



CEO Presentation – “Building a Platform for Growth”
Annual General Meeting – 22 November 2018



MZI Resources



- ASX listed mineral sands producer (ASX: MZI).
- Unique Enterprise –
 - Primary producer of high value leucoxene and zircon products.
 - Semi rural location (70km from Perth).
 - Pioneering methods and technology.
 - Established market demand.
- What we do –



Keysbrook



Project Summary

- Project pegged in 2000 and production started in November 2015.
- Two year, two stage commissioning process. *Mineral Sands Projects typically take between 2-5 years to achieve target performance.*
- Pre-upgrade nominal capacity ~ 4.0Mtpa.
- Modified plant and processes have lifted “Steady State” production rate to 5.25Mtpa.
- Analytics from stable operations (July 2018 onwards) unlocking new value initiatives across the operation.



Board & Senior Management



Martin Purvis
Managing Director



Rodney Baxter
Independent
Chairman



Maree Arnason
Non-Exec Director



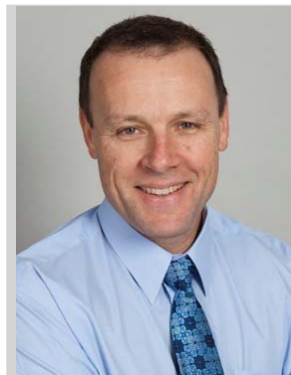
Ronald Beevor
Non-Exec Director



Nathan Wong
Non-Exec Director



Albert Zhou
Non-Exec Director



John Westdorp
Chief Financial
Officer



Neil Graham
Head of Operations



John Traicos
Legal Manager &
Company Secretary



Graham O'Grady
General Manager
Marketing

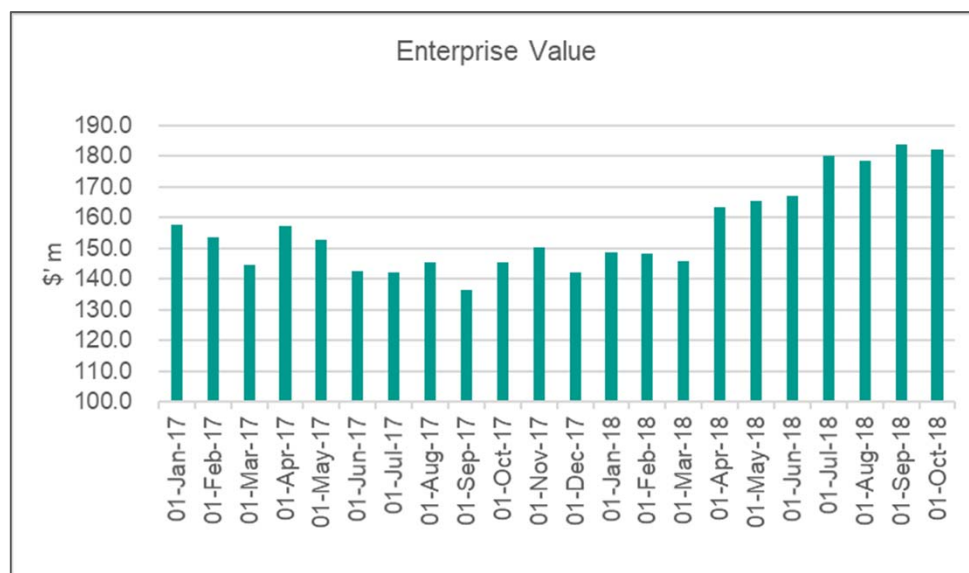


Jordeana Cain
External Affairs
Manager



Piers Goodman
Manager
Environment &
Compliance

Key Metrics



Key Information (as at 31 Oct 2018)

Shares on Issue	268,035,899
Share Price	A\$0.08
Market Cap	A\$22.0 M
Total Debt *	A\$166.3 M
Enterprise Value	A\$182.1 M

* Initial debt to start Project (Sept 2015) – A\$120m

Reserves & Resources (as at 30 Jun 2018)

Resources	139 Mt
Reserves	58 Mt

Top Shareholders (as at 31 Oct 2018)

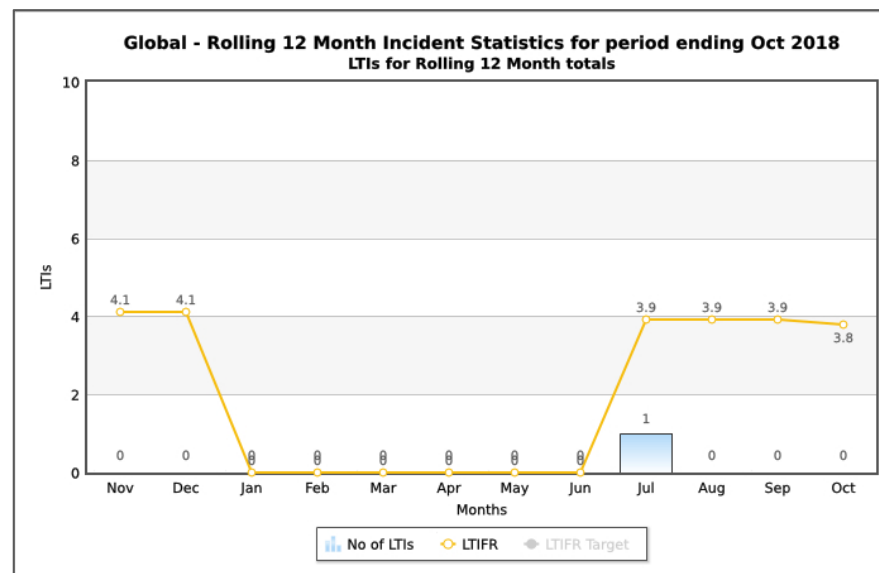
	% SOI
Resource Capital Funds	55.83
Rich Mark	8.89
Accent Resources	3.73
MZI KMP	1.48
Top 20 Shareholders	81.20
Total No. of Shareholders	1,791
Last Equity Raising	Feb 2016

