

ASX ANNOUNCEMENT

4 July 2018



Business Update

Summary

- MZI has delivered on its plan to grow throughput capacity from approximately 4Mtpa to 5.25Mtpa following modification works at its Keysbrook and Picton operations¹.
- Mining Field Unit, Wet Concentrator Plant, Co-disposal System and Mineral Separation Plant all proven capable of processing feed material at or above required rates.
- Disruptions and challenges in the combined commissioning process have delayed targeted performance levels, particularly leucoxene recovery rates at the Wet Concentrator Plant, by approximately two months.
- To adjust for the additional time taken to deliver sustainable, Heavy Mineral Concentrate recoveries greater than 76% at the Wet Concentrator Plant – *as per the conditions precedent to Tranche B of the Resource Capital Funds VI L.P. ("RCF") Term Loan Facility* – MZI is seeking waivers from these conditions from RCF.
- Forecast total saleable production for FY18, remains in line with previous guidance of 70-80kt.
- Continuing focus on optimisation and improvement actions at the Wet Concentrator Plant to achieve targeted leucoxene production and recovery levels, which are necessary to deliver cost and revenue benefits expected from the 5.25Mtpa Implementation Plan.
- Market outlook for mineral sands products continues to strengthen.

MZI Resources Ltd ("MZI") wishes to provide an update on operating performance at its mineral sands operations in Western Australia.

In December 2017, MZI commenced modification works on its Keysbrook processing facilities and Picton Mineral Separation Plant ("MSP"). These works were undertaken to grow MZI's mineral throughput capacity from approximately 4Mtpa to 5.25Mtpa in order to reduce unit costs and improve operating margins across the business.

MZI completed these works in March 2018, with the modifications being implemented in parallel with day to day operations in order to maintain cash flow and satisfy customer shipments. A number of planned shutdowns were undertaken to make the modifications with each new element commissioned individually. A combined commissioning process was then required to integrate the entire, uprated production chain.

In practice the commissioning process took considerably longer than originally anticipated, with associated disruption and unplanned downtime. Furthermore, this situation had an adverse impact on operational performance at the Wet Concentrator Plant ("WCP") over the entire March quarter, with Keysbrook only recently achieving "steady-state" throughput and recovery rates in mid-June, compared with the initial expectation of mid-April.

¹ HMC produced at MZI's Keysbrook mine, is processed into final products under a toll treating joint venture with Doral Mineral Sands Pty Ltd at the Picton MSP.

Delays in achieving specific, sustainable production rates set as key conditions to drawdown Tranche B of RCF's Term Loan Facility (US\$7.5m), mean that MZI has now approached RCF to seek a waiver of these conditions.

MZI Managing Director Martin Purvis said, "the commissioning process associated with the 5.25Mtpa Implementation Plan had been far more challenging than expected, but added that both the Keysbrook and Picton Operations were now starting to demonstrate the targeted production rates set out in the Plan.

"Whilst delays in lifting production in the first half of calendar year 2018 have been disappointing, recent improvements in performance at both Keysbrook and Picton, combined with improving fundamentals in the mineral sands market, bode well for the additional saleable products now entering the MZI pipeline.

"Our technical team has resolved many issues and challenges encountered during the 5.25Mtpa modification works, with May being a watershed month for performance and June demonstrating further progress toward meeting or exceeding the target rates set across the operations for the expanded 5.25Mtpa target.

"We look forward to working closely with RCF in order to secure waivers for the next Tranche of the Term Loan Facility that will enable MZI to take advantage of this increased production.

Mr Purvis added, "rutile prices have risen almost 30% since their low point in 2016, with further upward pricing momentum expected for the balance of 2018 as disruptions continue to affect feedstock supply. In addition, Zircon spot prices are currently being quoted by traders in the US\$1,500 to US\$1,600 range for smaller parcels, well above current contractual rates."

Keysbrook Operations

As previously reported, the plan to lift production and throughput at Keysbrook centred around four key elements:

- the installation of a new trommel unit ahead of the WCP plant to remove organic material and better regulate feed to the WCP;
- fitting a larger aperture screen deck at the Mining Field Unit ("MFU") to allow increased processing rates;
- reconfiguring the WCP to cope with the targeted 5.25Mtpa mining rate; and
- transitioning from the separate disposal of clay "slimes" and sand "tailings" to a co-disposal operation.

A key component of the program centred around the formation of a Technical Committee in March 2018, comprising a number of industry experts, to help optimise the performance of the new equipment and reconfigured, process flow sheet. As the various workstreams progressed, a number of key recommendations of the Technical Committee have been implemented with a positive impact on processing performance. This has been especially the case at the WCP where the committee was tasked with identifying potential options to resolve lower than targeted leucoxene recovery levels.

