

# Wodgina Site Tour

Presentation

25 October 2018



## Introduction to Mineral Resources

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An innovative and leading mining services company with a growing portfolio of mining services and mining operations across multiple commodities

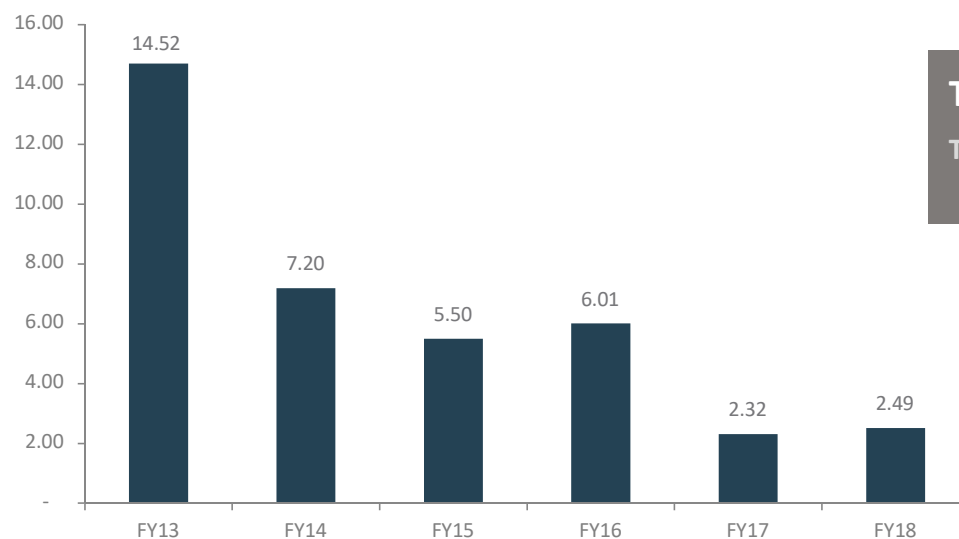
- An Australian based ASX listed company
- Provides mining services across 30 sites and different commodity groups, ensuring diversified annuity-style earnings across commodities, locations and clients
- Long and successful history of providing safe, high quality, low cost mining, mining construction and mining infrastructure services
- A portfolio of successful lithium and iron ore operations across Western Australia



## Occupational health & safety

Safety is embedded in our culture and is fundamental to our future success – delivery of our safety objectives is a core value and a clear expectation from our senior management

**Total Recordable Injury Frequency Rate (TRIFR)**



**TRIFR 2.49<sup>1</sup>**

Top 5 ASX 100 companies<sup>2</sup>

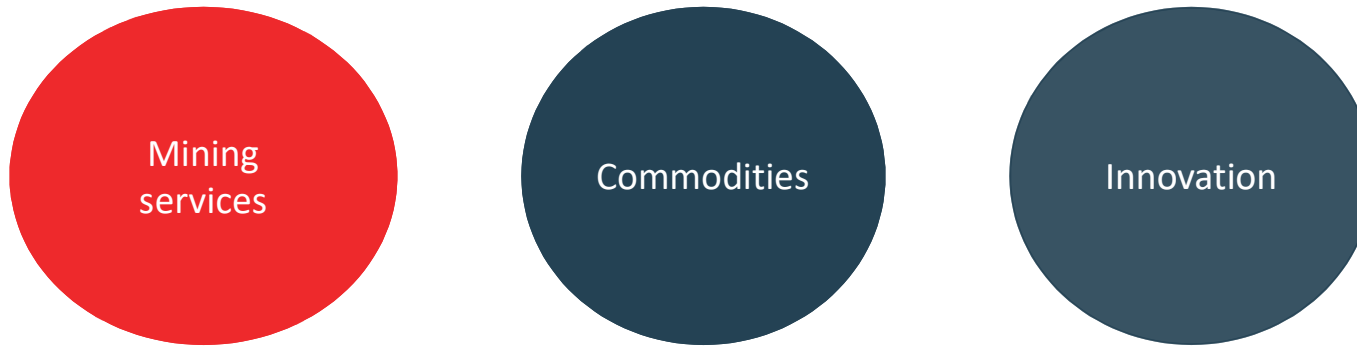
1. Total Recordable Injury Frequency Rate calculations measure the total number of injuries (excluding first aid) per million hours worked as at 30 June 2018. 2. As published on the Safety Institute of Australia website 20 February 2018.