Employees

	Employees	Contractors
KLPL	82	45
MZI	8	1
Total	90	46

Continuous Focus on Safety

- Zero harm culture.
- FY2018 ~ LTI free.
- In the last 12 months
 - Completed 21,927 shifts
 - 1 x LTI
 - Currently 116 days LTI free
- Only LTI since January 2017 occurred in July 2018 when a fitter was struck by a loose inspection plate whilst performing routine maintenance on a truck.
- This year targeting improving traffic management systems in the active mine area
 - GPS tracking on site vehicles.
 - Regular road audit and design layout programmes introduced.
 - Specialised training courses and operational awareness for operators.



Keysbrook Project Characteristics

Robust Mine Life

- 10 year Reserve life, 25 year regional Resource potential.

Mineral Assemblage and Deposit Characteristics

- TiO₂ content presented as higher value leucoxene products.
- Ancient dunes revealed at surface for lower mining cost.

	MZI	WA (Avg)
Rutile Products	48%	12%
Ilmenite Products	36%	70%
Zircon Products	16%	18%
Total	100%	100%

Source: MZI Resources Ltd

Community

- Building a widespread reputation as a “good neighbour”.

Employment

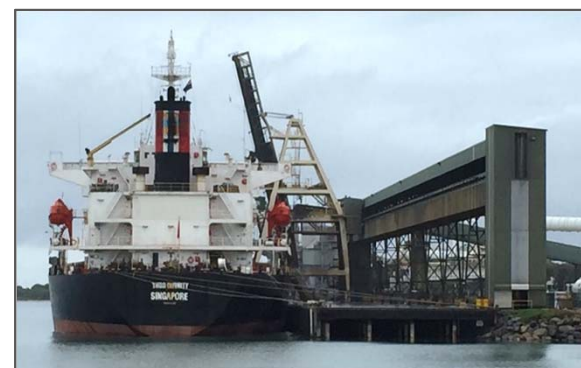
- 85% local employees.

Environment

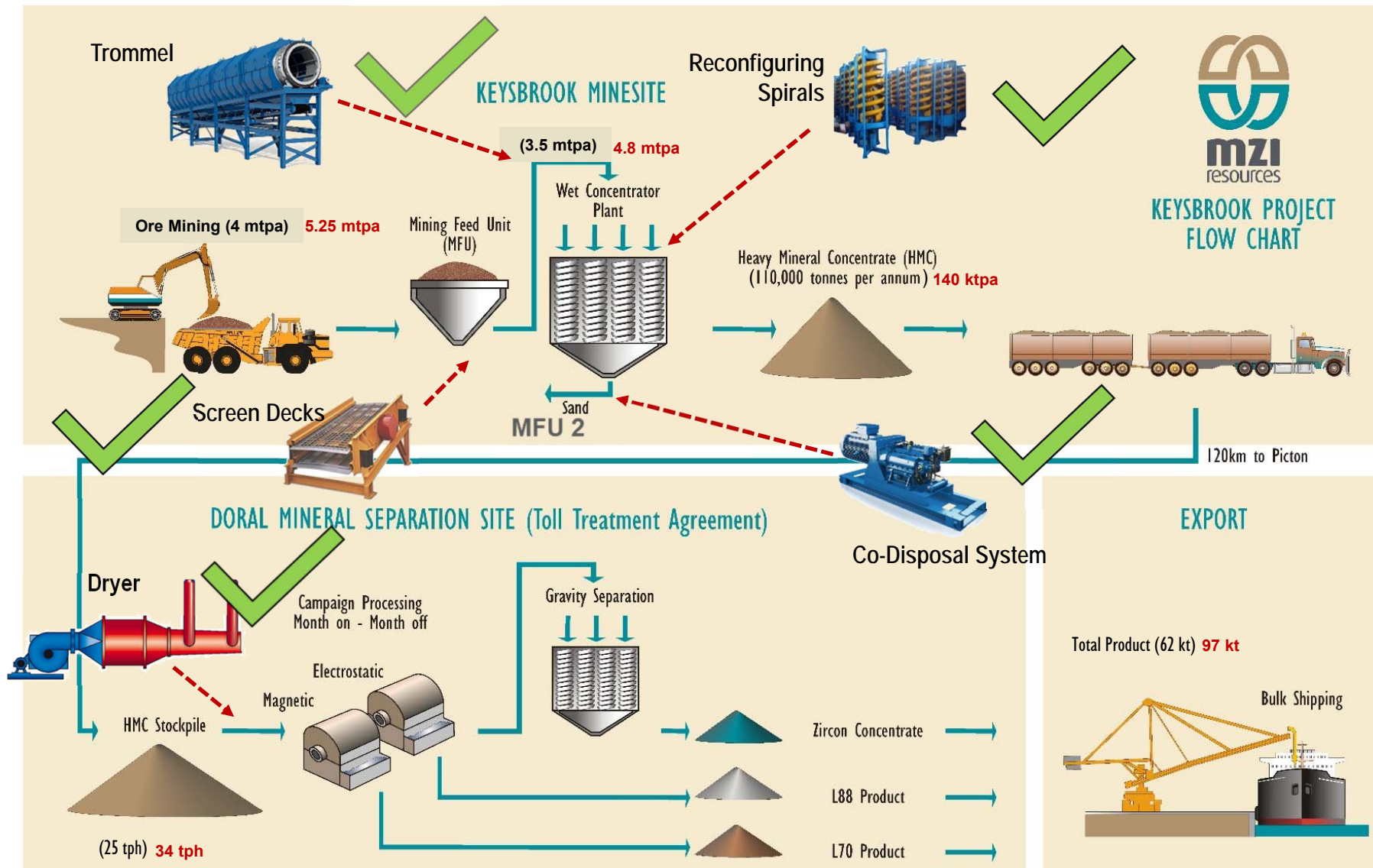
- Advanced programme of soil improvement through scientific approach to rehabilitation management.

