mine also produced silver and manganese, as well as heavy metals such as cadmium, vanadium and titanium.

Mining technology has advanced considerably since the mine started production more than 100 years ago. The tailings dumps are the accumulation of processing waste which at the time was uneconomic for further work, but today they represent a rich ore asset at good grades – with no need for exploration.

Infrastructure and Access

Kabwe is situated on the main Lusaka-Copperbelt railway line, and is also adjacent to the Great North Road. Power is supplied directly to the mine from a dedicated hydroelectric 16MW power station and the national grid.

The local infrastructure in Zambia is good, with transport facilities, electricity and modern social amenities readily available.

Access to the project is generally excellent, with a network of tarred roads maintained on a regular basis. During the rainy season which peaks in January access could be restricted to areas with good roads.

There are two international airports at Lusaka and Ndola which are easily accessible by multiple daily commercial flights from neighbouring countries.

Inside the Kabwe Mine site itself are railway sidings connecting to the main international East Africa railway with direct connections to Lusaka, South Africa and the Indian Ocean ports.

Environment

Lead/zinc mining at Kabwe in Zambia began in 1904. Mining on the 2.5km² site continued until it was closed in 1994 when mining became uneconomic. The area is known for widespread lead pollution of river and waterways– in its 2007 report the Blacksmith Institute included it in its list of the world's ten most polluted places.

BRM is working within the Copperbelt Environment Plan ('CEP') which is being carried out by the Zambian government with the support of the World Bank and the Nordic Development Fund. Within the CEP, BMR is responsible for disposal of the minimal final waste from its processing activities, which will be located downwind, downstream and distant from urban centres or removed entirely from the Kabwe area.

BMR states that it is effectively insulated from responsibility for any legacy environmental issues.