## The key to our success – we are a mining services organisation

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The foundation of our business has been built from a strong work ethic. We are contractors at heart. This drives our capability and success across our business in dealing with commodities and ore bodies

### Our business consists of three areas

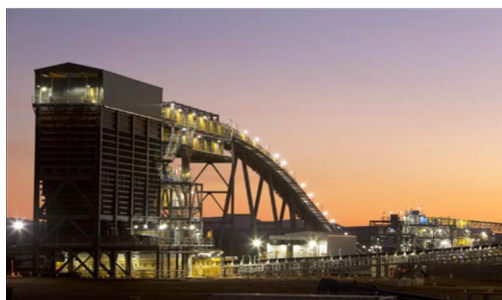


# Mining Services

MRL is Australia's leading provider of diversified mining services and the largest specialist crushing contractor company in the world

## MINING SERVICES

- Delivers annuity style earnings through:
  - Mining
  - Crushing
  - Processing
  - Bulk haulage
  - Port & shipping through strategic port allocations
  - Accommodation and catering



## SUPPLY CHAIN INFRASTRUCTURE

- Strategic port allocations at Kwinana, Esperance and Utah Point
- Extensive road train network in Northwest WA
- Extensive off highway road trains in the south
- Rail system in Southern WA



## INNOVATION

- Creating innovative mining equipment with high barriers to entry that provides lower cost solutions to the mining industry
  - Carbon fibre manufacturing facility (stage one: light weight dump truck trays)
  - BOSS Light weight rail system
  - Synthetic graphite continuous feed trial plant
  - LNG power stations



# Commodities

MRL business model is to acquire ownership/joint ownership of undeveloped ore bodies, fund the mine design, development and secure the life-of-mine contract for full pit-to-end customer services

## LITHIUM

- 100% owner of Wodgina: the world's largest known hard rock lithium resource
- 43.1% owner of Mt Marion