Noise

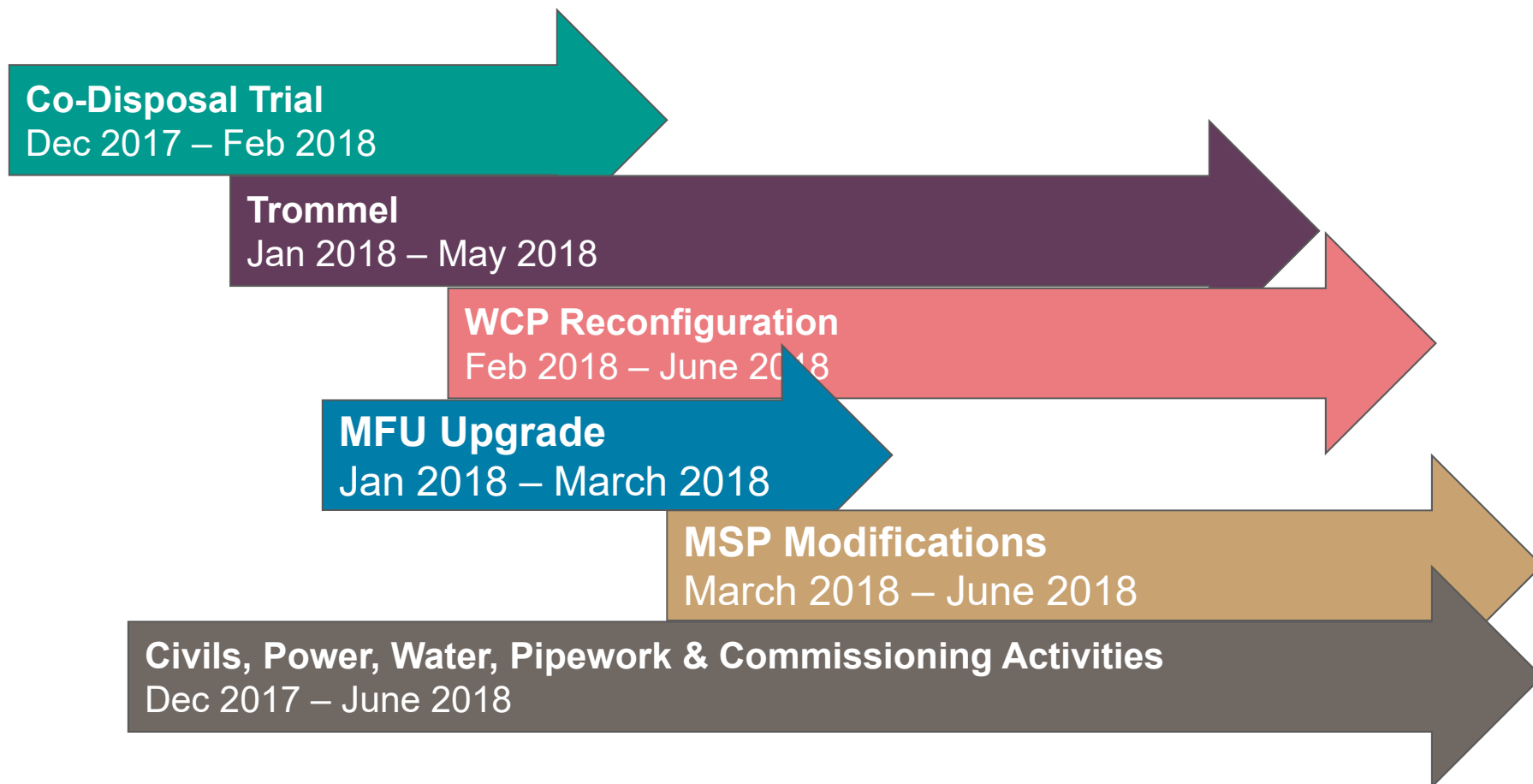
- Innovative, noise monitoring and adaptive management system.



