## 2018 Annual General Meeting

MINERAL RESOURCES

Managing Director's Presentation

22 November 2018



## FY18 Results and Highlights



### **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>** Retained position in Top 5 ASX 100 companies<sup>2</sup>

Total Head Count At 30 June 2017: 2,510 At 30 June 2018: 3,104 At 30 October 2018: 3,595

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



#### **FY18 Financial Performance**



Notes:

1. FY17 Normalised EBITDA excludes Pilbara Mineral Shares impairment charge \$9.9m. FY18 Normalised EBITDA excludes \$59.3m Pilbara Minerals Shares and Hazer Group investment (early adoption of AASB 9) and \$9.2m Empire O&G acquisition

2. Before financing activities and tax

3. As defined in Remuneration Report in the FY18 Financial Statements



	Crushing	Construction	Energy
	<ul> <li>134Mt crushing capacity</li> <li>— Turned off Mining Area C</li> <li>— Switched Carina to Koolyanobbing</li> <li>1st NextGen plant installed at</li> <li>Pilgangoora</li> </ul>	<ul> <li>Wodgina – spodumene concentrate plant construction commenced</li> <li>Mt Marion Upgrade – conversion to all-in 6% commenced</li> </ul>	<ul> <li>2,700 solar panels installed across Perth offices &amp; workshops</li> <li>Mt Marion – installed Battery Storage for emergency spin reserve</li> <li>Completed Empire Oil &amp; Gas acquisition of Perth Basin Assets</li> <li>Red Gully moved into care &amp; maintenance</li> </ul>
	<ul> <li>Mining</li> <li>Total Material Movement (TMM) <ul> <li>16.9Mt Ore</li> <li>62.6Mt Waste</li> </ul> </li> <li>11 Primary excavators</li> <li>56 Dump trucks</li> </ul>	<ul> <li>Village Accommodation</li> <li>Managed &amp; operated all camps and catering across 6 sites <ul> <li>1,287 rooms</li> <li>Including 520 added at Wodgina</li> </ul> </li> </ul>	<ul> <li>Supply Chain Logistics</li> <li>13.4Mt ore hauled <ul> <li>10.31Mt by road</li> <li>3.09 Mt by rail</li> </ul> </li> <li>13.1Mt shipped – iron ore &amp; lithium DSO</li> <li>268 road trains travelled approx. 64 million kms</li> <li>5 locomotives &amp; 387 rail wagons</li> </ul>





#### Track Record of Growth





#### Mining Services Business Model Trend

#### **Commodity exports**



(million tonnes per annum)



### **Iron Ore**

#### **Iron Valley & Carina**

- Exported: 9.3Mt
- Avg Revenue: US\$50.1/t
- CFR Costs: AUD\$63.9/t

## Lithium (DSO)

#### Wodgina

- Exported: 3.5Mt DSO
- Avg Revenue: US\$110.3/t
- Costs: AUD\$96.9/t

## Lithium (Spod)

#### Mt Marion JV<sup>4</sup>

- Exported: 382Kt spodumene
  - 209Kt of 6%
  - 173Kt of 4%
- CFR Costs: AUD\$575.8/t

Sales Price US\$		
Qtr	6%	4%
Q1	\$841.83 <sup>1</sup>	\$477.04
Q2	\$843.11 <sup>2</sup>	\$477.76
Q3	\$900.61 <sup>2</sup>	\$510.35 <sup>3</sup>
Q4	\$961.91	\$545.08

Notes:

- 1. Refer to Company ASX announcement 5 July 2017
- 2. Refer to Company Q2 FY18 Quarterly Report published on 31 January 2018
- 3. Refer to Company Q3 FY18 Quarterly Report published on 30 April 2018
- 4. MRL operates 100% of the Mt Marion project in which it owns a 43.1% interest



# FY19 Outlook and Beyond



#### 2018 Annual General Meeting

- FY19 looks to be the most important year in the history of MRL
- Setting Wodgina Lithium for the next 30+ years
- Positioning the business with pillars that have 20-30 year time horizons
- Strengthened succession planning
- Bringing online a range of opportunities that MRL has been developing over the last 3-5 years
- Business has multiple projects either ramping up or ramping down





