

# QUARTERLY EXPLORATION AND MINING ACTIVITIES REPORT

## July to September 2021 (Q1 FY22)



26 October 2021

Mineral Resources Limited (ASX: MIN) ("MRL" or the "Company") is pleased to present its Quarterly Exploration and Mining Activities Report for the period to 30 September 2021.

## Q1 KEY POINTS

- Safety performance for the first quarter of FY22 remained steady, with the Total Reportable Injury Frequency Rate (TRIFR) remaining at 2.31 and the Lost Time Injury Frequency Rate (LTIFR) improving slightly to 0.11.
- Unplanned border closures and lockdowns implemented following COVID-19 outbreaks around the country continued to impact MRL operations, primarily through the forced curtailment of staff movements and a continued shortage of road haulage drivers.
- Mining Services production volumes increased 7% during the quarter and were 22% higher than the prior corresponding period Q1 FY21 (pcp).
- Iron ore shipments and production totalled 5.0 million wmt during the quarter, in line with prior quarter, and on target to meet FY22 guidance of 21-22 mtpa. This quarter's iron ore shipments represented an increase of 40% pcp.
- The average realised iron ore price for the quarter was US\$78.32 per dmt, with a realisation against Platts of 48%. This realisation was negatively impacted by current quarter shipments priced on the lower September Platts price and negative adjustments totalling US\$33.8m for finalisation of FY21 shipments.
- Mt Marion produced 99,536 dmt spodumene during the quarter, 13% lower than Q4 FY21. Shipments during the quarter were 54% lower than Q4 FY21 due to a shipment being delayed to the second quarter of FY22. Mt Marion remains on target to meet FY22 guidance of 450-475 ktpa.
- The average realised spodumene price for the quarter was US\$740.6 per dmt.
- Significant engineering and detailed design continued to progress the Ashburton Project. The design and costing for the transhippers have been finalised. Tug acquisition is progressing. The project economics are compelling through all economic cycles. The Company remains ready to execute as soon as final approvals are obtained.
- Consultation between the State Government, the Pilbara Port Authority, and Port Hedland users, regarding the Port Development Plan, continued during the quarter. MRL remains confident that approvals for the development of South West Creek will be granted in the near future.
- During the quarter the Company identified a significant gas discovery at Lockyer Deep-1. Refer to the ASX Announcement on 8 September 2021.
- The Company completed the acquisition of Red Hill Iron Limited's (Red Hill) 40% participating interest in the Red Hill Iron Ore Joint Venture (RHIOJV), in the West Pilbara region of Western Australia. Refer to the ASX Announcement on 3 September 2021.
- Construction by Albemarle Corporation (NYSE: ALB) (Albemarle) for MARBL of the 50ktpa Kemerton Lithium Hydroxide Plant continued. Commercial production is expected mid-2022. The Company has also announced the restart of the Wodgina Lithium Mine with first spodumene production expected during 3Q CY22. Refer to the ASX Announcement on 25 October 2021.

## Production and Commodity Shipments

'000 wet metric tonnes	Q1 FY22		Q4 FY21		Q1 FY21	
	PRODUCED	SHIPPED	PRODUCED	SHIPPED	PRODUCED	SHIPPED
<b>IRON ORE ('000 wet metric tonnes)</b>						
Yilgarn Hub	2,598	2,371	2,698	3,032	2,644	2,236
Utah Point Hub <sup>1</sup>	2,433	2,585	2,540	2,212	1,543	1,313
<b>TOTAL IRON ORE</b>	<b>5,031</b>	<b>4,956</b>	<b>5,238</b>	<b>5,244</b>	<b>4,187</b>	<b>3,549</b>
<b>SPODUMENE ('000 dry metric tonnes)</b>						
Mt Marion <sup>2</sup>	101	71	114	155	133	118

<sup>1</sup> Utah Point Hub consists of Iron Valley and Wonmunna.

<sup>2</sup> Volumes presented as 100% for the Mt Marion project. MRL operates 100% of the Mt Marion project, in which it owns a 50% interest

## COVID RESPONSE

Throughout this pandemic MRL has done everything it can to protect its workers, their families and our operations and continues to do so. On 5 October, the Western Australian government announced that COVID-19 vaccinations will be mandatory for site-based and remote workers within the Western Australian resources industry. All people visiting mine-sites and remote regions must be fully vaccinated by 1 January 2022.

The move by the government to mandate COVID-19 vaccination for resources sector workers is not unexpected. The sector was classified as an essential service last year and the announcement follows similar mandates in other essential service industries. In preparation for the government announcement, MRL commenced the collection of vaccination status from the workforce and securing supply for rapid antigen testing, which can be administered at any site. MRL has also set up a vaccination clinic for all employees, contractors, suppliers and their families, to assist in the vaccination roll out and comply with the Western Australian Government Direction and deadline.