The 5.25Mtpa Plan – 5 Key Elements



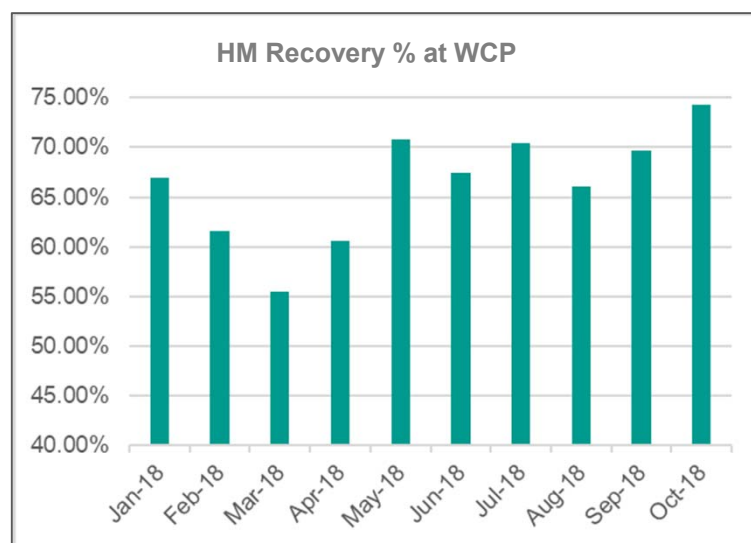
Simple Concept Challenging Implementation & Coordination Process



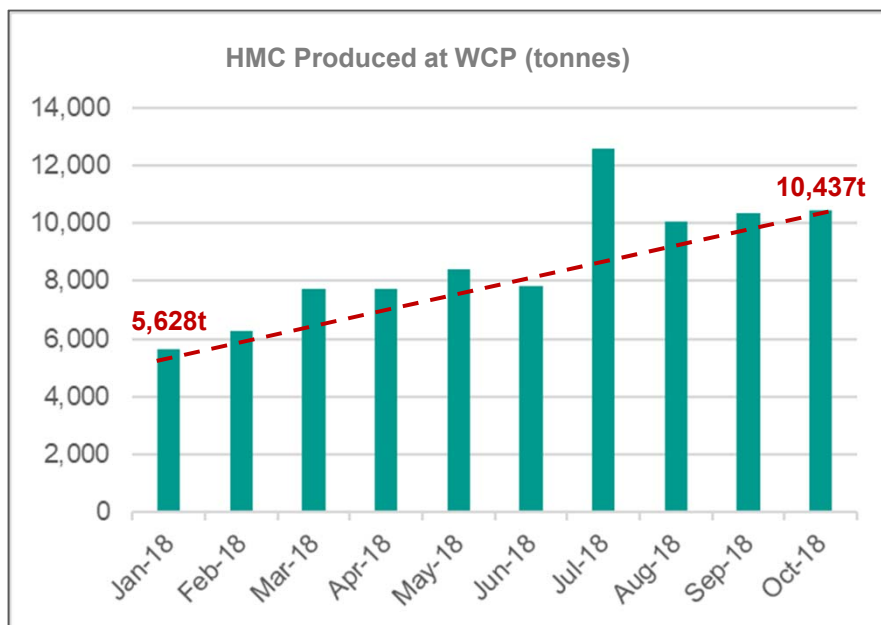
Dec 2017	Jan 2018	Feb 2018	March 2018	April 2018	May 2018	June 2018
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5.25Mtpa Platform Established – New Value Initiatives Formed

Work Steams Completed FY18	New Improvement Initiatives FY19
Focus on Throughput and Unit Cost Reduction	Focus on Recovery and Revenue Margin
<ul style="list-style-type: none"> Co-Disposal Trial ✓ MFU Reconfiguration ✓ Trommel Installation ✓ WCP Modifications ✓ New Dryer Installation at MSP ✓ 	<ul style="list-style-type: none"> Integrated Mine Planning System ✓ Maintenance System Reboot ✓ MFU Move and Future Mining Cycle Programme ✓ On Site Laboratory ✓ L88 Recovery Improvement Test Work and Trials (WCP) Zircon Upgrade Test Work and Trials (MSP)

