# **QUARTERLY REPORT**



### **3Q 2016 OPERATIONS REVIEW**

MDL's primary asset is a 50% interest in the TiZir joint venture ('TiZir'), which owns the Grande Côte mineral sands operation ('GCO') in Senegal, West Africa and the TiZir Titanium & Iron ilmenite upgrading facility ('TTI') in Tyssedal, Norway. ERAMET of France is MDL's 50% joint venture partner in TiZir.

### **KEY POINTS**

- Positive signs for titanium feedstocks continue with pigment demand in North America and Europe remaining strong
- Key mineral separation plant optimisation projects completed and successfully commissioned
- Mine optimisation team established to focus on productivity and efficiency gains
- Repairs to TTI furnace surroundings completed on time subsequent decision to drain and reline the furnace taken by the TiZir Board

### **GCO**

Production of heavy mineral concentrate ('HMC') of 140.0kt was consistent with both 1Q and 2Q 2016. However, unplanned downtime associated with certain equipment underperformance together with a planned mine path crossover combined to restrict tonnage throughput during the quarter. It is not anticipated that these issues will continue to have an ongoing effect on the operation.

Efforts continued to focus on improving productivity and efficiency across the mining operations with the goal being operational consistency. To this end, during the quarter the mining division was restructured and a new mine optimisation team established with the primary objective of eliminating events which negatively impact the key operating variables of runtime and throughput.

In the mineral separation plant, key optimisation projects, which have positively impacted zircon quality, yields and recoveries, were successfully completed and commissioned.

### **GCO** production volumes

100% basis		3Q	4Q	1Q	2Q	3Q	9 mths	9 mths
		2015	2015	2016	2016	2016	2015	2016
Mining								
Ore mined	(kt)	8,165	11,033	9,583	10,291	8,071	23,727	27,945
Heavy mineral concentrate								
produced	(kt)	176.0	188.7	140.7	138.9	140.0	444.3	419.6
Finished goods production								
Ilmenite	(t)	113,679	126,433	107,181	92,783	96,503	301,257	296,467
Zircon	(t)	11,159	13,614	10,713	13,608	11,844	31,634	36,165
Rutile & leucoxene	(t)	1,076	1,353	1,906	2,524	2,192	3,958	6,622

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### **GCO** sales volumes

100% basis		3Q	4Q	1Q	2Q	3Q	9 mths	9 mths
		2015	2015	2016	2016	2016	2015	2016
Sales volume								
Ilmenite	(t)	145,551	138,958	65,001	118,649	84,857	281,459	268,507
Zircon	(t)	11,415	11,742	9,661	12,758	14,721	30,113	37,139
Rutile & leucoxene	(t)	1,804	1,379	1,740	2,300	2,620	3,232	6,660

GCO exceeded its quarterly record for zircon, rutile and leucoxene sales for a second successive quarter.

Ilmenite sales for 3Q 2016 were in line with production volumes. Shipments to both TTI and external customers occurred during the quarter. Further shipments are planned for 4Q 2016 in accordance with expected production levels.

GCO was cash flow positive for the quarter. The impact of cost reduction initiatives along with record sales volumes for zircon, rutile and leucoxene were the main contributors to this result.



Grande Côte Operations, Senegal, West Africa

### TTI

On 15 August 2016, an operational incident occurred at TTI resulting in damage to the surrounds of the furnace. No injuries were sustained by TTI personnel as a result of the incident and safety procedures operated successfully.

Repairs to the furnace surrounds were completed on time and at a lower than previously announced cost (refer ASX Release: 23 September 2016). However, during the repair period it became evident that some sections of the furnace lining had been damaged due to water ingress. A decision has now been taken by the TiZir board to drain and reline the furnace. It is expected that the reline process will be completed by mid-January 2017 with a ramp up of production over the ensuing four weeks.

TTI and its insurance company are making good progress towards concluding the investigation of the incident and determining the final amount of the settlement. To assist with financing requirements since the incident, the insurance company has to date advanced US\$12 million to TTI.

Prior to the operational incident in August, the ramp up of operations had progressed well with July production being the highest recorded year to date and with quarterly titanium slag production expected to exceed 50.0kt. Despite the operational incident, TTI will continue to deliver product to contracted customers until such time as inventory levels are depleted.



### **TTI physical volumes**

100% basis		3Q	4Q	1Q	2Q	3Q	9 mths	9 mths
		2015	2015	2016	2016	2016	2015	2016
Titanium Slag								
Produced	(kt)	25.9	-	34.8	44.2	24.6	106.8	103.6
Sold	(kt)	36.7	26.0	31.2	50.2	36.5	105.6	96.6
High Purity Pig Iron								
Produced	(kt)	15.0	-	14.1	17.8	10.6	59.2	42.6
Sold	(kt)	17.0	4.3	9.9	20.5	13.2	60.3	43.6



TiZir Titanium & Iron ilmenite upgrading facility, Tyssedal, Norway

### **MARKETS**

The titanium dioxide market continued its positive movement throughout the quarter, with pigment demand in North America and Europe remaining strong. As previously announced, titanium dioxide pigment inventory has been reported by several producers to have reached normal levels for the first time in four years. Sales volumes of pigment are recovering and several rounds of global price increases have been accepted. New legislation recently introduced in China in respect of mining, energy and the environment is also likely to lead to a reduction in pigment overcapacity. In addition, the market for high grade titanium feedstocks has benefited from a strong supply side response to the prevailing market conditions including idled capacity, significant cutbacks in development expenditure, delayed production and inventory de-stocking by major producers. As a result, the outlook for chloride slag continues to improve.

