



# Quarterly Report

## for the period ended 31 December 2003

### HIGHLIGHTS

- ❑ **Senegal** – On 28 October 2003, a Mining Research Convention was signed to exploit a major heavy mineral sands deposit of over 20 million tonnes of ilmenite, zircon and rutile/leucoxene.
- ❑ **India** – BMC/MDL have commenced studies on exploitation of the ilmenite product from the Kuttam project located in the State of Tamil Nadu near the southern tip of India.
- ❑ **Australia** – The Fullerton dredging operation having ceased in early August 2003, the Hawks Nest dry separation plant completed processing in early October 2003. Dismantling of the Fullerton dredge will commence early February 2004 for redeployment of a section of the plant to India.
- ❑ **Corporate** – The company had domestic cash reserves of \$1.92 million at 31 December 2003 and remains debt free other than as regards some motor vehicle and office equipment hire purchase/lease agreements progressively being paid out as operations continue to wind back in New South Wales.

Finished stock and concentrate (at cost) were valued at \$0.9 million with receivables of \$0.36 million at quarter-end.

The ninth annual general meeting of the company was held in Melbourne on Friday, 28 November 2003. All four motions tabled were passed by shareholders.



## SENEGAL

### MINERAL SANDS PROJECT

On 28 October 2003, the company announced that a Mining Research Convention to exploit a major heavy mineral sands deposit on the coast of Senegal, north of the country's capital Dakar, had been signed by Mineral Deposits Limited ("MDL") and approved by the Senegalese Ministers of Energy & Mines and Economy & Finance respectively.

The Convention provides for a four year permit and the company must expend US\$950,000 to earn an 81% equity interest.

Senegal is located on the western "hump" of Africa. The capital and major port, Dakar, is at the most westerly point along the coastline of Africa. The country is a similar size in area to Victoria, Australia. The heavy mineral sands project area being evaluated is located on the coastal strip commencing about 100 kilometres north of Dakar.

During November 2003, the new Senegalese Mining Code was approved by the country's Parliament and is now awaiting Presidential decree. On final signature of the new mining legislation, all Mining Research Conventions currently in process will follow normal procedure and be signed by the country's Prime Minister and President Abdoulaye Wade.

The deposit concerned was extensively explored by DuPont Chemicals ("DuPont") of the USA between 1990 and 1993. It spent a significant sum of money in this connection and reported a world-class heavy mineral resource of 723 million tonnes grading 2.66% heavy mineral using a 1.5% cut-off. The resource contains over 20 million tonnes of ilmenite, zircon and rutile. DuPont's exploration programme included over 7,000 drill holes and demonstrated that mineralisation extends over 50 kilometres. The near-surface deposit, containing minimal slimes, is in a sparsely vegetated dunal system commencing some 100 kilometres north of Dakar.

At this stage, MDL is focused on the high quality zircon product which would result from mining. Any future extractive operation would be well supported by good local infrastructure and one of Africa's major seaports at Dakar.

The company's current intention is to transfer its larger floating dredge/concentrator at Viney Creek in New South Wales to Senegal to facilitate exploitation of the deposit. At this time, the resulting heavy mineral concentrate is planned to be transported to its Hawks Nest dry mill to generate the final zircon and rutile products for re-export as had been the case with domestically sourced concentrate for decades.

The major advantages of the project include favourable local logistics, close proximity to major end-users in Europe and the United States thereby subsequently reducing freight and holding costs, low country risk and, most importantly, the full support of the Senegalese authorities.

Availability of the DuPont data, possession of rather than the need to build major items of plant from scratch and the company's well-established track record in this field considerably reduce the timeframe which would normally be required to bring a project of this size and significance into actual production.



**PREVIOUS TESTWORK**

From over 7,000 drill holes, DuPont confirmed resources of 19 million tonnes of ilmenite, 1.7 million tonnes of zircon and 950,000 tonnes of hiti (a mix of rutile and leucoxene). A high grade core of 150 million tonnes grading 4.9% heavy mineral containing 4.5 million tonnes of ilmenite, 400,000 tonnes of zircon and 225,000 tonnes of hiti was outlined by hand drilling at 400 by 100 metre spacing.

In February 2002, MDL gathered a bulk sample of heavy mineral sands of some eight tonnes from two areas known as Mboro and Fas Boyes. A comparison of test results from the ilmenite samples taken by DuPont and MDL is shown below:

	DuPont (1990-93)	MDL (2002)	
		Mboro	Fas Boyes
TiO <sub>2</sub> (%)	54.8	54.4	54.3
FeO/Fe <sub>2</sub> O <sub>3</sub> (%)	±36	±42	±42
U/Th (ppm)	78	<90	<90

A further comparison of the percentage of valuable heavy mineral resulting from DuPont’s comprehensive drilling programme and MDL’s bulk sample is:

	DuPont	MDL	
		Mboro	Fas Boyes
Ilmenite (%)	70	70	71
Rutile/leucoxene (%)	8	3	5
Zircon (%)	9	10	9

The sample sizing and the constituents within the ilmenite and zircon products were nearly identical for Mboro and Fas Boyes demonstrating that the dunal system is very homogeneous. A similar conclusion was drawn by DuPont drilling over a dunal system covering some 50 kilometres. Heavy mineral grades determined were similar to the DuPont data.