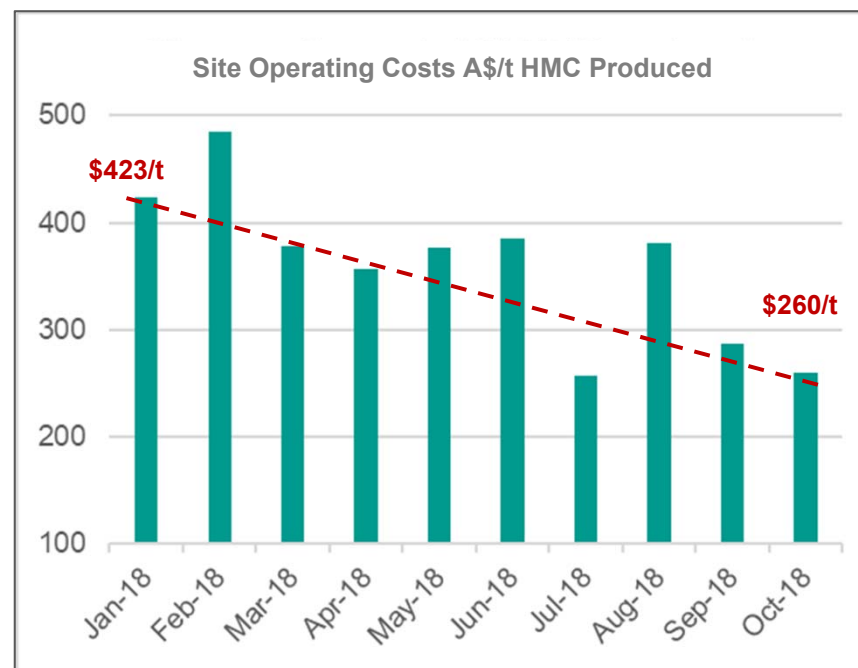


5.25Mtpa Operating Plan Impact & Outcomes



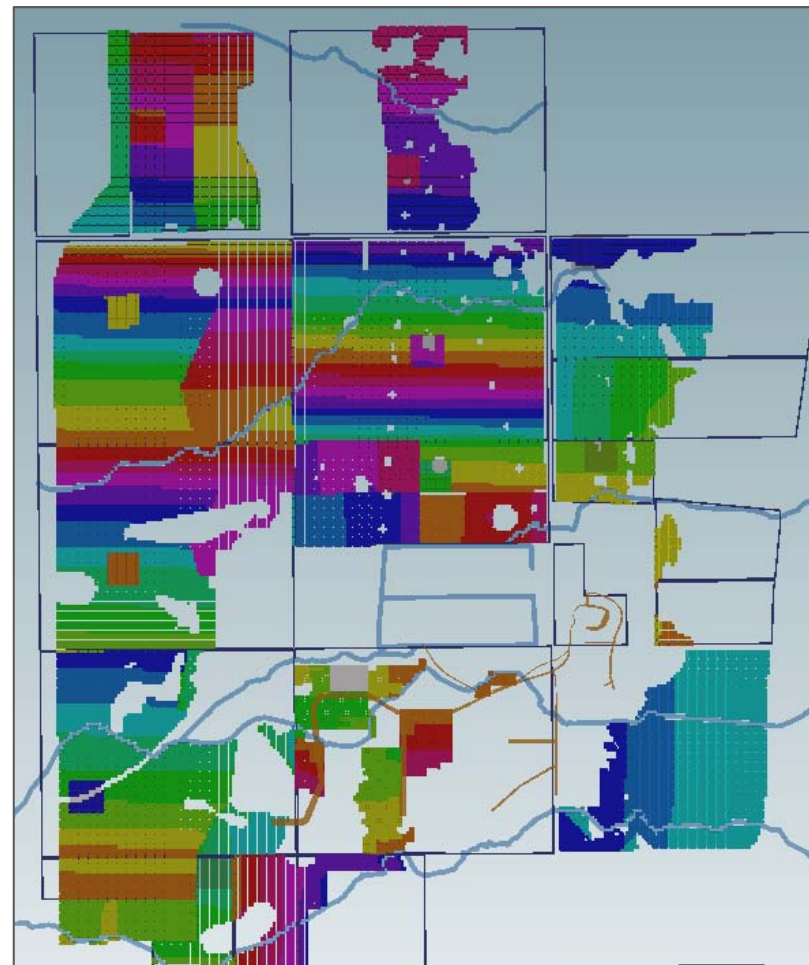
Key Objectives Achieved

Approximately 35% increase in RHF rate reflects an approximate 38% decrease in HMC production costs.



