FOR THE PERIOD ENDING 30 JUNE 2018



## **HIGHLIGHTS**

- Significant turnaround in operational performance achieved by guarter end.
- Step change in HMC production underpins strong start to 2019 Financial Year.
- Keysbrook and Picton now functioning in accordance with "steady-state",
  5.25Mtpa Operating Plan.
- Plant reliability and availability now matching targeted industry standards.
- Robust outlook for Mineral Sands with further price increases and strong demand being reported for both rutile and zircon products.

### **OVERVIEW**

During the June quarter, MZI's primary focus remained on progressively integrating planned operational upgrades at the Company's Keysbrook and Picton Operations, designed to increase saleable production, improve margins and reduce unit costs.

Pleasingly, actions during the quarter delivered significant improvement by the end of the period, most notably with regard to daily production of Heavy Mineral Concentrate ("HMC") and recovery levels at the Keysbrook Wet Concentrator Plant ("WCP").

As indicated in the Company's Business Update dated 4 July 2018, significant additional optimisation and modification activities had to be undertaken in the quarter following the major processing upgrades completed at Keysbrook and Picton during the preceding period.

As a result, HMC production increased by 22% quarter on quarter and full year HMC output reached 96,848t. Performance at the Picton Mineral Separation Plant ("MSP") also improved strongly in the quarter, boosting saleable production for the 2017-18 year by approximately 20% to a record 74,680t.

Significantly, this improvement trend continued during the month of July with further positive outcomes achieved across all key elements of the 5.25Mtpa Operating Plan.

Since the start of the month, HMC production has increased substantially with daily production regularly exceeding 400t. This compares with a daily average of just 270t/day for FY2017-18.

General market conditions for mineral sands products continued to strengthen in the quarter, complementing the step change in improvements from the enhanced Operating Plan.

Pricing of Keysbrook's premium leucoxene and zircon concentrate products continue to reflect the positive market fundamentals for both rutile and zircon.

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#### **CORPORATE**

MZI finished the quarter with \$7.2M in cash. Total issued capital at 30 June 2018 was 246,129,415 ordinary shares and 2,800,000 unlisted options with varying exercise prices and maturity dates. Subsequent to the end of the period in July 2018, 12,544,065 shares were issued to RCF in lieu of interest payments, increasing RCF's shareholding in MZI to 54.21%.

As reported in the March quarter report, in April 2018 MZI announced a new Funding Package provided by RCF to deliver a stable, long-term working capital platform for the long-life Keysbrook Mineral Sands Operation. (Refer to ASX release dated 30 April 2018 for full details of the Funding Package).

Tranche A (totalling US\$53.5M) was utilised as planned during the quarter to: repay all amounts owing under the expanded Additional Working Capital Facility ("AWCF"); support working capital requirements including senior debt servicing; provide budgeted capital expenditure; cover land access expenses and fund operational optimisation activities.

Subsequent to the end of the period, RCF agreed to waive conditions precedent to an initial drawdown of US\$3.5M from Tranche B (totalling US\$7.5M). (Refer ASX release dated 13 July 2018).

#### **OPERATIONS**

Production and sales statistics for the June quarter are detailed in Table 1.

Mining operations at Keysbrook continued to perform strongly in the June quarter, with mining volumes increasing by almost a quarter to 1.2Mt of ore. However, mining and MFU feed rates were restricted by WCP feed requirements. Average ore grade of 2.41% HM was approximately 12% lower than in the preceding quarter, with mining being completed in lower grade ore blocks before moving to higher grade areas in line with the mine plan towards the end of the period.

MFU throughput was in line with ore production at 1.1Mt. However, mining and MFU throughput rates regularly exceeded those required to meet the 5.25Mtpa Operating Plan when conditions and WCP performance allowed. Mining rates up to 19.9ktpd (7.2Mtpa annualised) and MFU feed rates of 17.3ktpd (5.7Mtpa annualised) were achieved in June.