Testwork on the zircon sample confirmed the product to be of high quality suitable for sale to the company’s major global customers. Testwork by a customer itself also reported that the zircon was of good quality.

**NEW BULK SAMPLE**

In early November 2003, MDL received permission to gather a 45 tonne bulk sample from Mboro.

This bulk sample is due to arrive in Brisbane by sea on 11 January 2004. Roche Mining will complete the required testwork in 10 weeks (April) with a further 2-3 weeks for reporting and internal review (May). The results will assist in determining the most suitable beneficiation route.



## **INDIA**

### **OVERVIEW**

On 10 July 2003, MDL announced it had entered into an agreement with a private Indian company, Beach Minerals (Sands) Company Pvt Ltd (“BMC”), to expand its existing operations in India, exploit untapped by-products containing rutile and zircon and provide marketing expertise.

The project is located in the State of Tamil Nadu on the southeastern tip of India. It is world-class in terms of size and high grade (up to 20% heavy mineral) and offers a long mine life.

BMC’s existing operation, known as Kuttam, lies some 90 kilometres east of the southern tip of India or 70 kilometres southwest from the major seaport of Tuticorin.

### **CURRENT STATUS**

At present, BMC operates a modern garnet and ilmenite separation plant. This plant is currently being enlarged by BMC to further enhance product quality to meet known customer specifications and to handle the substantially expanded production which would come from installation of certain of the company’s Fullerton plant. MDL is also providing technical assistance to BMC in respect of this plant upgrade. MDL has supplied a series of spirals to treat 40 tonnes per hour of heavy mineral concentrate. The new structure is well under construction.

The above agreement will see the transfer and reconfiguration of a section of MDL’s Fullerton concentrator to BMC by mid 2004. MDL and BMC will initially focus on maximising ilmenite output and enhancing ilmenite quality. The valuable non-magnetic heavy mineral concentrate containing rutile and zircon will be stockpiled on site at Kuttam for future processing.

Pursuant to the agreement between the parties, MDL is assisting in the marketing of BMC ilmenite and will receive a share of the revenue resulting from these sales. By prior arrangement, MDL has been active in the marketplace for some time in this capacity. BMC will meet all operating costs associated with production in India and continues to retain all garnet for sale to its customers.

## **AUSTRALIA**

### **HAWKS NEST OPERATION**

#### **Introduction**

The New South Wales mineral sands operation remains 100%-owned by MDL although now being wound back. The dry separation processing plant and administration offices are located at Hawks Nest on the coast, about 80 kilometres north of Newcastle.



The operation continued to involve the production of rutile, zircon and ilmenite concentrate at the Fullerton mine site through August 2003. The Hawks Nest dry mill processed stockpiled concentrate until early October 2003. The drill mill has since been placed on care and maintenance pending arrival of the first shipments of rutile and zircon concentrate from Kuttam, India.

### **Fullerton Dredge/Concentrator**

The Fullerton site lies some 10 kilometres north of Newcastle. Ongoing care and maintenance and 24 hour security are in place.

Contracts have recently been issued to dismantle and remove the dredge/concentrator. A portion of the concentrator will be redeployed to India to increase heavy mineral output at BMC's operation and the remainder stored at the Hawks Nest site pending a decision on its future.

## **OTHER OPPORTUNITIES**

The company continues to seek out and pursue domestic and overseas mineral sands opportunities of possible interest such as those in India and Senegal both further progressed during the quarter ended 31 December 2003. Given present circumstances, particularly the strong Australian dollar, potential local projects, however, remain on hold.

## **CORPORATE**

### **ANNUAL GENERAL MEETING**

The following four resolutions were approved by shareholders at the ninth annual general meeting held on Friday, 28 November 2003:

1. Re-election of Mr N J Limb as a director;
2. Re-election of Dr D J Isles as a director;
3. Election of Mr M C Ackland as a director; and
4. Issue of 1,000,000 five year options to Mr M C Ackland as part of his remuneration package.

### **CASH RESERVES**

As at 31 December 2003, cash reserves were \$1.92 million.

### **FINISHED STOCKS (RUTILE AND ZIRCON)**

Finished stocks and concentrates (at cost) were \$0.9 million with receivables of \$0.36 million at quarter-end. All stock on hand is already sold forward under contract.



## EXPLORATION EXPENDITURE

Exploration expenditure on all projects abroad totalled \$257,261 during the quarter.

## NOTICES

The information contained in this report is based on, and accurately reflects, information compiled by Mr J. Williams who is a Corporate Member of the Australasian Institute of Mining and Metallurgy.

Mr Williams has relevant experience in relation to mineralisation being reported to qualify as a Competent Person as defined in the *Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves* and Chapter 5 of the ASX Listing Rules.

A handwritten signature in black ink that reads 'Jeff W. Williams'.

**Jeff W. Williams**  
**Managing Director**