## IRON ORE

### Yilgarn Hub

'000 wet metric tonnes	Q1 FY22	Q4 FY21	Q1 FY21
Mined	1,993	2,071	2,076
Produced	2,598	2,698	2,644
Shipped	2,371	3,032	2,236

Ore mined and produced was in line with the previous quarter, despite significant rainfall experienced in July with 14 rain days recorded during the month.

Completion of mining operations at Mt Jackson pit early in the quarter saw our fleet mobilised to our northern operations, with Claw pit commencing in September. During the quarter significant overburden removal activity was also undertaken across Deception, Parker Range, Altair and Claw pits.

Shipping reduced quarter on quarter mainly due to timing of shipments. Carina's rail loop modifications were completed during the quarter, allowing flexibility to utilise larger trains to the Port of Esperance going forward.

## Utah Point Hub

'000 wet metric tonnes	Q1 FY22	Q4 FY21	Q1 FY21
Mined	2,835	2,522	2,601
Produced	2,434	2,540	1,543
Shipped	2,585	2,212	1,313

Ore mined increased quarter on quarter driven by the ramp up of operations at Wonmunna, progression through the north-western pit following the significant pre-strip undertaken in the prior quarter.

Produced tonnes were in line with the prior quarter. Plant upgrades and modifications were undertaken across both Iron Valley and Wonmunna during the quarter to enable further flexibility to meet blending requirements.

Shipped tonnes increased quarter on quarter due to the continued ramp up of Wonmunna's operations.

## Iron Ore Pricing

The Company's iron ore sales agreements provide for provisional and final pricing of sales based on the 62% Platts price index (P62). Pricing is typically finalised in the month or two after the shipment month, at the average P62 price. At each period-end, the provisionally priced shipments are marked to market using a realised final price adjustment formula. The impact of the price movements for the period are recorded as an adjustment to sales revenue.

During Q1 FY22, 4.6m dmt (5.0m wmt) of iron ore was sold at a realised price of US\$78.32/dmt, representing a realisation of 48% to the Q1 Platts 62% average for the quarter. This result was impacted by negative adjustments for FY21 shipments totalling US\$33.8m.

Those shipments sold and finalised during the quarter at the September P62 of US\$119.65/dmt achieved a realisation to P62 of 76%.

## LITHIUM

### Mt Marion

SPODUMENE			
'000 dry metric tonnes	Q1 FY22	Q4 FY21	Q1 FY21
Mined	496	584	632
Produced	101	114	133
Shipped	71	155	118

Volumes presented as 100% for the Mt Marion project. MRL operates 100% of the Mt Marion project, in which it owns a 50% interest.

Operated by MRL under a life-of-mine mining services contract, Mt Marion Lithium Project is jointly owned between MRL, with a 50% interest, and one of the world's largest lithium producers, Jiangxi Ganfeng Lithium Co. Ltd. (Ganfeng) with a 50% interest.

Mining was impacted by significant rainfall experienced in July affecting pit face positions which limited access to higher grade ore and lowered recoveries for the quarter. The N4 pit remaining the priority as the main source of ore supply. Mine development is a continued focus with pre-strip activities in N8 pit in line with the mine plan to access those ore benches, with waste movement similar to Q4 FY21.

The processing plant's utilisation improved by 6% on Q4 FY21 to 84%, while the throughput rate was in line with Q4 FY21 at 380 tph. This resulted in beneficiated feed tonnes of 602k dmt compared to 581k dmt in the previous quarter. The total spodumene concentrate produced in the quarter was 101k dmt, in line with the mine plan. Shipped tonnes were lower in the quarter at 71k dmt due to a shipment being delayed to Q2 FY22.

## EXPLORATION AND DEVELOPMENT ACTIVITY

### IRON ORE

#### Yilgarn Hub

Exploration resources at Mt Richardson were diverted to Koolyanobbing during the quarter. The Mt Richardson project remains conditional on the outcome of all environmental and other approvals processes including Board approval. The drilling at Koolyanobbing includes resource extension drilling at E-Pit and K-Pit, along with a series of holes testing the potential for economic magnetite.

#### Utah Point Hub

##### *Wonmunna*

MRL completed a small program of diamond drilling at Wonmunna during the quarter. A total of 490m of PQ core was collected for the purpose of geo-metallurgical test work.

##### *Lamb Creek*

MRL continues to progress project development activities at Lamb Creek to support construction scheduled to commence in Q4 FY22.