## IRON ORE

- Southern
  - Yilgarn: Koolyanobbing
- Northern
  - Pilbara : Iron Valley

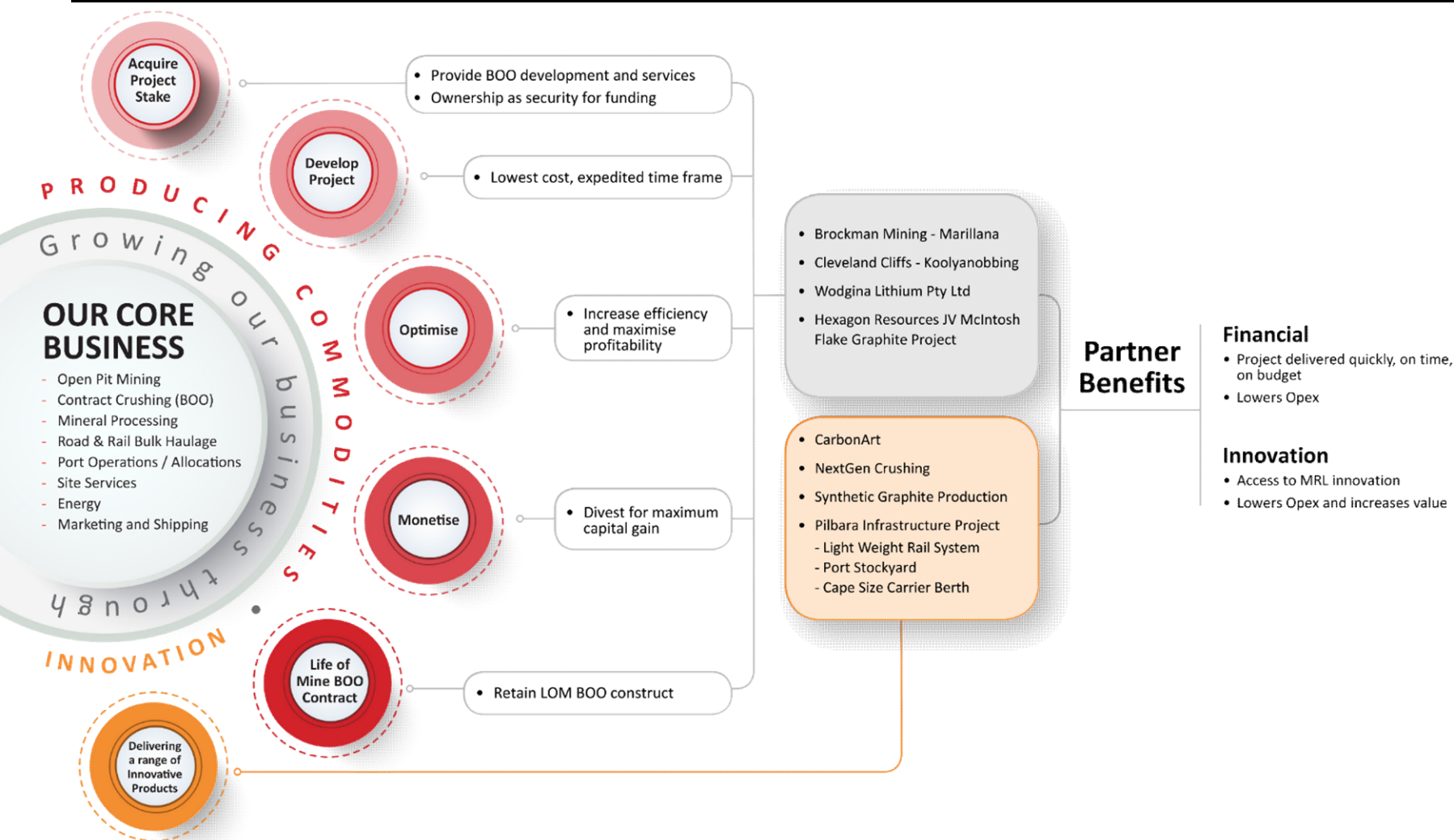


## PROJECT PIPELINE

- Graphite
  - McIntosh Graphite Project
  - Synthetic Graphite Production
- Manganese
  - Ant Hill
  - Sunday Hill
- Iron Ore
  - Marillana
  - Kumina