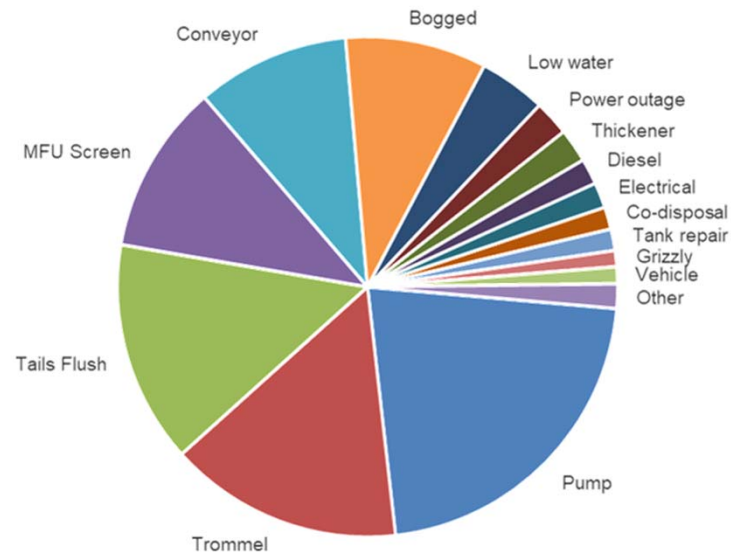
New Integrated Mine Planning System

- Implemented August 2018.
- Previous mine plans managed in Excel spreadsheets.
- Standalone, high-capacity computer station with MineSched software.
- Integrated with Surpac Block Model.
- 3D visuals and multiple interfaces.
- Material balance reconciliation from extraction to rehabilitation.
- Real-time planning ~ 6-8 hour turnaround (previous system measured in weeks).
- Automated and visualised mine planning sequences.
- Significantly enhanced blending capabilities and quality management.

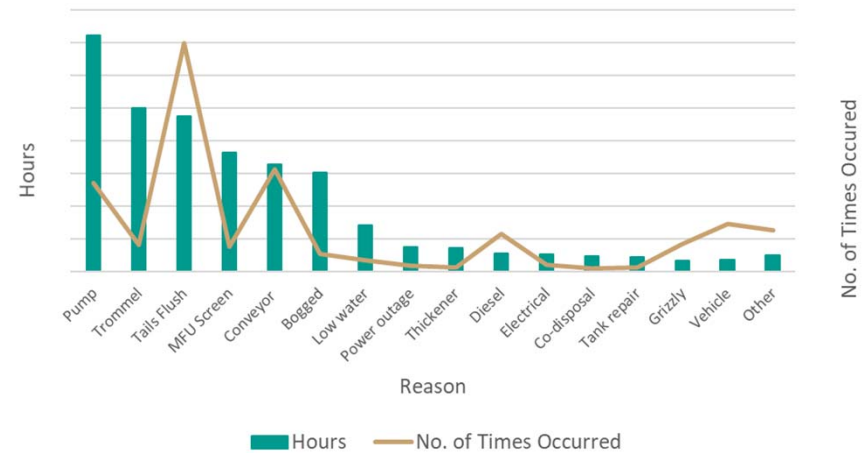


Maintenance System Reboot

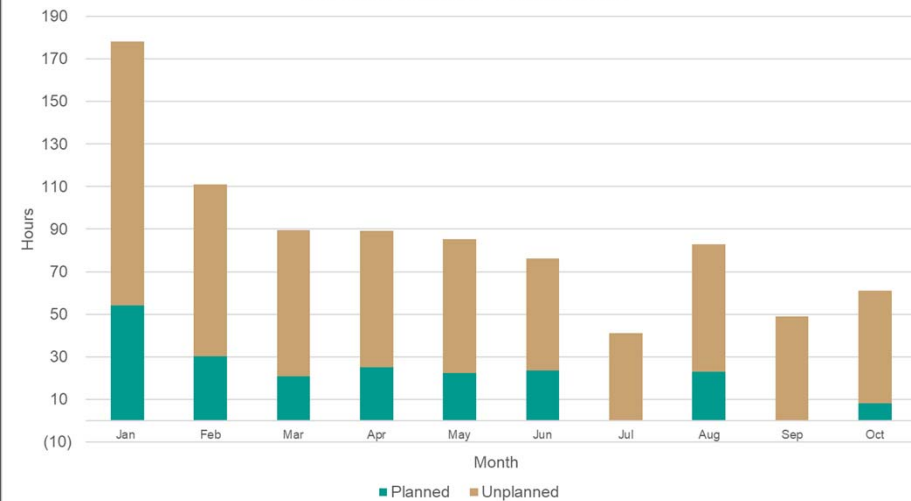
Keysbrook Unplanned Downtime - 1 Jan to 12 Nov 2018