The impact of the modification works and success of the Technical Committee to implement improvements is demonstrated in the chart below (*Figure 1. WCP Downtime & HM Recovery*).

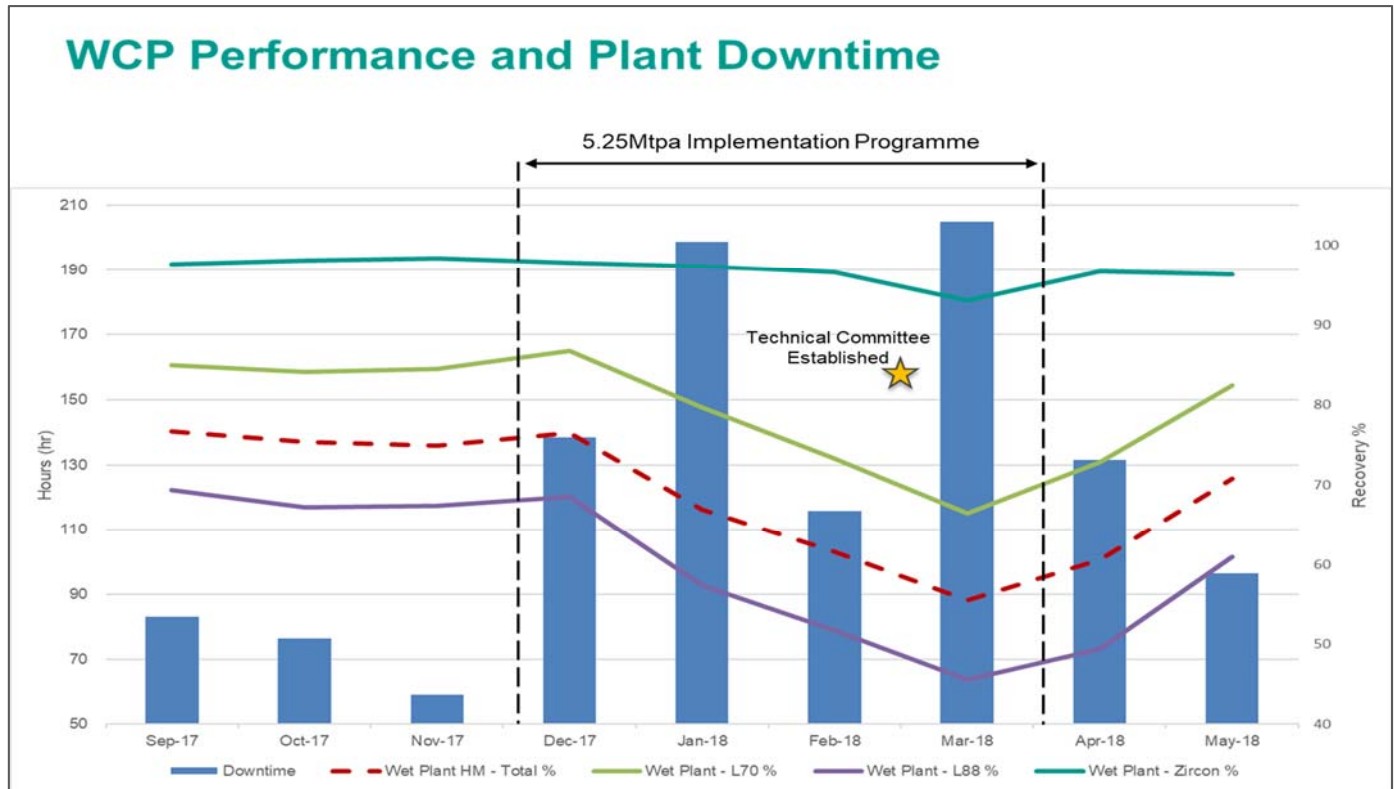


Figure 1. WCP Downtime & HM Recovery

Co-disposal was initiated on a trial basis in December 2017, as separate slimes and tailings disposal was determined to be incapable of keeping pace with the 5.25Mtpa Plan, notably due to its limited capacity to pump slimes to the rehabilitation voids some 3km from the plant. The new system feeds and blends the thickener underflow directly into the tailings line from the WCP, a much shorter distance of around 50m. Once combined, the slimes and washed sand flow more efficiently through the pipeline to the discharge areas prepared behind the mining operations.

As stated in the March quarter report, co-disposal was operational by the end of the period and demonstrated immediate benefits. However, achieving desired drainage and water reprocessing/recovery rates presented an ongoing challenge in the current quarter which continued to limit WCP capacity to consistently operate at “steady state” throughput.