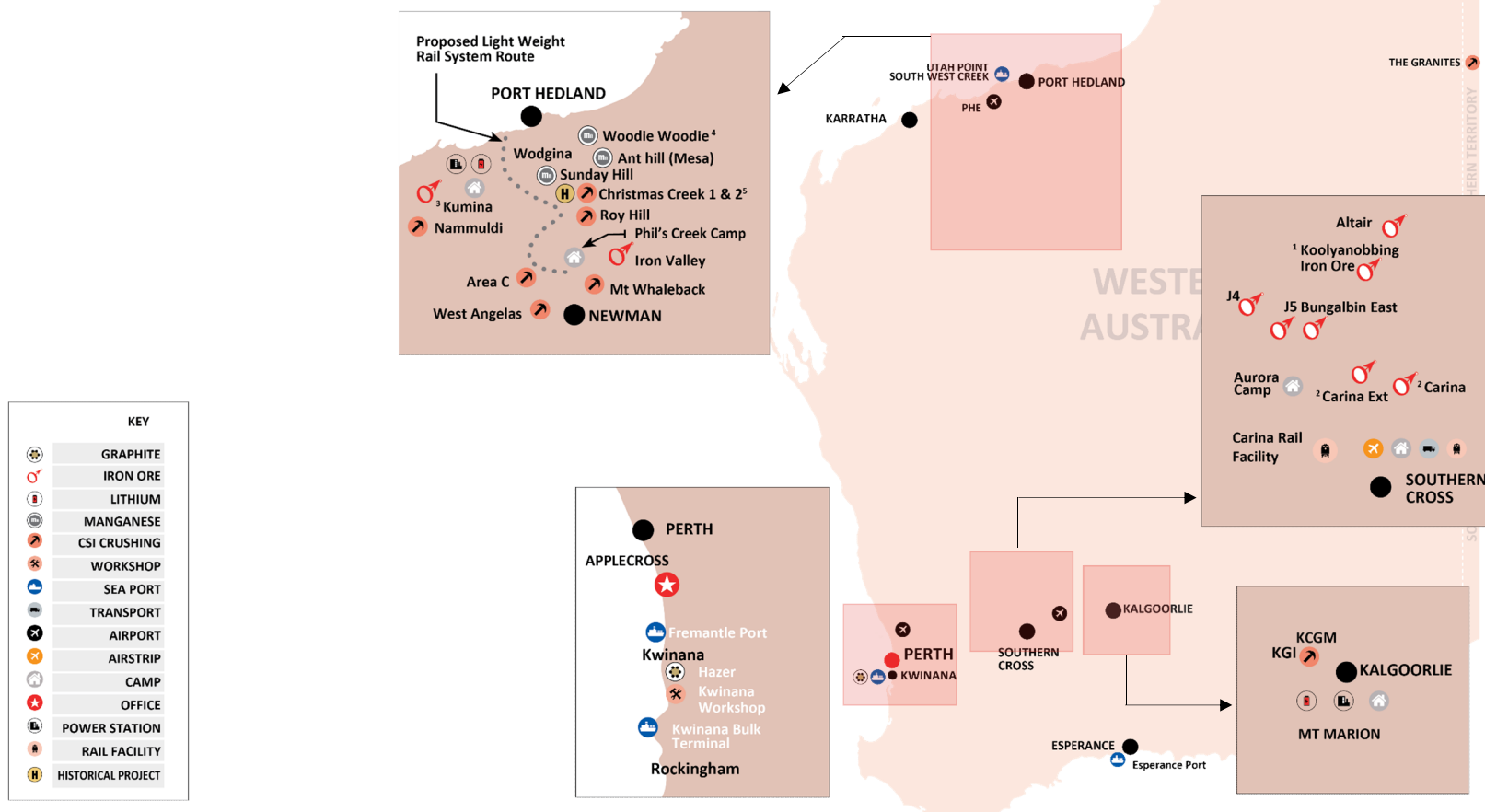


# Business model



# Operational footprint

MRL provides mining services across 30 sites and different commodity groups



- 1 OPERATIONS COMMENCED Q1 FY19
- 2 CARINA MOVED TO CARE AND MAINTENANCE Q4 FY18
- 3 ACQUISITION ANNOUNCED OCT 2018, SUBJECT TO APPROVAL AND COMPLETION
- 4 WOODIE DIVESTED. SEE ASX RELEASE 4 MARCH 2014
- 5 CONSTRUCTED ON AN EPC OR BOOT BASIS

## Wodgina Lithium Project – a premium tier one asset

Wodgina is the largest known hard rock lithium deposit in the world

### WODGINA

- 100% owned by MRL
- MRL has life of mine, mining services contract

### WODGINA DEVELOPMENT TIME-LINE

August 2016	Completed acquisition of Wodgina mine
February 2017	Commenced mining operations in the Cassiterite Pit
April 2017	World's first shipment of lithium DSO set sail from Port Hedland
April 2017 – Dec 2018	DSO operations
March 2018	Construction of 750Ktpa 6% spodumene concentrate project commenced on site

## Wodgina Lithium Project – Overview of lithium resource

Wodgina is at the epicenter of the Pilbara hard rock lithium province

### WODGINA ORE BODY

- Ore body approximately 1.8km by 1.2km by > 500 deep
- We have drilled 8 holes below 500m, as deep as 620m, all in ore and above average grade<sup>4</sup>
- Conservative recovery rate of 65% (based on metallurgical lab testing) is materially lower than peers in the region

### MINE GEOLOGY

KEY METRICS <sup>1</sup> (100%)			
Resource <sup>4</sup>	259.2Mt @ 1.17% Li <sub>2</sub> O	Reserve <sup>4</sup>	151.9Mt @ 1.17% Li <sub>2</sub> O
Plant feed rate	5.65Mtpa	LOM strip ratio <sup>2</sup>	3.05
Spodumene cost of production	US\$296/dmt real <sup>3,4</sup>	Lithium recovery	65%
Best Intersection	134m @ 1.89% Li <sub>2</sub> O	Highest grade meter interval	5.785% Li <sub>2</sub> O



#### Notes

1. Assumes 6.0% spodumene concentrate production
2. LOM strip ratio calculation is based on mining inventory
3. Cost at mine gate, includes mining services contract with MRL.
4. Refer to ASX announcement dated 23 October 2018 and the Appendix to this presentation; MRL is not aware of any new information or data that materially affects the information included in that announcement and all material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.