At the WCP, HMC production increased by 22% to 23,979t, despite issues associated with the bedding down of plant modifications detailed in the Business Update released on 4 July 2018. Full year HMC production totalled 96,848t, compared with 93,118t in the previous financial year.

At the Picton MSP, HMC processed closely matched HMC production at 23,895t, and totalled 99,366t for the financial year, an increase of approximately 11% over the prior year.

Consequently, saleable production rose 3% to 17,998t for the quarter and approximately 20% to 74,680t for the full year. June quarter production comprised 4,865t of L70, 7,824t of L88 and 5,308t of zircon concentrate.

Sales in the quarter totalled 16,731t, 14% lower than in the preceding quarter reflecting the timing of shipments. Full year sales totalled 65,949t, an increase of approximately 5% on the prior year.

Operating costs reflected considerable downtime and disruption events as well as extended commissioning activities carried out in the quarter, with C1 unit cash costs increasing to an average of \$743/dmt in the June quarter (from \$680/dmt in the prior quarter), whilst averaging \$630/dmt for the 12-month period (FY2017:\$668/t).

Total (all-in) cash costs averaged \$1,020/dmt in the quarter and \$891/dmt for the year (FY2017:\$1,040/t) at an annual production rate of approximately 4Mt. Both C1 and total cash costs are forecast to decline as the "steady-state" 5.25Mpta Operating Plan takes effect on the business.

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Table 1: Keysbrook Production and Shipments

Production	Unit	Jun-17 Qtr	Mar-18 Qtr	Jun-18 Qtr	Jun-18 Qtr vs Mar-18 Qtr	FY2018	FY2017
Ore Mined	dt	1,040,685	971,735	1,205,111	+24%	4,018,346	3,967,154
Ore Processed	dt	942,762	808,784	1,005,387	+24%	3,397,437	3,620,656
Mined Grade	% HM	2.61	2.76	2.41	-13%	2.89	2.68
WCP Runtime	%	83.0	82.3	88.4	+6.1%	87.0	92.9
MSP Runtime	%	89.7	88.4	93.7	+5.3%	92.7	92.6
HMC Production (WCP)	dt	22,172	19,631	23,979	+22%	96,848	93,118
HMC Processed (MSP)	dt	16,405	24,078	23,895	-1%	99,366	89,765
L70	dt	4,233	6,303	4,865	-23%	27,618	16,952
L88	dt	4,709	6,101	7,824	+28%	26,442	29,802
Zircon Concentrate	dt	3,449	5,027	5,308	+6%	20,621	15,501
Total Products	dt	12,391	17,432	17,998	+3%	74,680	62,255
Shipments							
L70	dt	10,500	10,010	4,606	-54%	24,022	12,126
L88	dt	8,945	4,351	7,647	+76%	23,124	29,538
Zircon Concentrate	dt	3,916	5,107	4,478	-12%	18,803	15,809
Total	dt	23,361	19,468	16,731	-14%	65,949	62,473

### 5.25Mtpa Keysbrook Operating Plan Implementation

The main operational focus during the quarter was on bedding in upgrade and modification activities associated with implementation of the higher throughput 5.25Mtpa Keysbrook Operating Plan announced in September 2017. The Plan is designed to increase saleable production, increase margin performance and reduce overall unit costs.

### **Keysbrook Operations**

As discussed in detail in the Business Update dated 4 July 2018, the major upgrade works associated with the Plan were completed in March 2018, however the commissioning process took considerably longer than originally anticipated due to higher levels of disruption and unplanned downtime than originally anticipated.

However, "steady-state" throughput and recovery rates were achieved at Keysbrook in mid-June, representing a very signification turnaround in operational performance.

MZI has now achieved positive outcomes with regard to all key elements associated with implementation of the 5.25Mtpa Operating Plan, with the Mine Feed Unit ("MFU"), WCP, Co-Disposal System and MSP all proven capable of processing feed material at or above required rates set for the 5.25Mtpa Operating Plan.