Crushing	Construction	Energy
<ul> <li>14Mtpa new contract crushing capacity confirmed <ul> <li>Wodgina 5.6Mtpa</li> <li>Koolyanobbing 6Mtpa</li> <li>Pilgangoora 2.4Mtpa</li> </ul> </li> <li>10Mtpa close to securing</li> <li>Potential for further 22Mtpa</li> <li>Overall tonnages lower due to delayed internal projects</li> </ul>	<ul> <li>Wodgina spodumene concentrate plant – Train 1, 2 &amp; 3 commissioning CY19</li> <li>Mt Marion Project – commissioning Q1 CY19</li> </ul>	<ul> <li>Energy Resources heavy focus on finding gas in Perth Basin. Drilling to commence CY19</li> <li>Progressively converting all power stations to piped gas or portable LNG</li> <li>Exploring all opportunities where we can to reduce dependence on diesel fuel</li> </ul>
Mining	Village Accommodation	Supply Chain Logistics
We will continue to be owner/operators across our profit share and owner operator sites	<ul> <li>We will continue to own and operate all of our own camps so we can provide a high standard of food, accommodation, health &amp; well-being for our people for the long-term</li> </ul>	<ul> <li>11.5Mt ore hauled</li> <li>11.37Mt shipped</li> <li>225 road trains, reduction of 43 from FY18</li> <li>49 million kms, 16 million kms less due to superquad efficiencies &amp; new port access. But, our distance travelled means we're still going to the moon every 3 days</li> <li>387 rail wagons hauling &gt;3.5Mtpa 11</li> </ul>



Iron Valley Iron Ore	Koolyanobbing Iron Ore
<ul> <li>Export: approx. 7Mt <ul> <li>Lump: 3.9Mt</li> <li>Fines: 3.1Mt</li> </ul> </li> <li>High discounts as well as penalties for impurities</li> <li>Marginal operations</li> </ul>	<ul> <li>Export: &gt;3.5Mt <ul> <li>Lump: 1.5Mt</li> <li>Fines: 2.0Mt</li> </ul> </li> <li>Annual run rate: 6Mtpa</li> <li>Delayed approvals will impact this year's cost and earnings</li> </ul>
Mount Marion Lithium JV	Wodgina Lithium
Spodumene concentrate	DSO
• Export: 315,000t 6%	• Export: 422,000t
• Export: 75,000t 4%	<ul> <li>DSO export not continuing beyond 1H FY19</li> </ul>
<ul> <li>Ramp up to nameplate 450ktpa of all-in 6% product in Q1 CY19</li> <li>Costs higher than FY18</li> </ul>	<ul> <li>Spodumene concentrate</li> <li>Budgeting: approx. 60,000t 6%</li> <li>During initial phase, costs will be higher than</li> </ul>

life-of-mine



#### FY19 Guidance

EBITDA MINING SERVICES	\$280 – \$320 million Mining Services EBITDA expected to be \$240- \$260 million	
CAPITAL SPEND	Approx. \$490 million [Wodgina, Mt Marion, Koolyanobbing, Yellow Goods]	
KEY ASSUMPTIONS	1. Excludes potential benefits from part disposal of Wodgina	
	2. AUD/USD: 72.5 cents	
	3. CFR 62% Fe: USD \$68.20	
	4. Lower grade iron ore discounts structural	
	<ol> <li>Spodumene concentrate price \$900 per tonne (6%) for H2 FY19</li> </ol>	
	<ol> <li>No improvement in production timing from previously disclosed rates for site ramp ups at Wodgina spodumene concentrate and Koolyanobbing iron ore</li> </ol>	
EBITDA TIMING	Substantially weighted to H2 FY19 (estimated 35%/65%)	



### Wodgina Agreement with Albemarle

- Entered into a non-binding Exclusivity Agreement with Albemarle Corporation to buy 50% of Wodgina Lithium with an enterprise value of US\$2.3 billion (100% terms)
- The marriage of Albemarle and Mineral Resources creates an outstanding business with a 30 year horizon
- Each party will contribute their respective skill sets to the Joint Venture
- Aiming for 14 December 2018 to execute a binding agreement





## **Future Direction and Developments**



### Pilbara Infrastructure Project

An economic transport system mine-site to port for MRL operations and third party users

- Progressing development of the Pilbara Infrastructure initiative
  - Innovative, low-cost, light-weight rail system
  - Fully automated port stockyard and capsize carrier berth
  - Estimated capital investment sitting around AUD\$1.4 1.6 billion but subject to a final review
  - Multi-user facility with a 30-50 year horizon





- Recently secured the asset from BCI and progressing to closing out the transaction
- Currently progressing all documentation for approval to mine
- The project is a natural fit to our existing Pilbara commodities business and we expect it to provide in excess of 10 years for our assets and trucking fleet
- Will provide a full update to the market in Q1 CY19