# Wodgina Lithium Project - Assets

## WODGINA LITHIUM PTY LTD

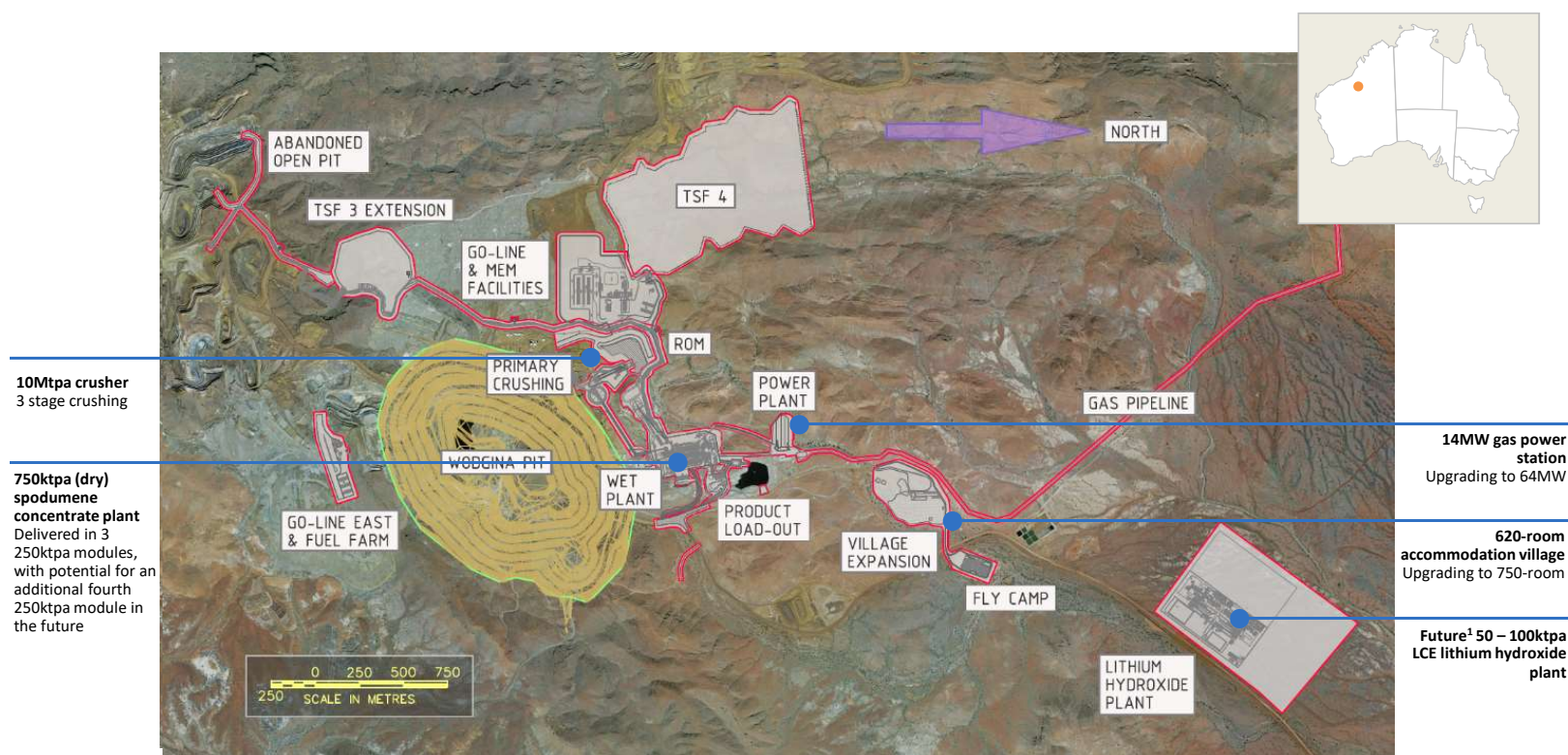
## MRL LIFE OF MINE CONTRACT

<b>Wodgina ore body</b>	<ul style="list-style-type: none"> <li>Mineral rights to all lithium on Wodgina tenements</li> </ul>	<b>Drill &amp; Blast</b>	<ul style="list-style-type: none"> <li>Mining operations designed to supply circa 5.65Mtpa of ore feed to the Spodumene Concentrate plant</li> <li>Three stage crushing plant with a 10 million tonne per annum capacity</li> <li>Concentrate plant will be delivered in three identical trains: <ul style="list-style-type: none"> <li>Trains have been designed to produce from 5% to 6% Spodumene Concentrate to optimise recovery of lithium</li> <li>Each train has a capacity of: <ul style="list-style-type: none"> <li>278ktpa at 6% Spodumene Concentrate, for total capacity of 833ktpa (wet); or</li> <li>333Ktpa per train at 5.5% Spodumene Concentrate, for a total 1,000ktpa (wet)</li> </ul> </li> <li>Plant designed with the flexibility to accommodate a fourth train to utilise excess crusher capacity<sup>2</sup></li> </ul> </li> </ul>
<b>Gas pipeline</b>	<ul style="list-style-type: none"> <li>81km, 10 inch pipeline</li> </ul>		
<b>Combined power station</b>	<ul style="list-style-type: none"> <li>32 x 2MW gas gensets totalling 64MW (operating at an average of 50MW)</li> <li>Addition of 10 inch gas pipeline</li> </ul>		
<b>Accommodation village</b>	<ul style="list-style-type: none"> <li>250-room temporary construction camp</li> <li>Upgrade to permanent 750-room accommodation facility</li> </ul>	<b>Mining</b>	
<b>Water supply</b>	<ul style="list-style-type: none"> <li>Three mature and reliable bore fields providing high quality water with minimal contaminant removal required</li> <li>WLPL installing new water infrastructure</li> </ul>		
<b>Air Port</b>	<ul style="list-style-type: none"> <li>All weather airstrip capable of landing A320 jet aircrafts</li> <li>Potential to reduce costs by sharing infrastructure with other miners in the region</li> </ul>	<b>Crushing</b>	
		<b>Processing</b>	
<b>Tailings storage</b>	<ul style="list-style-type: none"> <li>Extension of TSF3 (already approved) completed shortly</li> <li>Future establishment of TSF4 will create sufficient storage for LOM</li> </ul>		
<b>Total Wodgina Lithium Capital Expenditure estimated to be approx. A\$229.9m<sup>1</sup></b>		<b>Total MRL Capital Expenditure estimated to be approx. A\$380.1m<sup>1,2</sup></b>	

1. Refer to Company's ASX announcement to the ASX on 24 July 2018 for total A\$610m Capex; each capital estimate includes contingency estimated by MRL to be commensurate with the risk associated with each discrete project element; 2. BOO crushing and beneficiation plant has inbuilt excess capacity above original design.