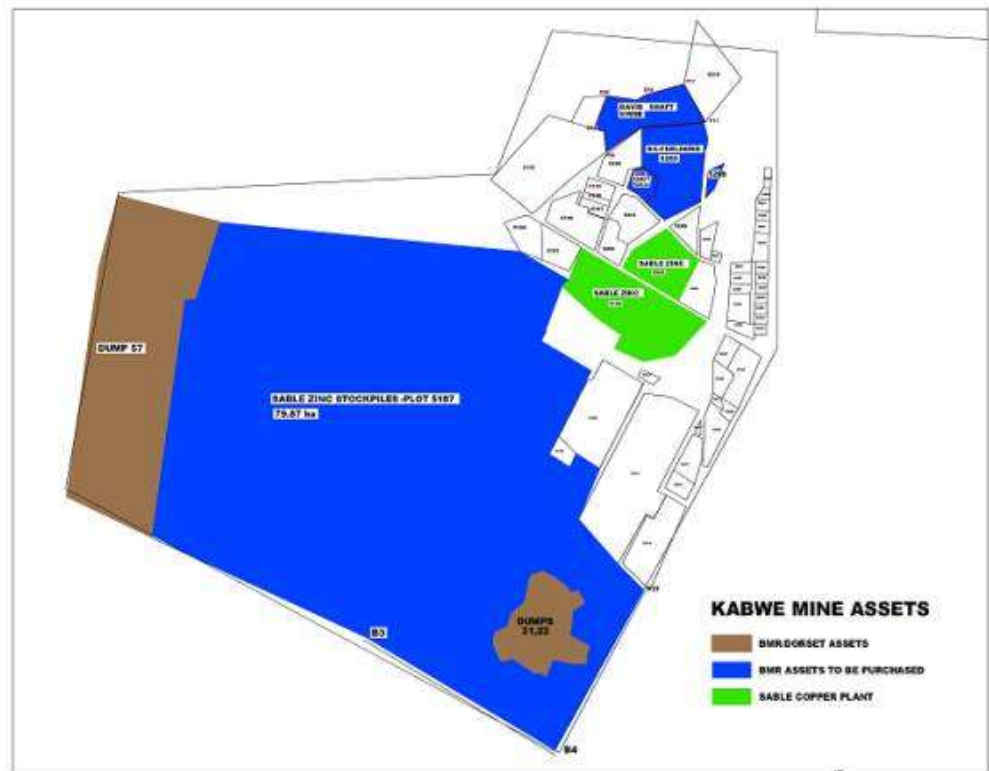
BMR ACQUISITIONS

Sable Zinc Kabwe, the owner of the Kabwe mining licences, was established by Metorex Ltd, a substantial South African based mining company, with plans to develop a zinc solvent extraction and copper electrowinning plant.

As part of its solution to its liquidity problems Metorex disposed of certain assets in order to concentrate on its core business. Sable Zinc was deemed to be non-core, and a process was put in place to transfer the tailings to Dorset Solutions Ltd ('Dorset').

Dump 57 was the first acquired by BMR from Dorset, in July 2008, followed by Dumps 21 and 22 in October 2009.

These represent a relatively small part of total tailings at Kabwe. BMR has now acquired from Dorset substantially the whole of the remainder, illustrated by the following map:



The areas in blue (Stand 5187) have now been acquired from Dorset, while those in brown were already owned (57 to the west, 21 and 22 to the south-east). The green area is being retained by Sable for its existing copper and sulphuric acid plants.

The blue area at the top contains plant, buildings etc, and will be the site of the BMR concentrator.

Acquisition Cost

Dumps 21, 22 and 57 have already been bought at a cost of \$0.8m plus 30m BMR shares. Stand 5187 is being acquired for \$3.0m cash plus 50m shares.

In addition, BMR is buying other Dorset assets for \$1.5m. Including professional fees, cash outlay amounts to about \$6.3m.

Taking BMR at 2p per share, total acquisition cost is of the order of \$7.9m in cash and shares.

MINERAL RESOURCES

BMR is conducting due diligence, including verification by Mintek of resources to JORC standard, but resources in the tailings are already known from legacy records.

Estimated Kabwe Dumps Resources				
	Dumps 57, 21-23	Wash plant slimes	Sable dumps	Totals
Ore volume tons/000	1,829.6	411.5	4,900.0	7,141.1
Zn grade	5.36%	9.78%	4.47%	
Pb grade	1.46%	12.00%	4.60%	
Contained metal				
Zinc tons	98,067	40,245	219,030	357,341.3
Lead tons	26,712	49,380	225,400	301,492.2

Source: Company

Grades vary somewhat depending on when the ore was mined.

What is notable is the grades of the residue from the washing process, which are very high. These wash plant slimes² can be sold without further processing, providing immediate positive cash flow to the business before start of processing of the rest of the resource.

Underground Mining

While treating the above-ground dumps is BMR's primary strategy, sections of the mine still contain underground resources unrecovered when the Kabwe Mine was operating. BMR intends to exploit these below-ground sections in the future.

FINANCIAL MODEL

Assumptions

Our calculations are based on information on grades, volumes, processing plan etc supplied to us by the company.

Timeline

We assume:

Investment in facilities for the leach residue begins in Q3 2010³, with commissioning of plant and start of operations in Q3 2011 at throughput of 81,000 tons of the stockpiles in that quarter and full production of 162,000 tons per quarter thereafter.

First sales of wash plant slimes in Qtr3 2010, continuing at 18,000 tons per quarter, recovery rate 90%.

After this, exploitation of Stand 5187 to be first, with that of dumps 21, 22 and 23 deferred until that is completed – because of lower grades in the latter.

² Despite the name, these consist of a coarse dry powder with the consistency of instant coffee granules.

³ Quarterly numbers referred to in this report refer to calendar years, not BMR's financial year, which is to end June.

Total life of project is to be eleven years. We take *no* account of the underground prospects.

