

An aerial photograph of a mining operation. In the foreground, a white truck with two large trailers is driving on a dirt road. The background shows a large open-pit mine, several industrial buildings, and a forested hillside under a clear blue sky. The image is partially obscured by a large red and grey geometric graphic on the left side.

# MINERAL RESOURCES LIMITED

**QUARTERLY EXPLORATION AND  
MINING ACTIVITIES REPORT  
JANUARY TO MARCH  
Q3 FY2017**

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## QUARTERLY EXPLORATION AND MINING ACTIVITIES REPORT JANUARY TO MARCH, Q3 FY2017

### HIGHLIGHTS

- Wodgina's excellent drilling results continue with a 120.8 MT JORC Resource announced today.
- World first shipment of lithium DSO from Wodgina set sail on 17 April 2017 with 113,993 wet metric tonnes (WMT) on board.
- Mt Marion has shipped 49,380 tonnes of product over three shipments in FY17. The next ship of approximately 30,000 tonnes is scheduled for mid May 2017.
- Results of Yilgarn mine life extension approval expected Q4, 2017.
- Iron ore exports from Iron Valley were impacted by a number of significant weather events in the quarter.

### COMMODITY SHIPMENTS

'000 WMTs	Q2 FY17		Q3 FY17		TO DATE FY17	
	PRODUCED	SHIPPED	PRODUCED	SHIPPED	PRODUCED	SHIPPED
<b>UTAH POINT</b>						
Iron Valley Manganese	2,234 -	2,114 -	1,622 -	1,777 -	5,959 -	5,986 146
<b>Total Utah Point</b>	2,234	2,114	1,622	1,777	5,959	6,132
<b>KWINANA BULK TERMINAL 2</b>						
Carina & J4 Mt Marion <sup>1</sup>	1,261 11	1,176 -	899 53	853 32	3,487 64	3,359 32
<b>Total Kwinana Bulk Terminal</b>	1,272	1,176	953	885	3,552	3,391
<b>TOTAL IRON ORE</b>	3,495	3,290	2,522	2,630	9,447	9,345
<b>TOTAL MANGANESE</b>	-	-	-	-	-	146
<b>TOTAL SPODUMENE</b>	11	-	53	32	64	32
<b>GRAND TOTAL</b>	<b>3,506</b>	<b>3,290</b>	<b>2,575</b>	<b>2,662</b>	<b>9,511</b>	<b>9,523</b>

1. Amounts presented represent 100% of Spodumene Concentrate produced and shipped. MRL's ownership interest in the Mt Marion project is 43.10%.



*Images  
Iron Valley:  
Production on target  
with 1.6 MT produced*

## OPERATIONAL HIGHLIGHTS

### IRON VALLEY IRON ORE PROJECT

Export volumes were impacted by a number of significant weather events in the quarter, as a result production was slowed to match the shipping schedule. Production and export rates have now been restored to previous levels.

The development of the E1 pit is on schedule and in alignment with the life of mine plan.

Completion of the below water table dewatering

program has resulted in water being discharged from the pit at 400 litres per second, delivering the predicted increase in discharge rates. Two additional bores are scheduled for installation in the fourth quarter.

A robust Ground Water Operating Strategy has been developed and implemented to ensure compliance to discharge licensing requirements.



*Image: Yilgarn: Carina Extended Progression*

## **YILGARN IRON ORE PROJECT**

Production from Carina Extended and Jackson 4, which includes east and west pits for the quarter resulted in:

- 899 kt produced; and
- 853 kt shipped

Production from Carina Extended began in January and first ore was hauled into the shipping blend during the first week of February. Development continues with completion planned for quarter one FY18.

Efficiencies have been improved via the reduction of shift lengths and streamlining of operational delays. The development of the west pit has progressed, with blasting improvements and significantly increased ore from the west pit into the blend.

The east pit water management strategy has been developed and implemented with expected ore completion in May 2017.

## **YILGARN PROPOSAL FOR CONTINUED IRON ORE MINING**

The EPA is assessing our proposal to extend the life of the MRL operation at Carina through opening new mines at Bungalbin East and Jackson 5. This assessment is ongoing and likely to reach conclusion in Q4 of 2017. Following EPA advice to the Government, MRL is looking for the Government of WA to make an informed decision on the proposed life of mining extension.