## Wodgina Lithium Project - Site infrastructure map

The below illustrates the site layout of existing and planned major site infrastructure



1. Subject to Board and Statutory approvals

## Wodgina Lithium Project – Spodumene concentrate construction schedule

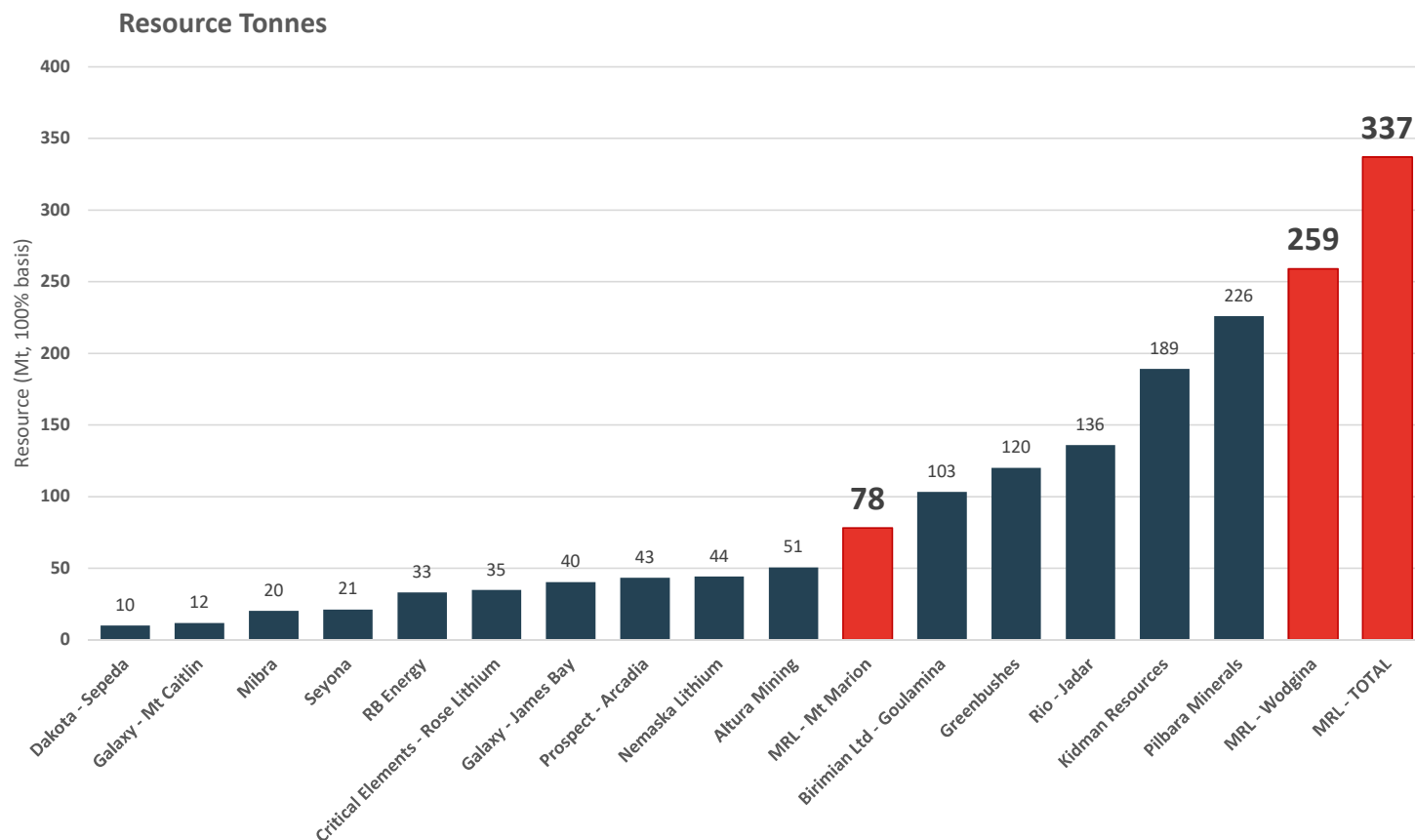
In March 2018 we commenced onsite construction of essential non-process infrastructure services and utilities assets, a new crushing plant and a new 750Ktpa (dry) spodumene concentrate beneficiation plant that will produce 6% spodumene concentrate