Capital Expenditure

Total capex is seen at \$8.16m, spread evenly over Q3 2010 to Q2 2011.

This might be too high a number. There are facilities in place which might be usable, but BMR is assuming investment in new facilities to include a new flotation plant at a cost of \$7m and a smelter for lead.

Operation and Build

We assume that operations of the residue dumps are outsourced in their entirety, probably to Metanza Mineral Processors Pty Ltd ('Metanza').

It is intended that Metanza will build and operate, and will be responsible for environmental matters, which is their speciality. Metanza currently operates Sylvania's 40,000 tons/month chrome and PGM Steelport plant.

We have assumed a charge to BMR of \$30/ton for processing of feed material, and \$2.5/ton for rehabilitation.

Selling Prices

We have drawn up our model on the basis of low, median and high prices, the high price option relating closely to the present price of the relevant metals.

Low case: LME zinc price of \$1,300/ton, lead \$1,200, and wash plant slimes \$35.

Median case: Zn \$1,800, Pb \$ 1,700, wash plants slimes \$55.

High case: Zn \$2,300, Pb £2,200, wash plant slimes \$70.

The low case figure for wash plant slimes is based on the price obtained for a very small quantity last year – this very conservative. However, BMR is confident of obtaining \$55/ton as a minimum, and has turned down an offer to sell the entire output.

Sales from the leach residue resource will be in the form of concentrate. We have assumed that BMR will receive a price equivalent to 65% of the contained metal.

Royalties

Royalties assumed to be payable at a rate of 3% on leach residue. Sales of wash plant slimes are assumed to be net of all royalties and other charges except corporate tax.

NPV Calculations

We have estimated NPV on low, median and high cases, and on three discount rates:

Our estimates are as follows:

Estimated Project NAV, \$m			
	Low case	Median case	High case
Discount rate 8%	18.45	67.83	117.14
Discount rate 10%	15.95	61.02	106.05
Discount rate 12%	13.76	55.05	96.33

Source: ED

VALUE

Our summary estimates for the first four years of the eleven year life of the project are as follows:

Income summary - first four years (median case), \$m					
Financial year to end June	2010	2011	2012	2013	2014
Net revenue	0.00	2.97	40.61	45.90	45.90
Opex & other expenses	(0.60)	(1.94)	(20.37)	(23.00)	(23.00)
EBITDA	(0.60)	1.03	20.24	22.90	22.90
Depreciation	0.00	(0.82)	(0.82)	(0.82)	(0.82)
Profit before tax	(0.60)	0.22	19.43	22.09	22.09
Tax	0.00	(0.08)	(6.80)	(7.73)	(7.73)
Net attributable	(0.60)	0.14	12.63	14.36	14.36
Earnings per share, pence	n/a	n/a	1.84	2.09	2.09

*Based on fully diluted capital after all acquisition related issues and the 2010 placings

Source: ED

Please note: we have made no allowance for costs of finance, which means the pre-tax and earnings figures may be overstated. However, we speculate that revenues from the sale of wash plant slimes could be the subject of an hypothecated loan to cover cost of development, linked to the LME price for zinc.

Alternatively, BMR might assume short term bank borrowings to finance both acquisition and development cash costs, with the object of repaying these out of revenue from the sale of the wash plant slimes. These projected early revenues are key to an understanding of the perceived strength of the company.

With projected earnings per share in year 2 at close to the current share price the investment case is obvious. However, we have also done our DCF calculations (see above).

Fair Value Estimate

Fair value estimates at 10% discount rate			
	Low case	Median case	High case
Est. net cash end June 2010 \$m	(5.26)	(5.26)	(5.26)
NPV of cash flows	15.95	61.02	106.05
Fair Value \$m	10.68	55.75	100.79
Fair Value £m	7.38	38.53	69.66
Fair Value, pence per share	1.56	8.12	14.68

Source: ED

We have not attempted to assign a risk rating to this, political or otherwise.

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