Zircon prices remained flat. While North American zircon markets are stable and there are positive signs from the European tile market, decreased outputs of steel and glass in China have negatively impacted demand for zircon used in refractory applications. Reports indicate that several Chinese producers are under pressure to upgrade equipment to reduce emissions.

Activity in the pig iron market remained subdued throughout 3Q 2016 which has put pressure on pricing, although markets have been stable since 2Q 2016.

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#### **TIZIR**

As announced (ASX Releases: 11 December 2015, 21 January 2016), MDL and ERAMET have established a US\$60 million committed facility in favour of TiZir (US\$30 million from each of ERAMET and MDL) for the payment of interest and principal under the TiZir bond issue. The entire US\$60 million facility is underwritten by ERAMET.

In respect of the interest payment due to Bondholders at the end of September 2016, TiZir drew down US\$12.4 million under this facility (funded US\$6.2 million by each of MDL and ERAMET) to enable the payment to be made. ERAMET funded MDL's contribution on similar terms to those announced previously (ASX Release: 6 January 2016).

At 30 September 2016, the balance of the amount owing to ERAMET (including accrued interest) was US\$13.5 million. Of this balance, US\$7.3 million is payable by MDL on or before 31 December 2016 whilst the remaining balance is payable on or before 31 March 2017. As previously announced, should MDL not repay either of these amounts by their due dates, ERAMET will have the option to increase its share of the joint venture. Any dilution of MDL, if applicable, would take place based on a formula that calculates the equity value of TiZir using valuations contained in the most recent TiZir balance sheet.

At 30 September 2016, external borrowings (excluding shareholder loans) by TiZir amounted to US\$351.5 million, comprising the senior secured bonds (including accrued interest) due September 2017 and amounts drawn under TTI's and GCO's working capital facilities.

TiZir's cash and cash equivalents at 30 September 2016 were US\$5.9 million, giving external net debt of US\$345.6 million.

### **OUTLOOK**

The joint venture will focus on optimising production from mining operations at GCO and the reline and ramp up of TTI.

A number of mine optimisation projects will be delivered in 4Q 2016. Previously announced cost reduction initiatives, to ensure product competitiveness and operational sustainability, will also remain ongoing at both operations.

### **MDL CORPORATE**

MDL corporate position as at 30 September 2016:

- issued shares were 103,676,341
- unlisted, unvested performance rights totalled 1,170,000
- cash was US\$5.9million (approx. A\$7.2 million)
- secured debt of US\$13.5 million



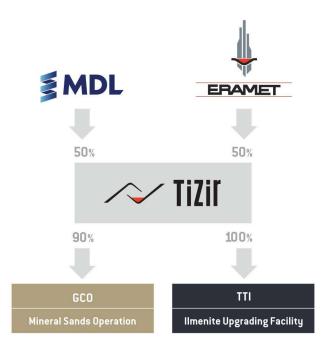
### **ABOUT MDL**

Mineral Deposits Limited (ASX: MDL) is an Australian based mining company in the business of mining, integrating and transforming mineral sands resources.

MDL owns 50% of the TiZir joint venture in partnership with ERAMET of France. The TiZir joint venture comprises two integrated, operating assets – the Grande Côte mineral sands operation ('GCO') in Senegal, West Africa and the TiZir Titanium & Iron ilmenite upgrading facility ('TTI') in Tyssedal, Norway.

GCO is a large-scale, cost competitive mineral sands operation located in Senegal that is fully integrated from mine-to-ship, using owned or controlled infrastructure. GCO commenced mining activities in March 2014 and, over an expected mine life of at least 25 years, will primarily produce high quality zircon and ilmenite. A majority of GCO's ilmenite is sold to TTI. GCO also produces small amounts of rutile and leucoxene.

TTI upgrades GCO ilmenite to produce high quality titanium feedstocks, primarily sold to pigment producers, and a high-purity pig iron, a valuable co-product, which is sold to ductile iron foundries. TTI benefits from access to cheap and clean power, and excellent logistics, in particular, year-round shipping capacity and customer proximity.



### **Forward looking statements**

Certain information contained in this report, including any information on MDL's plans or future financial or operating performance and other statements that express management's expectations or estimates of future performance, constitute forward-looking statements.

Such statements are based on a number of estimates and assumptions that, while considered reasonable by management at the time, are subject to significant business, economic and competitive uncertainties. MDL cautions that such statements involve known and unknown risks, uncertainties and other factors that may cause the actual financial results, performance or achievements of MDL to be materially different from the Company's estimated future results, performance or achievements expressed or implied by those forward-looking statements. These factors include the inherent risks involved in mining and mineral processing operations, exploration and development of mineral properties, changes in economic conditions, changes in the worldwide price of zircon, ilmenite and other key inputs, changes in the regulatory environment and other government actions, changes in mine plans and other factors, such as business and operational risk management, many of which are beyond the control of MDL.

Except as required by applicable regulations or by law, MDL does not undertake any obligation to publicly update, review or release any revisions to any forward-looking statements to reflect new information, future events or circumstances after the date of this report.

Nothing in this report should be construed as either an offer to sell or a solicitation to buy or sell MDL securities.

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