*MR Energy's new LNG tanker*

## COMMITMENT TO INNOVATION

### HAZER GROUP

On 20 March 2017, an investment of \$5m increased MRL's shareholding to 14% in the Hazer Group. A West Australian company focused on delivering innovative, clean and low cost hydrogen and graphite technology to the global market. The investment will see MRL take a proactive approach in aiding Hazer Group to commercialise their unique technology. The two parties will work towards establishing a joint venture to develop a commercial scale synthetic graphite plant. This event represents a notable progression in MRL's energy storage materials strategy.

### ENERGY

Mineral Resources Energy has successfully implemented an internal downstream engineering capability, allowing finalisation of the liquefaction facility design. This includes the Cryobox installation, associated pipework, storage and truck loading bay. MR Energy is progressing toward securing a suitable geographical location to install the Micro LNG plant, which provides natural gas access for conversion into LNG.

The past three months has seen work completed in line with gaining the required approvals, for MR Energy to transport LNG in company owned tankers. MR Energy has continued it's strategy to become an independent power provider and is able to offer clients a vertically integrated power solution. The platform will benefit our clients greatly, through single point custody of the entire value chain, from fuel source through to the onsite energy solution.

### HAULAGE

MRL's innovative haulage fleet, which is designed to increase safety and efficiencies has a new larger version, named the Quin, with a five trailer combination. The Quin offers a 20% greater payload than the existing quad.

Travelling over 8 million kilometres each month MRL's haulage team are industry leaders in safety with a wide range of initiatives utilised to improve safety for all road users, including thermal imaging, anti-roll couplings, GPS tracking and fatigue management systems.



# LITHIUM

## WODGINA PROJECT

The first blast of high grade DSO occurred on the 6 March 2017, with production for the quarter equalling to:

- 170,844 tonnes of Li<sub>2</sub>O; and
- 194,762 tonnes of waste

We are proud to report the world's first shipment of lithium DSO left Port Hedland on 17 April with 113,993 WMT on board enroute to China. This shipment represents a significant achievement for the team with the development from commencement of the mining operation to export of first product occurring in a record 49 day timeframe.

The Wodgina resource has now reached 120.8 MT at 1.28% Li<sub>2</sub>O, after assay results from a further 29 holes resulted in an additional 19.8 MT, with grades greater than 4% Li<sub>2</sub>O recorded at the Cassiterite NE prospect.

Exploration to date has delivered positive results and will continue into the the next quarter.

Two mobile crushing plants were installed and commissioned during March, providing the first 100 kt of lithium DSO.

Atlas Iron mining and crushing operations ceased at the Wodgina site on 15 April 2017, making available core processing infrastructure to MRL for processing of lithium DSO. The move included a transfer of ownership to MRL of a 180 room camp, office and laboratory. MRL relieved Atlas of the rehabilitation of common areas and crusher demobilisation. Atlas will have continued access to the site for a 12 month period to remove product and conduct the balance of rehabilitation and monitoring works.

Dewatering of the Cassiterite pit is continuing, with completion planned for the 4th quarter.

*Image top left: Wodgina: Inaugural lithium DSO shipment bound for China*

*Image top right: Wodgina: Dump truck carting product*



## MT MARION PROJECT

Production ramp up continued during the quarter, achieving:

- 2.389 MT mined;
- 401,412 tonnes processed; and
- 31,662 tonnes shipped

Shipments of lithium commenced during the quarter with 15,000 tonnes departing in February and 16,662 tonnes in March, totalling 31,662 tonnes for the quarter.

MV Pacific Venus departed on the 9 April 2017, signifying the third Mt Marion shipment with 17,718 tonnes on board. Equating to 49,380 tonnes of exported product across the three shipments to China.

Throughput of the beneficiation plant has been surpassing nameplate.

The upgrade of process water purification units has resulted in an improved beneficiation process

and production of 3.25 million litres per day, aiding in nameplate sustainability.

Mining in Pit 2 West began with 2.389 MT mined in the quarter.

Construction of the flotation circuit is progressing and on track for commissioning in May 2017.

An extension to the mining area has been approved by regulatory authorities allowing ongoing clearing and mine development, as per the current mine plan.

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

In early April Neometals announced their intent to sell their 13.8% stake in Mt Marion.

*Image:  
Kwinana Bulk  
Terminal:  
Third shipment  
departing with  
17,718 tonnes of  
Mt Marion product*



Image: Mt Marion: Night shot

## 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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