### Key assets

Asset	Commissioning	Operational
Gas Pipeline	Q3 FY19	Q4 FY19
Power Station	Q3 FY19	Q3 FY19
Camp	Q1 FY19	Q2 FY19
Water Extraction	Q2 FY19	Q3 FY19
Crushing Plant	Q2 FY19	Q2 FY19
Beneficiation Plant		
• Train 1	Q3 FY19	Q4 FY19
• Train 2	Q4 FY19	Q4 FY19
• Train 3	Q4 FY19	Q1 FY20

- Approximately 8 weeks delay in delivery of project a result of:
  - late delivery of long lead items from OEM suppliers
  - congestion in Perth fabrication and rubber lining facilities

## Peer comparison of hard rock lithium deposits



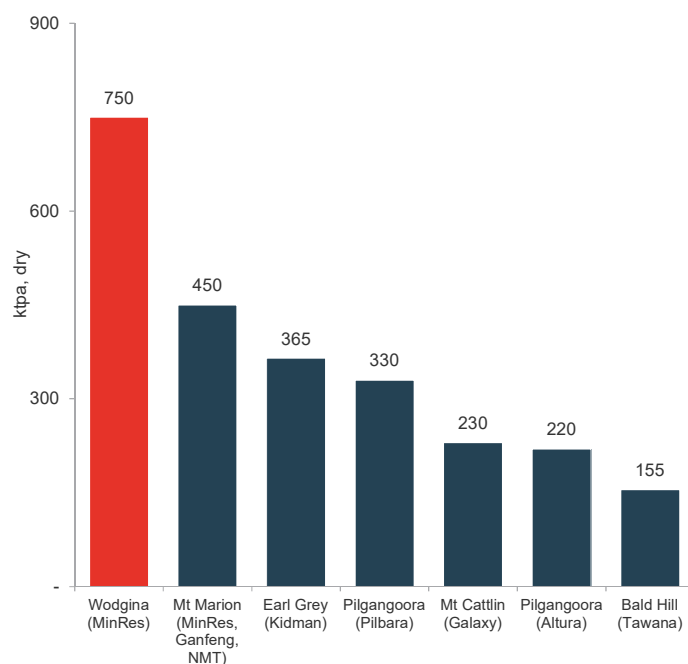
**Notes:**

- For MRL figures refer to slide 31, FY18 Results Information ASX release, 15 August 2018 and ASX company announcement dated 23 October 2018
- Chart represents tonnes of ore from disclosed Resource estimates as published by respective project owners as at 22 October 2018. These estimates may have been prepared under different estimation and reporting regimes (e.g. differing cut-off grades) and may not be directly comparable. MRL has not verified and accepts no responsibility for the accuracy of resource estimates other than its own.

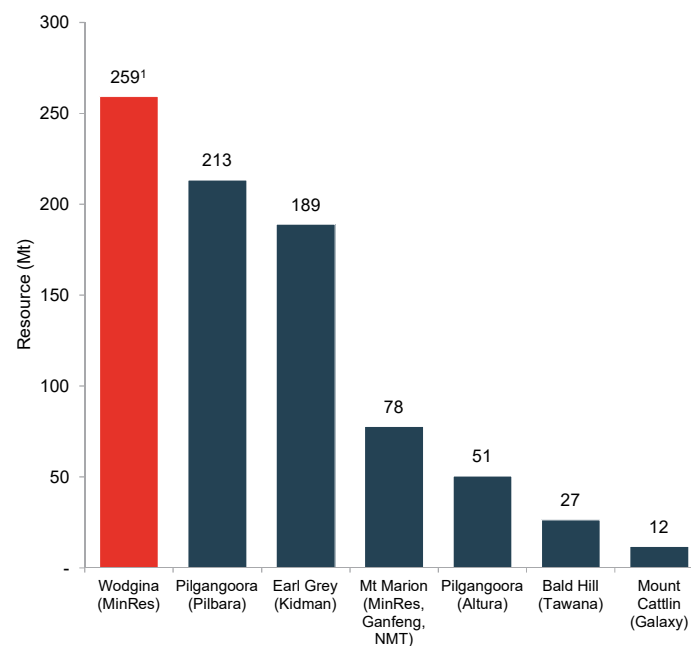
## Wodgina – a tier one asset on a global scale

Wodgina will be one of the largest producers of spodumene concentrate in Australia

**Current Concentrate Plant Capacity (2019) – ASX listed peers**



**JORC Resource – ASX listed peers**



Source:

1. Refer to ASX company announcement dated 23 October 2018.

Note: This chart represents the tonnes of ore from disclosed Resource estimates as published by respective project owners as at 22 October 2018. These estimates may have been prepared under different estimation and reporting regimes (e.g. differing cut-off grades) and may not be directly comparable. MinRes has not verified, and accepts no responsibility for, the accuracy of resource estimates other than its own.

