

# **1Q 2018 OPERATIONS REVIEW**

MDL jointly owns and manages the TiZir joint venture (**TiZir**), which owns 90% of the Grande Côte mineral sands operation (**GCO**) in Senegal, West Africa and 100% of 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**

#### GCO

- Mining operations produced 189.5kt of heavy mineral concentrate (HMC) in 1Q 2018
- Finished goods production down 13.8% primarily to align GCO ilmenite production with rail availability

#### TTI

- Pre-reduction kiln gearbox failure in February resulted in six weeks of significantly reduced production
- · Repairs completed on time, with normal operations resuming mid-April

#### Market

- Strong improvement in market fundamentals, largely arising from supply-side pressures
- Zircon market remained tight with supply limitations increasing pressure on prices with further price rises expected into 2H 2018
- Strengthening demand for high-grade titanium feedstocks with increased prices likely to emerge as a result of potential supply disruptions

# GCO

The first quarter of 2018 was characterised by a consistent operating performance coupled with price increases achieved across GCO's product suite. Demand for GCO zircon remained strong, with pricing momentum expected to continue throughout the year.

Operations at GCO were broadly consistent with the last two quarters, with average dredge throughput of 6,357tph and plant utilisation of 79.4%.

Total finished goods production was 13.8% (20.7kt) lower than 4Q 2017 performance. This decrease occurred largely due to the deferral of magnetic concentrate processing to align ilmenite production with rail availability. Capacity exists for processing these stockpiled magnetic concentrates in the second quarter of 2018. As previously advised (*ASX release: 24 January 2018*), some disruption to rail transport was expected during 2018 due to recently commenced high-speed rail works between Dakar and Blaise Diagne International Airport. Since 1 February 2018, when GCO assumed responsibility for track maintenance during the fast rail construction period, there has been a significant improvement in rail utilisation. Further, GCO implemented additional measures which have been effective in mitigating negative impacts on its shipping schedules. GCO remains confident that it will be in a position to transport its budgeted annual finished goods production to the port of Dakar.

Production of non-magnetic concentrates was broadly consistent with levels achieved in 2017. Relative to 4Q 2017, zircon production was down marginally (0.6kt), while combined rutile and leucoxene production was 14.4% (0.3kt) higher.

As a consequence of deferring ilmenite production, sales volumes were down 27% (41.6kt) on 4Q 2017. As noted in the ASX release on 5 March 2018, GCO was not impacted by the gearbox issue at TTI, with ilmenite volumes earmarked for TTI during the period of downtime being contracted for sale to external customers in the second quarter. Zircon sales were up 1.7% (0.3kt) and rutile/leucoxene sales were 56.2% (1.1kt) higher than 4Q 2017 levels. Medium grade zircon sands sales were 19.7% (0.8kt) higher than 4Q 2017 performance, consistent with strong demand for zircon products.



From a community perspective, Foth village relocation activities progressed well, with government approvals in place and request for tenders issued for construction of resettlement housing. The Foth Resettlement Committee continued to maintain healthy and constructive working relationships between GCO, village members, government bodies and other resettlement stakeholders.

# **GCO** production volumes

GCO production volumes						
100% basis		1Q	2Q	3Q	4Q	1Q
		2017	2017	2017	2017	2018
Mining						
Ore mined	(kt)	11,661	11,793	11,234	10,374	10,900
HMC produced	(kt)	140.5	204.2	196.4	183.7	189.5
Finished goods production						
Ilmenite	(t)	99,400	126,030	140,713	126,298	104,104
Zircon	(t)	11,688	16,203	17,271	16,400	15,805
Medium grade zircon sands	(t)	7,179	2,927	5,235	4,846	6,599
Rutile & leucoxene	(t)	2,152	2,384	3,047	2,392	2,737
GCO sales volumes						
100% basis		1Q	2Q	3Q	4Q	1Q
		2017	2017	2017	2017	2018
Sales volume						
Ilmenite	(t)	81,636	129,713	123,474	129,053	85,147
Zircon	(t)	13,030	13,722	16,331	17,614	17,906
Medium grade zircon sands	(t)	2,711	8,043	3,549	4,010	4,801
Rutile & leucoxene	(t)	2,588	3,208	2,398	2,064	3,224



Grande Côte mineral sands operation, Senegal

### TTI

Following a strong production performance in the first half of the quarter, upgrading of ilmenite at TTI was disrupted for six weeks from the end of February by an unscheduled maintenance outage of the pre-reduction kiln stemming from gearbox failure. During that period the furnace operated at significantly reduced rates, drawing a blend of direct feed and reduced ilmenite from inventory. Repairs on the gearbox were completed as planned, with normal operations resuming in mid-April.