2. Refer to BCI's announcement "Updated Mineral Resources and Ore Reserves" dated 18 October 2018



- Made good progress with our partners, Hexagon, on all fronts for the McIntosh project:
  - Finalised JV agreement<sup>1</sup>
  - Completed drilling programme prior to wet season and results will be published once they come to hand
  - We continue to see this as a high quality graphite project and continue to work toward development



#### Working to reduce reliance on fossil fuels

- Connecting to natural gas by pipeline where possible
- For remote sites through trucked LNG
- Exploring use of hydrogen, solar panels and battery technology

#### Mount Marion power station upgrade

- A gas fired 11MW power station which operates on trucked LNG
- With a 3288 Kwh/DC Battery installed to eliminate spin reserve, we will reduce CO<sub>2</sub> emissions by approximately 1,504t per year, due to reduced LNG burn

#### Wodgina – 64MW Reciprocating power station

- Natural gas fueled power station configuration
- Run on natural gas through an 81km natural gas lateral pipeline
- By using gas instead of diesel we've saved approx. 83,000t of CO<sub>2</sub> emissions per year
- Largest mine site gas reciprocating power station in the southern hemisphere

#### **Solar Power**

- 2,700 solar panels installed across our Perth-based facilities
- Will reduce gas emissions by approx. 981t of CO<sub>2</sub> per year
- We are pursuing opportunities to install solar power and batteries for remote operations







- Secured all Empire Oil & Gas assets<sup>1</sup>
- Government has extended our tenure by 2-3 years to give us the opportunity to properly explore acreage
- 8,000 square kilometres of exploration tenements in the Perth Basin
- Red Gully Processing Plant put on care and maintenance
- Expect to start drilling campaign CY19
- Goal is to become self-sufficient in gas to support our existing commodities business and create downstream processing opportunities





## Innovation

### Bulk Ore Shuttle System – (BOSS)



A low-cost, lightweight rail system designed to unlock stranded deposits and reduce transport costs from ore body to processing hub or coastal port facility

- BOSS will be a long-term revenue generator
- It will unlock a range of stranded and uneconomic ore deposits by employing a low-cost, economic transport solution
- The rail infrastructure is modular and can be relocated
- The rolling stock is driven by electric wheel motors, obtaining power from lithium battery banks, which are charged by reciprocating diesel engines
- Engineering and design of rail infrastructure and rolling stock are completed
- Independent third-party verification is currently underway
- Construction of a 4.2km test track, complete with a full-scale rolling stock prototype, is expected to commence in March 2019





### Carbon Fibre Dump Trays



The benefits are substantial with more than a 10% payload increase for a 150t truck

- The final tray design is complete and we can now make economic units
- The 150t capacity carbon fibre tray will provide a payload increase of approximately 11% over a steel tray equivalent
- Tray number 3 will be complete within the next 2 weeks
- Anticipate by June 2019 to be producing approx. 4 trays per month
- The next size tray to be produced is 240t and production will commence Q4 FY19
- The 240t capacity carbon fibre tray will provide a payload increase of between 12% to 15% over a steel tray equivalent



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• We are about to commission the pilot plant which will be a continuous feed operation

Our agreement allows us to take the graphite technology through to

- Once proven we will finalise the design of a 1,000-10,000tpa plant
- Primary feed in natural gas and low grade iron ore

MRL is in partnership with Hazer<sup>1</sup>







## Community

## **Community Support**



We support the local community through a wide range of sponsorships, scholarships and donations

### **Long-term Partnerships** Victor Chang Cardiac Research Institute Shooting Stars MEDICAL RESEARCI Perth Starlight Children's Hospital RONALD McDONALI HOUSE CHARITIES® Foundation MAKE (A.W CENTRE THE LUCY SAW

## **Donations**

- City to Surf
- Duncraig school students
- Everyday Hero
- Kalgoorlie-Boulder Chamber & Industry
- Kimberly Kids Project
- Kwinana Industries Council work experience for local school students
- Lifeline WA
- Lions Cancer Institute
- Mount Hampden Tennis Club
- Pathwalkers
- Rockingham-Kwinana Chamber of Commerce
- Rockingham Senior High School
- Telethon
- Telethon Kimberley Kids
- Telethon Type 1 Diabetes
- Variety WA
- Yilgarn Agricultural Society
- Yilgarn Motoring Enthusiasts



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