## Wodgina Lithium Project – Update on minority sale process

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MRL will only divest if it is to a partner that can add value to Wodgina and if the transaction is in the best interests of our shareholders

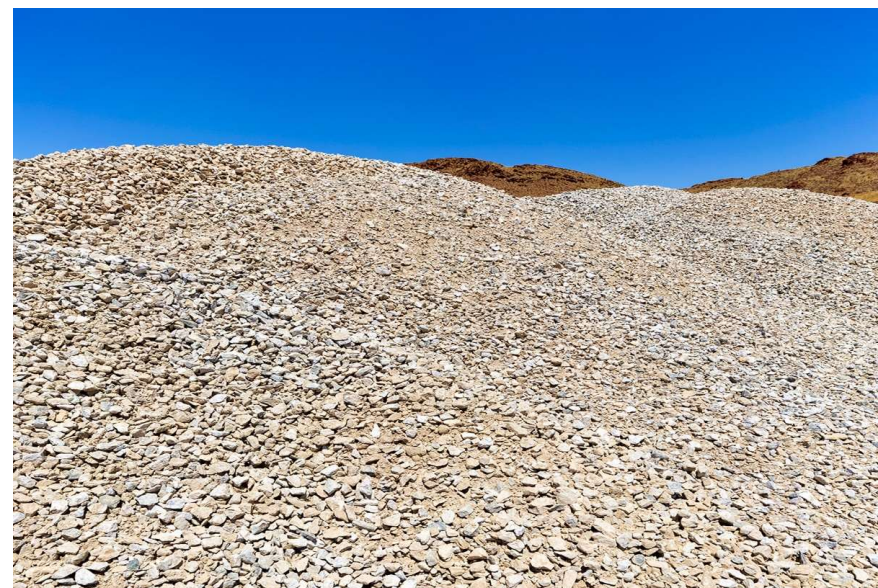
- We have received expressions of interest from local and global companies interested in acquiring a stake in the Wodgina project
- Wodgina is ranked as one of the best lithium deposits in the world. It is a high quality tier 1 asset based on:
  - Geographic location
  - Size and quality of ore body
  - Low strip ratio
- Wodgina is domiciled in arguably the most accepting mining region in the world with close proximity to the world's largest port along with a highly supportive and proactive government
- The Wodgina spodumene concentrate plant and a Wodgina lithium hydroxide plant<sup>1</sup> will sit amongst the lowest cost quartile in the world which generally assures a return through all commodity cycles
- A divestment of Wodgina will only occur when:
  - A partner can add significant value to the project that could not be achieved in our own right
  - The value paid reflects the project's value and returns going forward
  - The partner is highly complementary in culture and management fit
- The minority sales process is still within the time-frame previously announced<sup>2</sup> so we are still expecting to announce a decision before end of calendar year 2018

1. Based on work done to date that demonstrates the potentially attractive economics for a lithium hydroxide plant constructed at Wodgina fed by Wodgina spodumene concentrate  
2. Refer to ASX company announcement 1 May 2018

## Our view on lithium

We take a long-term view of the lithium market

- Although there has been publicity surrounding falling lithium carbonate prices; the globally traded (external of China) volume weighted lithium carbonate price in January 2018 was US\$13,600/dmt versus US\$16,300/dmt in July 2018<sup>1</sup>, demonstrating recent upward movement
- MRL and it's RIM partners have established a pricing mechanism that uses internationally tabled carbonate and hydroxide prices and applies a percentage weighting which truly reflects market value
- Our current realised price for Mt Marion 6% of US\$961/dmt<sup>2</sup> is expected increase for the 1 July 2018 to 31 December 2018 period



1. Source [www.lmpexp.com](http://www.lmpexp.com)  
2. Refer to ASX company announcement at 16 February 2017

## Appendix

### Wodgina Total Mineral Resource Estimate:

RESOURCE		Tonnes	Li2O	Fe	Al2O3	SiO2	Ta2O5
CLASSIFICATION		(Millions)	%	%	%	%	%
INDICATED		196.90	1.17	1.95	15.51	71.50	0.017
INFERRED		62.29	1.16	1.82	15.47	72.08	0.012
TOTAL		259.19	1.17	1.92	15.50	71.64	0.016

### Wodgina Hard Rock Ore Reserve Estimate:

October 2018 Update							
RESERVE	Cutoff	Tonnes	Li2O	Fe	Al2O3	SiO2	Ta2O5
CLASSIFICATION	Li2O%	(Millions)	%	%	%	%	%
PROBABLE	0.50	151.94	1.17	1.49	15.65	72.10	0.017
TOTAL	0.50	151.94	1.17	1.49	15.65	72.10	0.017
Depleted to end of September 2018							



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