This is evident in a quantum shift in operational performance at the start of the new financial year, with both production and costs building towards a substantial improvement in the current September quarter.

Since the start of July, HMC production has increased substantially averaging approximately 400t/day for the month in spite of inclement winter weather.

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These results represent a material improvement compared with the overall average of 270t/day achieved in the 2017-18 financial year. This current level of performance equates to annual HMC production of approximately 135,000tpa, consistent with the 5.25Mtpa Operating Plan.

As detailed in the Business Update, mine production and MFU throughput through the June half, were initially held back by bottlenecks at the trommel, co-disposal tailings system and WCP spiral circuit, all of which have been addressed with positive results.

As reported, the MFU has been able to achieve throughput rates of up to 17.5ktpd, equating to 5.68Mtpa on an annualised (dry) basis, while mining activity has also regularly demonstrated an ability to exceed target rates as required when supplying ore to the ROM stockpile.

Co-disposal has also maintained the excellent performance mentioned in the Business Update by more than matching the drainage and water reprocessing/recovery rates necessary for the WCP to operate at the levels required under the Operating Plan. This includes regularly achieving slimes discharge rates in excess of 100t/hour and enabling mobile equipment to commence working on fill areas within 10-12 hours, compared with several days previously.

At the WCP, where HM recoveries declined below 60% in March and April, fine-tuning of the reconfigured spirals achieved a gradual improvement in HM recovery to over 70% by May. Recovery has stabilised in a range between 70-75% so far in July.

Significantly, improved HM recovery has been attained in parallel with the uplift in HMC production. Further adjustments are underway to test the optimum balance of production and recovery in line with the Operating Plan objectives.

After focussed efforts in this area by the team on site, the WCP has demonstrated excellent utilisation and reliability, with the latest availability figures averaging over 95%.

Commensurate with the improvements to date and specifically with July's performance, MZI anticipates both cost and production benefits of the 5.25Mtpa Operating Plan should be demonstrated in the current September quarter.

### **Picton Operations**

Further to the Business Update, the Picton MSP achieved materially improved performance in the June Quarter, consistent with the Operation Plan objectives following the major upgrades completed since the start of 2018.

Upgrades included installation of an uprated dryer and gas train, uprated magnetic separation capacity as well as modifications to the MSP's piping and screen decks, and installation of thinner Kevlar belts on rare earth roll machines to improve magnetic separation. Together these improvements delivered a significant uplift in MSP throughput, with the feed rate rising from approximately 24tph in 2017 to average over 29tph since the March processing run.

Rates up to 32tph have been achieved over shorter periods but were unable to be maintained in the June Quarter due to the lagging impact of limited HMC supply from Keysbrook that manifest from the extended commissioning period. However, the level of performance attained during the most recent MSP processing run equates to an annual processing capacity in the order of 120,000t of HMC per annum, taking into account the month-on/month-off tolling arrangement at Picton.

Final recovery and product split between saleable L88, L70 and zircon concentrate has been improving as targeted within the 5.25Mtpa Plan. Current L88 recovery based on the most recent MSP run, is approximately 75% at Picton, up over 5% on the average levels achieved prior to the modification works.

The full benefits of the MSP upgrades will be realised once consistent target performance is achieved at Keysbrook, and HMC production and quality is sustained at targeted levels. Recent evidence provided by plant availability and unplanned downtime metrics, suggests that this objective is well underway.

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#### **Sales**

Sales in the quarter totalled 16,731t, approximately 14% lower than in the preceding quarter as a result of the timing of shipments. June quarter sales comprised 4,606t L70, 7,647t L88, and 4,478t of zircon concentrate. Full year sales totalled 65,949t, an increase of approximately 5% on the prior year, and comprised 24,022t L70, 23,124t L88 and 18,803t zircon concentrate.

