



# MINERAL RESOURCES LIMITED

QUARTERLY EXPLORATION AND  
MINING ACTIVITIES REPORT  
OCTOBER TO DECEMBER Q2 FY2018

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### HIGHLIGHTS

During the quarter, the company:

- produced 3.02 mt of iron ore and shipped 2.45 mt; and
- produced 1.21 mt of lithium products and shipped 1.16 mt.

Iron Valley remains cash positive with premium lump prices offsetting the continuing substantial discount on fines product.

The Company is considering its options for the Yilgarn region following a State Government decision not to approve mining of Bungalbin East and Jackson 5.

Mt Marion spodumene production of high and low grade product totalled 221Kwmt in the quarter with the transition to 100% production of high grade products expected to commence in quarter four CY2018.

Wodgina DSO product continues to ramp up to the nominated target of 4.75 m wmt exported in FY2018, achieving a 5 m wmt production rate in December.

The key assets of Empire Oil and Gas (WA) Pty Ltd were acquired by the Company on 8 December 2017 under the terms of a DOCA agreed with creditors.

### PRODUCTION AND COMMODITY SHIPMENTS

'000 WMTs	Q1 FY18		Q2 FY18		TO DATE FY18	
	PRODUCED	SHIPPED	PRODUCED	SHIPPED	PRODUCED	SHIPPED
<b>UTAH POINT</b>						
Iron Valley	1,975	1,545	2,021	1,513	3,996	3,058
Wodgina	913	728	1,104	1,044	2,017	1,772
<b>Total Utah Point</b>	<b>2,888</b>	<b>2,273</b>	<b>3,125</b>	<b>2,557</b>	<b>6,013</b>	<b>4,830</b>
<b>KWINANA BULK TERMINAL 2</b>						
Carina & J4	1,047	841	999	936	2,046	1,777
Mount Marion <sup>1</sup>	112	90	109	111	221	201
<b>Total Kwinana Bulk Terminal 2</b>	<b>1,159</b>	<b>931</b>	<b>1,108</b>	<b>1,047</b>	<b>2,267</b>	<b>1,978</b>
<b>TOTAL IRON ORE</b>	<b>3,022</b>	<b>2,386</b>	<b>3,020</b>	<b>2,449</b>	<b>6,042</b>	<b>4,835</b>
<b>TOTAL SPODUMENE</b>	<b>112</b>	<b>90</b>	<b>109</b>	<b>111</b>	<b>221</b>	<b>201</b>
<b>TOTAL DSO LITHIUM</b>	<b>913</b>	<b>728</b>	<b>1,104</b>	<b>1,044</b>	<b>2,017</b>	<b>1,772</b>
<b>GRAND TOTAL</b>	<b>4,047</b>	<b>3,204</b>	<b>4,233</b>	<b>3,604</b>	<b>8,280</b>	<b>6,808</b>

<sup>1</sup> Volume produced and shipped is presented as 100% for the Mt Marion project. MRL's ownership interest in the Mt Marion project is 43.10%.



*Images  
Iron Valley:  
Production of  
2.02WMT during  
the quarter*

## IRON ORE

### IRON VALLEY PROJECT

'000 WMTs	Q3 FY17	Q4 FY17	Q1 FY18	Q2 FY18
Produced	1,622	1,919	1,975	2,021
Shipped	1,777	1,983	1,545	1,513

Production and export of fines and lump products are progressing as planned with shipping volumes weighted towards the second half of the year.

Substantial discounts to the Platts 62% index prices for fines product, in excess of 40%, are continuing. This pricing situation along with stockpiles of iron ore products in excess of 150 mt held in China, make the iron ore fines business challenging. Reports from market commentators suggest that the environment of low prices for low grade fines product is systemic as steel makers prefer the low emission effects and efficiency of high grade lump. This current situation is not expected to reverse any time soon.

Approximately 500 Kt of fines product was stockpiled in the quarter to preserve value in the resource from the prevailing high discounts. This stockpile will be shipped in coming months.

On the other hand, prices for lump product is strong, supported by increases in the Platts 62% index prices in recent months. The strength of lump prices has made the Iron Valley operations cash positive overall.

The sales and marketing team continues to look for innovative solutions to offset the substantial discounts to low quality products. This has included successfully blending long-term stockpiles into the ROM blends to create a higher quality product.

An infill drilling program of 8,400 metres of RC drilling commenced in September for the Iron Valley North West and C2/C4 resource to facilitate mining starting in November at C2/C4.

Delivery of an additional EX2600 excavator and two HD1500 dump trucks were received during November, increasing the mining fleet and increasing productivity.



Image: Yilgarn: Dedicated operation team

## IRON ORE YILGARN PROJECT

'000 WMTs	Q3 FY17	Q4 FY17	Q1 FY18	Q2 FY18
Produced	899	889	1,047	999
Shipped	853	943	841	936

Mining from Carina Extended continued for the quarter due to additional ore presenting, which will also result in continued mining in quarter three. Expected mining depletion is the end of February 2018, with ore exports ending in late 2018.

The depletion of mining at Jackson 4 in mid-October enabled the Company to redeploy people and equipment to its expanding Wodgina lithium mine, and reduce costs through the closure of Aurora Village.

Our people continue to identify opportunities to improve

productivity across our business. At Yilgarn, the team exceeded excavator targets for the quarter by 600 t per hour.

Our crushing team maintained a high feed rate for quarter two which reduced run hours and supported increased preventative maintenance.

During the quarter, Yilgarn implemented a driver swap-out strategy and a split-shift process to maintain haulage and crusher feed through shift change.

