

## 2Q 2017 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 Tysedal, Norway. ERAMET of France is MDL's 50% joint venture partner in TiZir.

### KEY POINTS

#### GCO

- Record quarterly ore tonnes mined and heavy mineral concentrate (**HMC**) produced
- Record quarterly ilmenite production
- Mine optimisation initiatives delivering positive results
- Fourth successive quarter of positive free cash flow

#### TTI

- Production continues according to plan
- 2Q 2017 titanium slag production rate represented 86% of the expanded capacity target of 230,000t per annum
- Sales volumes largely in line with production

#### TiZir Corporate

- Refinancing of US\$275m corporate bonds maturing in September 2017 complete

#### Market

- Positive developments continue in the zircon and titanium feedstock markets

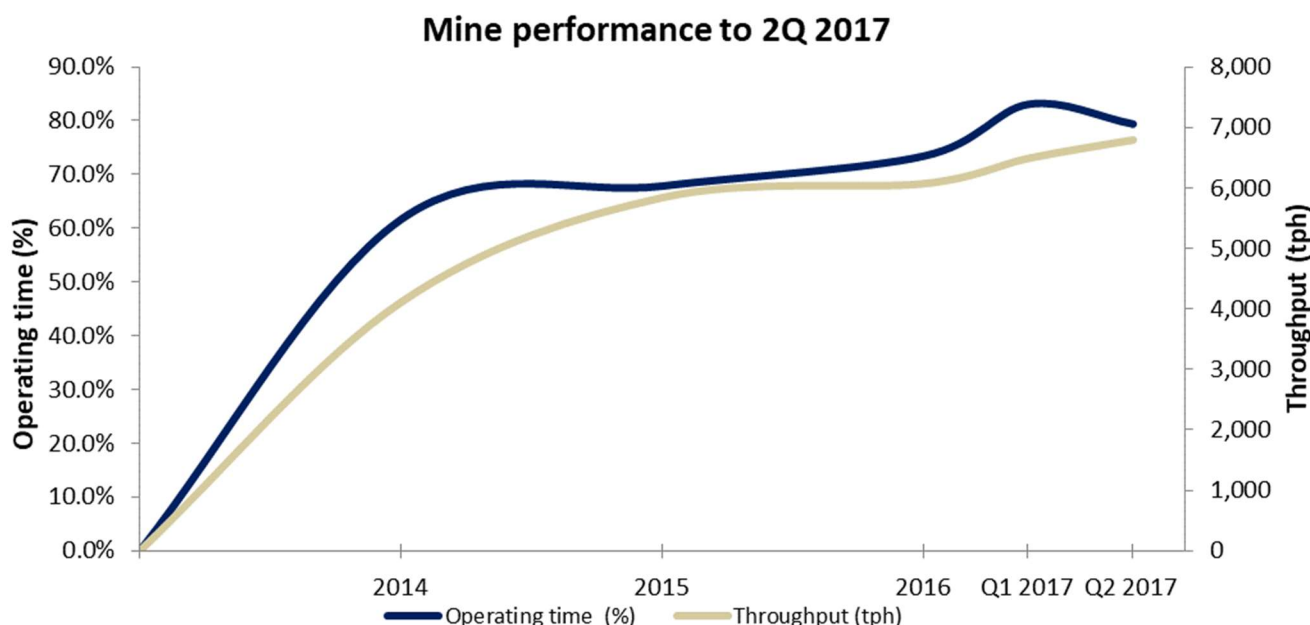
### GCO

GCO mining operations sustained the higher runtime and throughput rates achieved in both 4Q 2016 and 1Q 2017, resulting in the third successive quarter of record total ore tonnes mined (11,793kt) and a new quarterly record for HMC production of 204.2kt, a 5% increase over the previous record achieved in 4Q 2016. Compared to 1H 2016 results, HMC production was 23% higher in 1H 2017 at 344.6kt whilst ore mined was 18% higher at 23,454kt.

The record mining performance in 2Q 2017 is a direct result of the continued focus on mine optimisation initiatives at GCO. Throughput rates increased to 6,802tph in 2Q 2017, a 5% increase from 1Q 2017 and a 12% increase compared to the 2016 average. Average runtime declined slightly during the quarter to just over 79% reflecting an extended maintenance shutdown in April.

Compared to 1H 2016, average runtime for 1H 2017 of 81% was 12% higher, whilst throughput was 6% higher at 6,648tph in 1H 2017.