Keysbrook Unplanned Downtime - 1 Jan to 12 Nov 2018

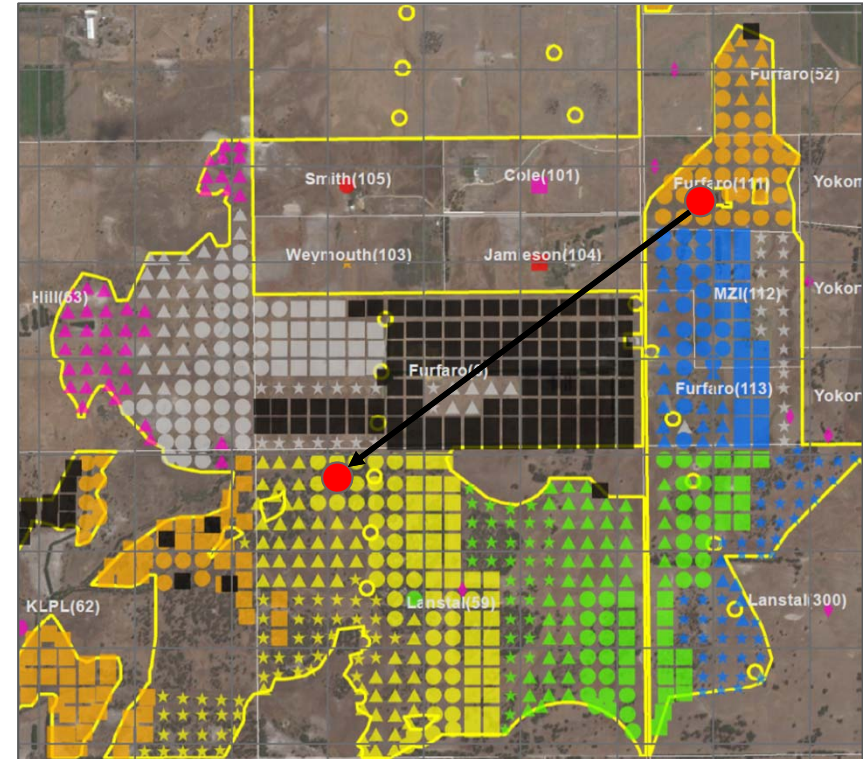


Keysbrook Downtime - Jan to Oct 2018



Mining Feed Unit Relocation (MFU3)

- MFU design capacity $\geq 6\text{Mtpa}$.
- Steady state performance $\sim 5.25\text{Mtpa}$.
- Relocation to new site – installation November 2018.
- Cost savings due to decreased haulage distances and equipment reductions.
- Current average tramming distance $\sim 1.7\text{km}$, new average tramming distance $\sim 500\text{m}$.
- New design and installation layout
 - Below ground.
 - Direct loading (no ramps).



- Optimised cycle periods for MFU location dictated by operating efficiencies rather than capital intensity.
- Cost of MFU2 installation $\sim \text{A\$}7.3\text{M}$, cost of MFU3 installation $\sim \text{A\$}950\text{k}$.
- MFU moves now timed in months rather than years to optimise costs and equipment efficiencies.

Mining Feed Unit Relocation



Mining Feed Unit Relocation



Mining Feed Unit Relocation

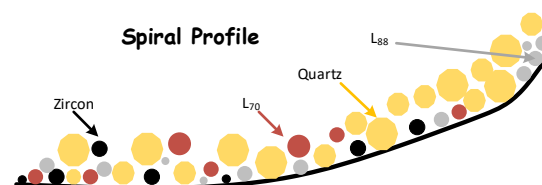
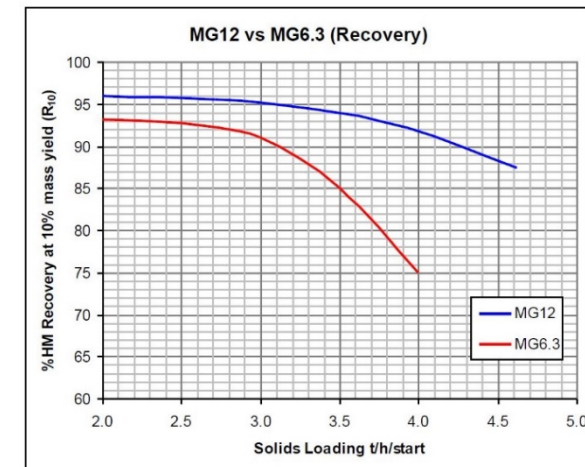


Mining Feed Unit Relocation



WCP – L88 Recovery Improvement Initiatives

- Steady-State evidence suggest L88 requires much lower loading rates than other Heavy Mineral particles to achieve similar recovery percentages in the same spirals.
- Overloading and recirculation apparent within the mid-spirals section of the WCP.
- Reconfiguration of rougher and middling circuit required to liberate further Leucoxene separation.
- Addition of latest tech high-performance spirals in new annex being considered as part of a project to reduce loading rates in all sections of WCP.
- All operational aspects at Keysbrook have improved following 5.25Mtpa Upgrade Plan except for L88 recovery.
- L88 recovery has improved marginally to > 60%, original design target 71%.
- Lighter fraction L88 particles much smaller than quartz particles but with similar SG levels – making it difficult for the spirals to differentiate between the two when heavily loaded.



MSP – Zircon Upgrade Project

Stage 1 Test Work – confirmation of potential to remove TiO_2 (L88) from the zircon concentrate (ZC contains ~ 20% TiO_2).

- High quality TiO_2 successfully removed from the zircon concentrate (mostly L88 leucoxene).
- Pathway to produce zircon sand from zircon concentrate identified.
- Product quality consistent with typical high quality WA zircon.



Stage 2 Test Work – Selection of preferred methods and equipment to upgrade the MSP at Picton to replicate flowsheet.

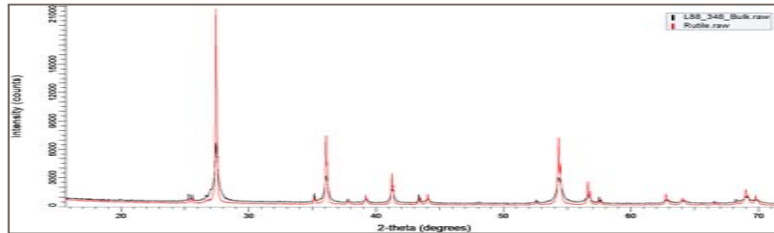
- Additional magnetic separation in the non-conductor circuit.
- Reflux classifiers to improve primary separation in the zircon wet circuit.
- Additional “finishing” wet tables remove the alumina-silicate fraction.
- Recovered L88 delivered back to L88 product (additional overall yield of ~7-8% L88).