## BUNGALBIN EAST/ JACKSON 5 MINING APPROVAL

In December 2017, the State Government announced its decision not to grant approval for the Company to mine at J5 and Bungalbin East in the Yilgarn. While disappointing, this decision will not have a material impact on the Company as the increasing discount and declining demand for low grade iron ore products has reduced the financial contribution the Yilgarn project made to our overall financial performance.

The Company has commenced its transition out of the Yilgarn and will conclude that transition by quarter four 2018, as production activities cease and rehabilitation is undertaken. As part of this process Mineral Resources will seek to redeploy people and assets within the Company's growth projects.



*Image:  
Mount Marion:  
109WMT  
processed in the  
quarter*

## LITHIUM MOUNT MARION PROJECT

'000 WMTs	Q3 FY17	Q4 FY17	Q1 FY18	Q2 FY18
Produced	53	92	112	109
Shipped	32	84	90	111

Spodumene concentrate production of high and low grade products at Mt Marion totalled 109 k wmt in the quarter.

Monthly shipments of over 35 k wmt are now forecast for the project and targeted to achieve the guidance volume of 450 kt in FY2018.

Selling price for 6% product reached \$USD 843/dmt in quarter two FY2018, and is currently \$USD 900/dmt for quarter three FY2018.

During the quarter two new pits commenced development, first ore is expected in February 2018.

Operation of the processing facility has continued through the second quarter, providing positive results with an increase in reliability, yield and throughput rate.

During the quarter the crushing plant achieved a milestone

of crushing and processing 2 mt, consistently achieving in excess of 200 kt per month.

Improvement projects and optimisation to further increase product yield are ongoing, as well as additional integration of the mine plan across the entire operation to ensure the blend is optimised to maximise plant performance.

Construction of plant improvements to facilitate the production of all high grade (6%) spodumene continues. Completion of construction is expected to be in quarter three CY2018 with the plant ramped up to 100% high grade production in quarter four CY2018.

The Mineral Resources-operated Mount Marion Project is a joint project between Mineral Resources (43.1%), Neometals Limited (13.8%) and one of the world's largest lithium producers, Jiangxi Gangfeng Lithium Co (43.1%).



Images: Product crushing and movement

# LITHIUM

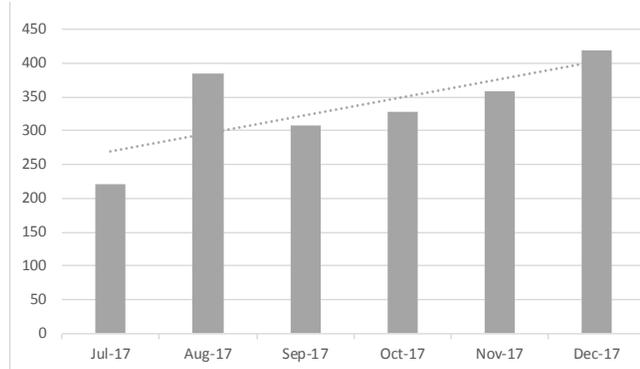
## WODGINA PROJECT

'000 WMTs	Q4 FY17	Q1 FY18	Q2 FY18
Produced	799	913	1,104
Shipped	720	728	1,044

### (a) Direct Shipping Ore

The ramp-up of mining, crushing and shipping of Wodgina direct shipping ore (DSO) continued towards the target of achieving sales of 4.75 mt for FY2018. In December, DSO production was 417,861 wmt, a 5 m wmt per annum run rate.

The graph below shows the progression of production towards the target volumes.



The arrival of an additional EX1900 excavator and associated dump trucks provided accelerated development of the ore body, in line with the mining schedule.

Ex-pit mining achieved further growth with total material movement averaged at a 29.6 mtpa rate for the quarter,

significantly higher than the 19 mtpa rate for the previous quarter.

Shipping is tracking along with production with 1.772 m wmt exported for the six months to December.

Market acceptance of the Wodgina DSO product continues to be strong with 12 customers currently accepting deliveries and processing product through downstream processing plants. Stockpiles of product are available for processing and declining.

As disclosed in our quarter one FY2018 report, customer's progress towards optimum production capability will vary on the in house technical skill and MRL technical personnel continue to support customers with their configuration and ramp-up schedule.

With market acceptance and demand high, the further expansion to FY2019 levels of approximately 6 mtpa is achievable. Mineral Resources will continue to keep the market informed about progress of this business unit.

### (b) Spodumene Plant Construction

During the quarter, procurement commenced on the three 250,000 dmt per annum spodumene concentrate modules for Wodgina. On site, the Company commenced construction of the primary crushing circuit and the flotation plant bulk earthworks.



Image: Red Gully

## OIL AND GAS

The Company completed its acquisition of the key Perth Basin assets of Empire Oil and Gas (WA) Pty Ltd on 8 December 2017 under the terms of a DOCA agreed with creditors. The administration / receivership of Empire Oil and Gas NL and other subsidiary companies in the Empire group remains on foot and are expected to conclude in the next few months.

During the quarter, efforts to recommence gas production from Empire's Red Gully well were unsuccessful and the Company is considering its options for this operation. Exploration assets acquired from Empire are highly prospective for gas and the Company is considering an exploration programme in respect of these Perth Basin tenements.



Image: Applecross: Head Office

## FURTHER INFORMATION

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### **COMPETENT PERSON'S STATEMENT**

The information is extracted from previous MIN ASX announcements available on the company website at [www.mineralresources.com.au](http://www.mineralresources.com.au). The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

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