The graph below demonstrates the continued improvement of the mining operation since commissioning in 2014:



Note: Operating time and throughput for 2014, 2015 and 2016 represent annualised figures for each calendar year.

The mineral separation plant (MSP) continued to operate near design capacity with high plant availability. The increased production of HMC in 2Q 2017 generated record quarterly ilmenite production (126,030t). Zircon production (16,203t) was only marginally below the record achieved in 4Q 2016 (16,462t).

The strong performance of the MSP throughout 1H 2017 is demonstrated by the increase in production of all finished goods, in particular ilmenite (13% higher than 1H 2016) and zircon (15% increase compared to 1H 2016). The introduction of medium grade zircon sands in 1Q 2017 – which has been well received by global customers – has broadened GCO’s capacity to take advantage of improving zircon prices.

#### GCO production volumes

100% basis		2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	1H 2016	1H 2017
<b>Mining</b>								
Ore mined	(kt)	10,291	8,071	11,258	11,661	11,793	19,874	23,454
HMC produced	(kt)	138.9	140.0	194.1	140.5	204.2	279.6	344.7
<b>Finished goods production</b>								
Ilmenite	(t)	92,783	96,503	119,882	99,400	126,030	199,964	225,430
Zircon	(t)	13,608	11,844	16,462	11,688	16,203	24,321	27,891
Medium grade zircon sands	(t)	-	-	-	7,179	2,927	-	10,106
Rutile & leucoxene	(t)	2,524	2,192	3,042	2,152	2,384	4,430	4,536

#### GCO sales volumes

100% basis		2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	1H 2016	1H 2017
<b>Sales volume</b>								
Ilmenite	(t)	118,649	84,857	142,408	81,636	129,713	183,650	211,349
Zircon	(t)	12,758	14,721	15,961	13,030	13,722	22,419	26,752
Medium grade zircon sands	(t)	-	-	-	2,711	8,043	-	10,754
Rutile & leucoxene	(t)	2,300	2,620	2,159	2,588	3,208	4,040	5,796

GCO sales volumes were stronger in 2Q 2017 in line with the increase in production of finished goods. In particular, ilmenite shipments of 129,713t represented the second highest quarterly volume on record.

Compared to 1H 2016, overall sales volumes were 21% higher in 1H 2017, driven by a 19% increase in zircon sales, a 15% increase in ilmenite sales and the sale of 10,754t of medium grade zircon sands.

GCO generated a new quarterly EBITDA record in 2Q 2017, leading to its fourth consecutive quarter of positive cash flows. This positive financial performance is the combined result of product price increases, strong production performance, ongoing cost reduction initiatives, and sound working capital management.

Social responsibility activities for the quarter focused on school infrastructure projects and the installation of street lights and market stalls in the local community of Meckhe. Further, construction of a community market at Mboro is in progress and is scheduled for completion in 3Q 2017. Development of agricultural land for project affected people has begun, with the local community taking occupancy. Each agricultural plot is equipped with irrigation facilities and farming activities have begun with the assistance of GCO in collaboration with Agence Nationale des Éco-villages and the Forestry Department.