Stage 3

- Board approval.
- Project implementation subject to funding.

Marketing & Sales

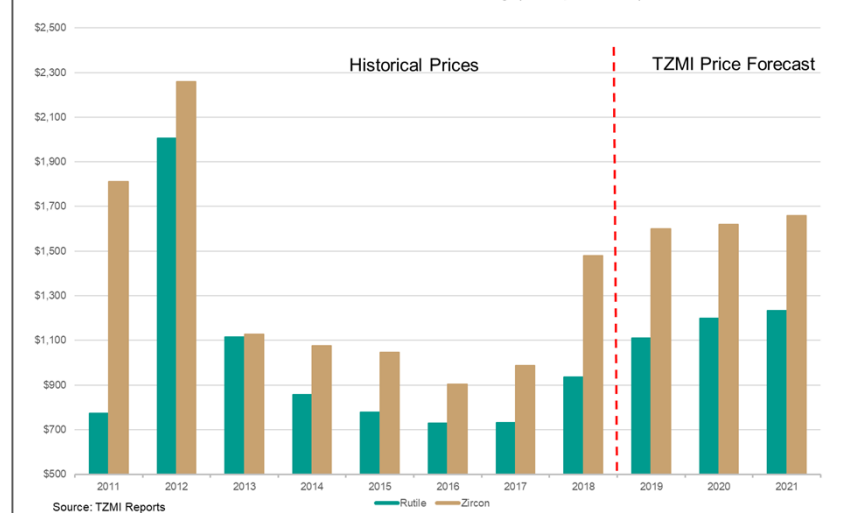
XRD L88 leucoxene vs Rutile Mineralogy



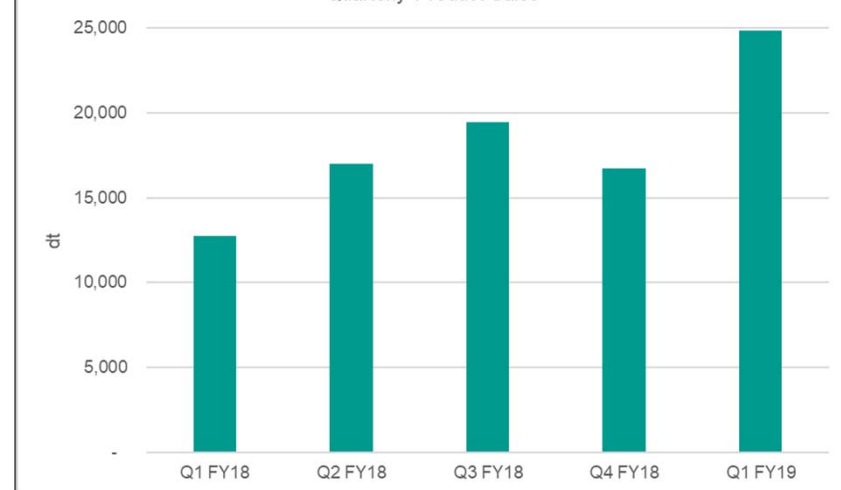
- Full order book with blue chip customers in long term agreements.
- L88 and Zircon Concentrate - market linked pricing.
- Product quality consistent with feasibility study expectation.
- L88 leucoxene “brand” well established as a high TiO_2 feedstock and now accepted as a mainstream product.



Rutile and Zircon Pricing (US\$ per tonne)



Quarterly Product Sales



Sustainability

- Full compliance.
- Evolution in systematic management procedures and plans.
- Upward trend in safety culture and awareness.
- Refined rehabilitation techniques – continuous improvement approach with established Research & Development programs.
- Targeted noise reductions achieved on specific equipment.
- High success rate in translocation of grass trees to conservation area.



Pasture Rehabilitation – Lot 6



- Exceptional pasture rehabilitation results – stemming from carefully planned soil reconstruction techniques.
- UWA proposal for joint paper on process and outcomes.

Summary



- Keysbrook Project 'coming of age' with the completion and delivery of the 5.25Mtpa Upgrade which has delivered a step change in MZI's long-term cost profile.
- Substantial value enhancement projects being progressed through stage-gate test work and trials at both Keysbrook and Picton.
 - **Next Phase** ~ revamped mining operations based on revised MFU cycle time location.
 - **Next Phase** ~ continuous improvement process to focus on improving L88 recovery to recover elevated losses incurred to tails.
 - **Next Phase** ~ continuous improvement process to focus on enhanced product separation and recovery in the zircon circuit.
- MZI Board considering funding plans and strategies to deliver new improvement initiatives.
- Keysbrook continues to develop strong environmental credentials backed by positive community and local government support.
- Increased production is lining up with a favourable market outlook for MZI's products.
- Massive team effort to install, integrate and communicate a 'whole of process' upgrade from start to finish in 6 months and on budget.
- Keysbrook Project finally closing in on the goals set in the original design concept.

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Thank You