### Ashburton Infrastructure Development

During the quarter MRL completed all planned drilling activities at Kumina. At Bungaroo South diamond and reverse circulation drilling commenced, with a total of 2,443m drilled during the quarter.

### LITHIUM

#### Mt Marion

MRL plans to undertake a 36,000m drilling program at the Mt Marion Lithium Project over FY22. This program will include 25,000m of infill and extensional resource drilling at the current mining operation and 11,000m of exploration drilling testing pegmatite targets in Hamptons Area 53.

#### Wodgina

MARBL JV is an unincorporated joint venture between MRL (40%) and Albemarle Corporation (NYSE: ALB) (Albemarle) (60%) and came into effect on 1 November 2019. The MARBL JV operates the Wodgina Lithium Project, which is located south of Port Hedland in the Pilbara. The Company announced the restart of the 750,000tpa of spodumene concentrate mine with first spodumene production expected during 3Q CY22. Initially, MARBL will focus on restarting one of Wodgina's three 250,000tpa processing lines. When market demand is sufficient additional processing lines may be recommenced. The start-up and initial operating phase at Wodgina is expected to create 200 new full-time jobs. Refer to the ASX Announcement on 25 October 2021.

#### Kemerton

Construction by Albemarle for MARBL of the 50ktpa Kemerton Lithium Hydroxide Plant, near Bunbury in Western Australia's South West region, is continuing. Commercial production is expected mid-2022.

## ENERGY

### Gas

Gas is an important part of our Roadmap to Net Zero Emissions<sup>1</sup> and our strategy to secure low-cost, long-term energy supply to enable the transition from diesel fuel to cleaner sources of energy.

MRL is the largest acreage holder in the Perth Basin and the onshore northern Carnarvon Basin and will continue an extensive exploration program across the portfolio to grow our gas resource base.

The drilling program for the conventional gas well, Lockyer Deep 1, commenced on 18 July 2021. The well was designed to test a large structure named the Lockyer Deep prospect, with the primary target being the Kingia Sandstone located over 4,000m below the surface.

On 8 September 2021, the Company announced a gas discovery at Lockyer Deep 1, with initial interpretation of logging data identifying a significant gas bearing reservoir in the Kingia Sandstone. The top of the Kingia Sandstone was intersected at 4,041 metres and was marked by a significant drilling break and elevated gas readings.

High gas readings were encountered across a gross sand interval of 26 metres to 4,067 metres, with good, inferred porosities throughout with a high net/gross ratio. Elevated gas readings continued in sandstones to the top of the Bit Basher Shale at 4,109 metres. Elevated gas readings were also observed from within the High Cliff Sandstone from 4,172 metres to 4,214 metres with some fair inferred porosities. Based on the available data no gas water contact is evident, supporting the case for very significant resource potential. Subsequent petrophysical evaluation confirmed the discovery.

Operations continue at the Lockyer Deep 1 well to prepare it for a gas production test, to be undertaken by Q1 CY22. The production test will provide gas flow rates and gas compositional analysis. If the production test results are positive, the well will be completed as a future production well.

Further exploration activities on this acreage include a seismic survey planned for Q1 CY22 to help define future drilling targets and preparing to drill additional wells to prove up the resource. Timing of future drilling programs will depend upon rig availability, securing long lead items and regulatory approvals.

### **Renewable energy**

Work has begun to install a 1.5MW solar array and battery at the Wonmunna mine site. Wonmunna is currently powered by diesel and this solar installation will:

- Reduce the diesel consumption on site by approximately 600,000 litres per annum: and
- Reduce the carbon emissions on site by approximately 1,800 tonnes of CO<sub>2</sub> per annum.

The combined solar/battery system will provide approximately 30% of the site's installed power requirements. The system has been designed with an expected life of up to 20 years.

In addition to solar energy, MRL continues to look at all forms of renewable energy for power generation, road transport and mining equipment in the pursuit to reduce emissions as rapidly as possible.

[ <sup>1</sup> Refer to "Climate Change" section on page 81 of the [FY21 Sustainability Report ASX Announcement on 8 October 2021](#)]

*This announcement dated 26 October 2021 has been authorised for release to the ASX by Mark Wilson, Company Secretary of Mineral Resources Limited.*

## Further Information

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### About Mineral Resources

Mineral Resources Limited (ASX: MIN) is a Perth-based leading mining services provider, with a particular focus on the iron ore and hard-rock lithium sectors in Western Australia. Using technical know-how and an innovative approach to deliver exceptional outcomes, Mineral Resources has become one of the ASX's best-performing contractors since listing in 2006.

To learn more, please visit [www.mrl.com.au](http://www.mrl.com.au).

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