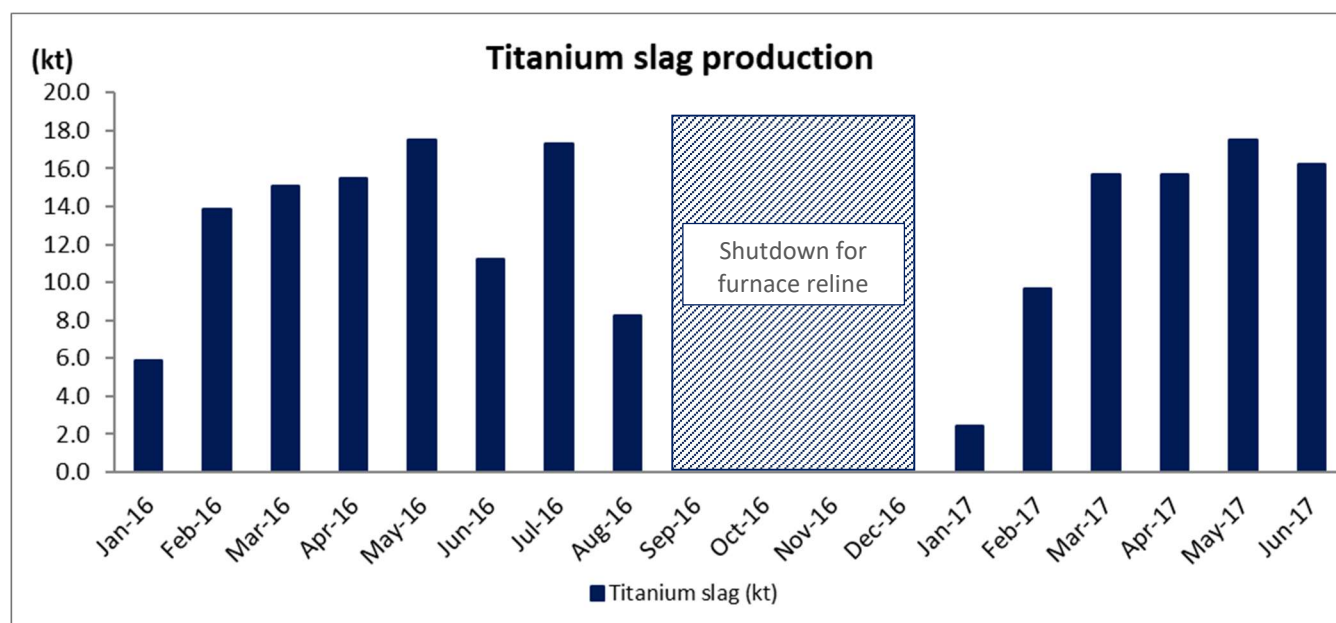
*Grande Côte Operations, Senegal*

**TTI**

Production at TTI continues according to plan. Titanium slag production for 2Q 2017 was 12% higher compared to 2Q 2016 at 49.5kt, whilst high-purity pig iron production was 13% higher at 20.1kt. Production of titanium slag in 2Q 2017 represented 86% of expanded nameplate capacity (230,000t per annum), with May performance reaching production levels over 90% of expanded capacity. Encouragingly, the operation is consuming less coal and energy to achieve targeted production levels, which is enhancing the cost efficiencies of the operation. Further, optimisation of the crushing plant has resulted in higher chloride slag yields.

Production for 1H 2017 is slightly below that achieved in 1H 2016, with both titanium slag and high-purity pig iron production 2% lower compared to the corresponding period. Both periods were impacted by furnace restarts and production ramp up.

The graph below illustrates the strong ramp-up profile throughout 1H 2017:



Shipments of both titanium slag and high-purity pig iron in 2Q 2017 were broadly consistent with production levels. The quarter on quarter increase in sales volumes is primarily due to increasing production volumes as illustrated in the graph above. Shipments of both products have returned to 2Q 2016 levels and products continue to be well received by current and potential customers.

Titanium slag sales volumes for 1H 2017 are significantly below 1H 2016 due to the impact of shipping residual sulphate process titanium slag inventory during 1Q 2016 following the conversion to chloride slag in December 2015.

**TTI physical volumes**

100% basis		2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	1H 2016	1H 2017
<b>Titanium Slag</b>								
Produced	(kt)	44.2	24.6	-	27.8	49.5	79.1	77.3
Sold	(kt)	50.2	36.5	3.9	11.5	47.1	81.4	58.6
<b>High Purity Pig Iron</b>								
Produced	(kt)	17.8	10.6	-	11.2	20.1	32.0	31.3
Sold	(kt)	20.5	13.2	3.7	7.0	20.0	30.5	27.0

Note: 4Q 2016 production performance was impacted by furnace repairs following an operational incident in August 2016.

TTI achieved a positive EBITDA result for the first half of the year, despite the ramp up of operations in 1Q 2017. This result is a significant achievement given the commencement of production in January and further illustrates the improving cost efficiency of the operation.



*TiZir Titanium & Iron ilmenite upgrading facility, Tyssedal, Norway*

## MARKETS

Market conditions with respect to TiZir's product suite evidenced ongoing improvements throughout 2Q 2017

**Titanium dioxide feedstocks:** 2Q 2017 was another positive quarter for titanium dioxide feedstock prices with higher utilisation of pigment plants supporting additional price increases. While improved inventory levels are expected to stabilise ilmenite prices, the outlook for high-grade titanium feedstock continues to strengthen. The elimination of excess capacity, together with improving spot prices for rutile, is a strong indicator of strengthening market conditions in the sector in which TiZir's titanium feedstock production is focused.