Co-disposal methods have been progressively modified to achieve targeted performance. This has resulted in the successful adoption of “finger” dispersion of co-disposal streams, which has enabled more rapid moisture recovery and drying of tailings areas. This has drastically reduced the amount of time required for co-disposal “fill” to drain and solidify sufficiently for mobile equipment to commence work on the fill areas from over a week to as little as 10-12 hours.

Co-disposal is now delivering throughput rates required for the 5.25Mtpa plan. Slimes discharge rates in excess of 100tph are now being achieved, more than double the rate possible with the original dual-stream arrangement. A material benefit of this approach has been a major reduction in the mobile equipment required to blend slimes and tailings, which are now pre-mixed and placed as combined fill into shallow voids for rehabilitation. This “finger” co-disposal approach is now standard operating procedure at Keysbrook.

Effective co-disposal enabled the WCP to increase the “pull rate” from the trommel and MFU. However, numerous failures of both the trommel rims and tyres under “steady state” load initially resulted in a significant increase in unplanned downtime. Following consultation with various specialists, these were replaced with alternative design rims and tyres which have now been in service for more than a month without any operational problems and the trommel has demonstrated it can deliver throughput rates required for the 5.25Mtpa plan.

At the MFU, installation of the new screen decks has enabled MFU feed rates of up to 17.5kt/day, equating to 5.68Mtpa on an annualised (dry) basis. Mining activity has also regularly demonstrated an ability to exceed target rates as required when supplying ore to the ROM stockpile.

Following the completion of upgrade works, the WCP demonstrated its capacity to operate at the targeted 5.25Mtpa rate. However, it was evident that leucoxene recovery had been adversely affected by the higher throughput, and declined to levels inferior to those achieved prior to the upgrades being completed.

As noted in the March quarter activities report, Heavy Mineral (“HM”) recovery at the WCP deteriorated from the levels attained in the second half of 2017 (of approximately 74%), rather than being maintained or bettered following the spiral upgrades as had been predicted by modelling work. Subsequent plant performance in the current quarter indicated the modifications and associated disruptions to operations, had adversely impacted the spirals effectiveness in separating leucoxene, especially L88.

Test work initiated and carried out by the Technical Committee in April and May 2018, identified a number of options and processing improvements to enhance WCP leucoxene recovery which were applied sequentially to enable the results for each option to be measured and assessed. As these changes have been completed, HM recovery has progressively improved, returning to average 71% for the month of May (see also Figure 1), and regularly exceeding this rate in June following the most recent modifications.

The Technical Committee’s work to date has substantially advanced MZI’s knowledge of the factors and elements unique to leucoxene processing. This information will be of a considerable benefit to MZI going forward as future potential improvements continue to be made at the WCP and MSP.

Picton Operations

Increasing the throughput and performance of the dry plant at Picton was a key difficult challenge within the 5.25Mtpa Implementation Plan. As previously reported², key elements of the Plan at the MSP involved the installation of an uprated dryer and gas train, uprated magnetic separation capacity as well as modifications to the MSP’s piping and screen decks. This work was undertaken during planned shutdowns in March 2018.

These changes delivered immediate improvements to MSP performance when processing resumed for the final days of the March processing run, and have continued throughout subsequent runs including the current processing run which commenced in mid-June, notably with regard to attaining targeted MSP throughput and improved L88 production/recovery rates.

Since the March work was completed, additional fine-tuning has also occurred at the MSP which has further supported the positive operational trends at Picton. This additional optimisation included the installation of thinner Kevlar belts on rare earth roll machines to improve magnetic separation. Together these improvements have delivered a significant uplift in MSP performance, with average MSP throughput rising from approximately 24tph in 2017 to average just over 29tph since the March processing run.

² Refer ASX release dated 8 March 2018 and March Quarterly Activities Report dated 30 April 2018.

Substantially higher MSP throughput rates up to 32tph have been achieved over shorter periods, but have not been maintained as a result of limited HMC supply from Keysbrook during the extended commissioning period.

Operational Impact of Upgrades

On an annualised basis, taking into account the month-on/month-off tolling arrangement at Picton, the current level of performance equates to an annual processing capacity in the order of 120,000 tonnes of HMC per annum.

One further observation following the upgrade work at the MSP, is that the 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.

As indicated in the March quarterly report, MZI anticipates total saleable production in the order of 70-80kt for the 2017-18 Financial Year.

-Ends-

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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. Its flagship operating asset is the Keysbrook Mineral Sands Project, located 70km south of Perth. At the Keysbrook mine, 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. Production commenced in late 2015, making the Keysbrook Project Australia's first – and the world's largest - primary producer of high value leucoxene.

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