Sales revenue booked for the quarter totalled \$11.9M while sale proceeds received by the end of June totalled \$3.5M (prior quarter sales revenue \$11.5M, cash receipts \$13.5M), resulting in a blended average realised price (all products) achieved in the quarter of \$711/dmt (prior quarter \$590/dmt). June quarter proceeds received does not include any zircon prepayment proceeds.

The timing of sales proceeds, together with expenditure on processing optimisation and plant modifications in the quarter resulted in negative operating cashflow for Keysbrook Operations of approximately \$11.1M in the quarter, compared with positive cashflow of approximately \$1.4M in the prior quarter. Taking into account all capital expenditure, corporate expenses and net financing cashflow, the business overall recorded positive cashflow of \$1.1M for the quarter.

MZI expects to provide production and sales guidance for the 2018-19 financial year in the September quarter report.

#### **Mineral Sands Market**

The mineral sands market remained buoyant during the June quarter, underpinned by low inventory and continued strong demand for all products with prices continuing their upward trend. It is expected this situation will continue for the remainder of the year.

Pigment plants are running high utilisation rates and have low inventory which is turn is placing pressure on feedstocks resulting in upward price movement. In particular, this is being experienced in the high TiO2 feedstock where shortages of rutile and reported disruptions in a major producer's operation are impacting supply. It is reported that pigment producers are responding by running lower feedstock inventories and undertaking plant maintenance but this is having a further positive impact in that the domestic customers are not being oversupplied with excess product. Environmental inspections have continued to impact Chinese pigment production affecting supply which is a positive given that Chinese pigment supply is reported to be softening.

The outlook for high TiO2 feedstock pricing remains positive with a major producer announcing circa 14% increases in the rutile price for the second half of 2018. All producers are reporting a strong level of enquiry for rutile with supply requests exceeding the amount of available product.

Zircon demand has remained strong during the quarter with a high level of enquiry from users seeking additional supply. Industry sentiment indicates that demand continues to exceed available supply with volume fully committed for the remainder of the year. Spot prices have increased, but the market remains underpinned by Iluka which has maintained a reference price of US\$1410 which will remain in force until end September. This has brought stability to the market and allowed consumers to adjust to higher prices.

Against this background, Keysbrook's premium leucoxene and zircon concentrate products continues to reflect the positive market trends in benchmark prices for rutile and zircon.

### Health, Safety and Environment

No Lost Time Injuries (LTI) occurred during the reporting period, extending the LTI-free period to greater than 530 days at the end of June. The rolling 12-month Total Recordable Injury Frequency Rate (per 1 million hours worked) was 16.0 (March quarter 12.4). Proactive reporting of potential hazards by employees and contractors continued during the period, ensuring a strong platform for the ongoing reduction in the risk of harm, damage or loss.

An extensive programme of environmental monitoring was maintained during the quarter. A number of reports were submitted to government agencies in compliance with regulatory requirements, including continued engagement regarding noise management for future operations. Substantial pasture rehabilitation works post mining, which are season-dependent, were also completed.

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### Community

The Keysbrook Community Consultative Group (CCG) continues to meet on a quarterly basis and provide input to the Keysbrook operations together with consideration and recommendations for the community partnership program. Recent sponsorship commitments include: the Pinjarra Street Festival, Serpentine Jarrahdale Community Fair, Friends of Edenvale Garden Day and the Serpentine Jarrahdale Lions Club and Community Fair. Several site tours were held during the period including the Peel Harvey Catchment Council and newly elected Councillors from the Shire of Serpentine Jarrahdale.

### **Geology and Regional Exploration**

Activities during the June 2018 quarter focused on supporting ongoing operations and mine planning activities at the Keysbrook Project. All assay results from the major air core drilling programme undertaken during the March 2018 quarter were received and processed. The resource model at Keysbrook has been updated and a resource report is currently being finalised. The new resource model is being used for budget and life of mine planning purposes.