From the beginning of January up until the pre-reduction outage, TTI was operating at levels approaching its annualised expanded production capacity target of 230,000 tonnes. Due to the shutdown, however, 1Q 2018 production was approximately 33% lower than 4Q 2017 performance, with titanium slag production of 34.0kt and high-purity pig iron (HPPI) production of 14.2kt.



Sales volumes of titanium slag and HPPI were 41% (25.5kt) and 26% (6.1kt) lower than 4Q 2017 levels, consistent with reduced production performance.

## **TTI physical volumes**

100% basis		1Q	2Q	3Q	4Q	1Q
		2017	2017	2017	2017	2018
Titanium slag						
Produced	(kt)	27.8	49.5	53.2	50.7	34.0
Sold	(kt)	11.5	47.1	39.0	62.1	36.6
НРРІ						
Produced	(kt)	11.2	20.1	21.6	20.8	14.2
Sold	(kt)	7.0	20.0	15.2	23.3	17.1



TiZir Titanium & Iron ilmenite upgrading facility, Tyssedal, Norway

#### **MARKETS**

Market dynamics in 1Q 2018 continued to improve with pricing for key products benefitting from continuing strong demand but, more particularly, concerns about the ability of the supply-side to meet this demand.

**Titanium dioxide feedstocks:** Positive demand in the titanium dioxide sector is evident with high pigment plant utilisation rates and relatively low inventory levels. Current pressures on the supply-side are impacting the ability of the industry to supply existing customers, much less respond to any increase in demand. Pressure on both supply and price are likely to persist in the near-term.

**Zircon:** GCO's high quality zircon continued to command a premium in ceramics and specialty end-use markets, with prices increasing approximately 15% on average over 4Q 2017 levels. Favourably low levels of impurities in GCO zircon and marketing efforts are ensuring sales into a diverse range of end-uses with specialty applications now representing approximately 30% of customer end-uses. The pressure on supply in the zircon sector is likely to see further price rises during 2018.

**HPPI:** Pig iron markets remained relatively stable throughout the quarter, however, higher prices are emerging as a result of US steel industry trade and tax reforms. TTI continued to experience healthy demand for its HPPI products.

#### **TIZIR**

The TiZir board was expanded in 1Q 2018 with MDL's chief operating officer Jozsef Patarica and former TiZir chief executive officer Jean-Michel Fourcade joining the board.

At 31 March 2018, external borrowings (excluding shareholder loans) by TiZir amounted to US\$369.2 million, comprising the US\$300 million senior secured bonds (including accrued interest) and amounts drawn under TTI's and GCO's working capital facilities.



TiZir's cash and cash equivalents at 31 March 2018 were US\$45.2 million, giving external net debt of US\$324.0 million.

TiZir's sales revenue for the quarter was approximately US\$61 million.

#### **OUTLOOK**

Following return to normal operations at TTI in mid-April, the focus for operations is to continue the production trajectory established in 2017 and at the start of 2018 and take advantage of the current strong market conditions to maximise cashflow to the TiZir joint venture.

#### **MDL CORPORATE**

The Company's Annual General Meeting will be held on Friday, 25 May 2018 at 10.30am (Melbourne time) at the office of MinterEllison, Level 23, 525 Collins Street, Melbourne, Victoria.

#### At 31 March 2018:

- issued shares were 196,985,649
- unlisted unvested performance rights totalled 2,338,209
- cash was US\$11.2 million (approx. A\$14.6 million)
- zero debt



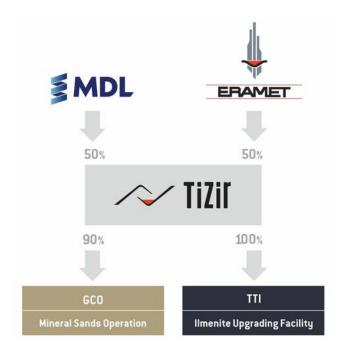
#### **ABOUT MDL**

Mineral Deposits Limited (ASX: MDL) is an established, ASX-listed, integrated mining company which jointly owns and manages TiZir Limited (TiZir) in partnership (50/50) 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 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 currently projected to 2050, 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. The government of the Republic of Senegal is a valued project partner, holding a 10% interest in Grande Côte Operations SA.

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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