**Zircon:** Conditions continue to improve in TiZir's key markets of Europe and North America with demand remaining strong. Supply is tightening with limited inventory availability and signs of lower than anticipated production. These conditions are contributing to upward pressure on prices with price increases expected throughout the remainder of 2017. Heading into 3Q 2017, a number of major producers have already announced price rises between US\$130 and US\$150 per tonne.

**High-purity pig iron:** Pricing remained stable in 2Q 2017. Whilst geopolitical issues in Eastern Europe persist, demand is anticipated to endure with pricing expected to remain stable.

## TIZIR

At 30 June 2017, external borrowings (excluding shareholder loans) by TiZir amounted to US\$359.8 million, comprising the US\$275 million senior secured bonds (including accrued interest) due September 2017 and amounts drawn under TTI's and GCO's working capital facilities.

As announced on 5 July 2017, TiZir successfully completed a new 9.5%, US\$300 million senior secured bond issue with maturity scheduled in July 2022. The proceeds will primarily be used to refinance the aforementioned US\$275 million senior secured bonds maturing in September 2017. The successful refinancing of TiZir's senior debt is a major milestone for TiZir and has been well received in the investment community.

TiZir's cash and cash equivalents at 30 June 2017 were US\$15.8 million, giving external net debt of US\$344.0 million.

## OUTLOOK

With quarterly HMC production in 2Q 2017 returning to more normalised levels at GCO and TTI hitting production targets, TiZir expects this momentum to continue into the second half of the year.

Core operational 3Q activities will include:

- advancement and completion of certain mine optimisation initiatives at GCO in order to continue to improve runtime, throughput and recovery of the wet concentrator plant;
- detailed studies related to inclusion of areas of supplementary feed adjacent to the dredge path at GCO;
- the furnace at TTI is expected to operate at or above levels achieved in 2Q 2017 while maintaining volume consistency between production and shipments; and
- implementation of further cost reduction initiatives at both operations.

## MDL CORPORATE

As announced on 4 May 2017, long-serving director and Deputy Chairman Dr Robert Danchin retired effective 30 June 2017. As a consequence, Tom Whiting has assumed the role of Audit & Risk Committee Chairman.

Further, as announced on 30 June 2017, Executive Director Martin Ackland relinquished his executive role to become a non-executive director of the Company. Mr Ackland continues as a board member of TiZir and TTI.

As announced on 4 May 2017, all AGM resolutions were passed by the requisite majority of the Company's shareholders on a poll. Subsequently, the Company granted a total of 1,168,209 unlisted performance rights to members of its executive team as long-term incentives.

MDL and TiZir group financial results will be released to the market on Thursday 27 July 2017.

At 30 June 2017:

- issued shares were 196,985,649
- unlisted unvested performance rights totalled 2,338,209
- cash was US\$13.9 million (approx. A\$18.1 million)
- zero debt

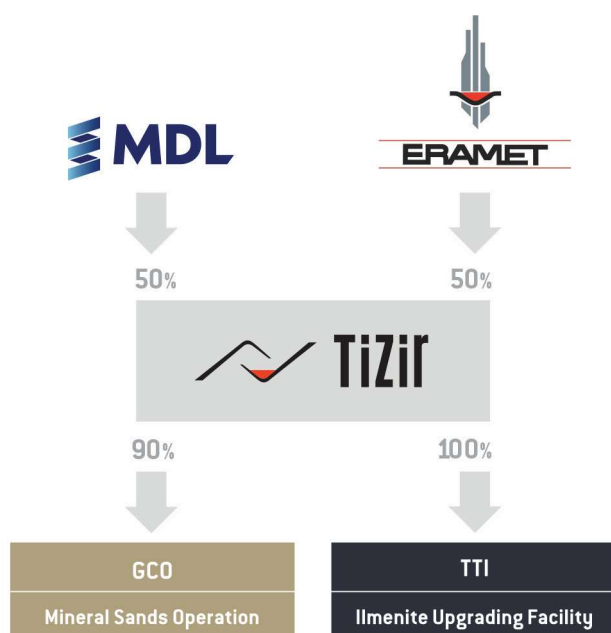
**ABOUT MDL**

Mineral Deposits Limited (ASX: **MDL**) is an established, ASX-listed, integrated mining company with a 50% equity interest in TiZir Limited (**TiZir**) 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, financing risks, 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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