For further details, please contact:

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#### **About MZI**

MZI Resources Ltd (ASX: MZI) is a mineral sands company based in Perth, Western Australia, focused on the high value minerals of zircon, rutile and leucoxene. MZI owns and operates the Keysbrook Mineral Sands Project, located 70km south of Perth which commenced operations in late 2015. At Keysbrook, mineral sands are mined and processed to produce Heavy Mineral Concentrate (HMC) which is processed into final products under a toll treating arrangement with Doral Mineral Sands Pty Ltd at the Picton Mineral Separation Plant (MSP) near Bunbury. The Keysbrook mine hosts a unique zircon / leucoxene rich ore body with total Ore Reserves equivalent to approximately 10 years of mine life and total Mineral Resources equivalent to over 25 years of production.

#### Disclaimer

This release has been prepared by the Management of MZI Resources Ltd ("the Company). The information provided in this release is based on publicly available information, internally developed data and is based on the assumptions and limitations mentioned herein and is an expression of present opinion only. No warranties or representations can be made as to the origin, validity, accuracy, completeness, currency or reliability of the information. The Company disclaims and excludes all liability (to the extent permitted by the law), for losses, claims, damages, costs and expenses of whatever nature arising in any way out of or in connection with the information, its accuracy, completeness or by reason of reliance of any person on it. Where the Company expresses or implies an expectation or a belief as to the success of future exploration and the economic viability of future projects, such an expectation or belief is based on management's current predictions, assumptions and projections. However, such forecasts are subject to risks, uncertainties or other factors which could cause actual results to differ materially from future results expressed, projected or implied by such forecasts. Such risks include, but are not limited to, exploration success, commodity price volatility, changes to the current mineral resource estimates, changes to assumptions for capital and operating costs as well as political and operational risks and government regulation outcomes. For more detail of risks and other factors, refer to the Company's other Australian Securities Exchange announcements and filings. The Company does not have any obligation to advise any person if it becomes aware of any inaccuracy in, or omission from any forecast or to update such forecast.

### **Forward Looking Statements**

Announcements made by MZI Resources Ltd ("the Company") may from time to time contain forward looking statements concerning the operations and projects owned by the Company, including statements concerning mining reserves and resources which may involve estimates based on specific assumptions. Forward looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties and other factors. Forward looking statements are based on Management's beliefs, opinions and estimates as of the dates the forward-looking statements are made and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or reflect other future developments.

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# **SCHEDULE OF TENEMENTS AS AT 30 JUNE 2018**

Tenement	Location	Status	Registered Holder	Interest at	
				30/06/2018	
E70/2407	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
E70/2673	Pinjarra, WA	Application	MZI Resources Ltd	100%	
E70/4628	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
E70/4723	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
E70/4725	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
E70/5054	Pinjarra, WA	Application	Keysbrook Leucoxene Pty Ltd	100%	
EL23862	Tiwi Islands, NT	Granted	MZI Resources Ltd	100%	
EL24329	Tiwi Islands, NT	Granted	MZI Resources Ltd	100%	
EL24851	Tiwi Islands, NT	Granted	MZI Resources Ltd	100%	
EL29800	Croker Island, NT	Application	MZI Resources Ltd	100%	
EL29839	Arnhem Land, NT	Application	MZI Resources Ltd	100%	
EL30924	Tiwi Islands, NT	Application	MZI Resources Ltd	100%	
ML24510	Tiwi Islands, NT	Granted	MZI Resources Ltd	100%	
ML24511	Tiwi Islands, NT	Granted	MZI Resources Ltd	100%	
ML27438	Tiwi Islands, NT	Granted	MZI Resources Ltd	100%	
P70/1662	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
P70/1663	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
P70/1676	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
P70/1677	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
P70/1678	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	
P70/1679	Pinjarra, WA	Granted	Keysbrook Leucoxene Pty Ltd	100%	