

Quarterly Exploration and Mining Activities Report

October to December 2019 (Q2 FY20)



Q2 Highlights

- On 1 November 2019, Mineral Resources Limited (ASX: MIN, MRL) completed the sale of a 60% interest in the Wodgina Lithium Project to Albemarle Corporation (NYSE: ALB, Albemarle)¹. MRL received as consideration US\$820 million cash and a 40% interest in the first two 25,000 dry tonne per annum lithium hydroxide conversion units currently being built by Albemarle at Kemerton, Western Australia. The unincorporated MARBL Lithium Joint Venture (MARBL JV) has been established, with MRL and Albemarle holding a 40% interest and 60% interest respectively.
- Also on 1 November 2019, MARBL JV placed the Wodgina Lithium Project on care and maintenance². This decision was made in recognition of challenging global lithium market conditions and to preserve the value of the world-class Wodgina spodumene ore body. MARBL JV will regularly review market conditions with a view to resuming spodumene concentrate production as and when required; driven by market demand.
- Mt Marion Lithium Project shipped 99,000 wet metric tonnes (wmt) of spodumene concentrate and production was 8% higher than the previous quarter at 124,000 wmt.
- Iron ore shipments totalled 3.3 million wmt in Q2 FY20, in line with the previous quarter, and up 40% on the prior corresponding period in FY19.
- Mining operations at Koolyanobbing continued at the targeted rate of 8 million tonnes per annum (Mtpa) in Q2 FY20. Additional rail capacity will be brought on line in Q3 FY20 with plans to further increase production to 11.0 Mtpa.
- On 20 November 2019, MRL announced its Yilgarn Iron Ore Strategy³, with the reporting of Mineral Resources totalling 108.6 million tonnes (Mt) (dry) at 56.8% Fe, located within a 120 kilometre radius of MRL's existing Koolyanobbing train loading and rolling stock infrastructure hub.
- MRL announced on 20 December 2019⁴ that it had acquired 804,000,000 shares in its Perth Basin exploration permit partner Norwest Energy NL (ASX: NWE, Norwest) following an on-market share purchase, taking its shareholding to 19.9%.

¹ See ASX announcement 1 November 2019

² See ASX announcement 1 November 2019

³ See ASX announcement 20 November 2019

⁴ See ASX announcement 20 December 2019

Production and Commodity Shipments

'000 wet metric tonnes	Q2 FY20		Q1 FY20		Q2 FY19	
	PRODUCED	SHIPPED	PRODUCED	SHIPPED	PRODUCED	SHIPPED
IRON ORE						
Iron Valley	1,391	1,535	1,409	2,056	1,767	2,053
Koolyanobbing	1,938	1,745	1,679	1,413	560	292
TOTAL IRON ORE	3,329	3,279	3,088	3,468	2,327	2,345
SPODUMENE						
Mount Marion ¹	124	99	115	95	115	94
Wodgina ²	9	-	22	3	-	-
TOTAL SPODUMENE	133	99	138	99	115	94
DSO LITHIUM						
Wodgina ²	-	-	-	-	40	-
TOTAL DSO LITHIUM	-	-	-	-	40	-
GRAND TOTAL	3,461	3,378	3,225	3,567	2,482	2,439

¹ Volumes presented as 100% for the Mt Marion project. MRL operates 100% of the Mt Marion project, in which it owns a 50% interest

² Volumes presented as 100% for the Wodgina Lithium project. A 60% interest was sold to Albemarle Corporation on 1 November 2019, taking MRL's ownership interest from 100% to 40%. See MRL ASX announcement 1 November 2019.

LITHIUM

Wodgina Lithium Project

'000 wet metric tonnes	Q2 FY20	Q1 FY20	Q2 FY19
LITHIUM DSO			
Mined	-	-	8
Produced	-	-	40
Shipped	-	-	-
LITHIUM SPODUMENE			
Mined	198	307	-
Produced	9	22	-
Shipped	-	3	-

Volumes presented as 100% for the Wodgina Lithium project. A 60% interest was sold to Albemarle Corporation on 1 November 2019, taking MRL's ownership interest from 100% to 40%. See MRL ASX announcement 1 November 2019.

MRL completed the Wodgina Lithium Project transaction and associated arrangements, and established the MARBL Lithium Joint Venture (MARBL JV) with Albemarle, on 1 November 2019. See MRL ASX announcement 1 November 2019.

The transaction resulted in the sale of a 60% interest in the Wodgina Lithium Project to Albemarle for a consideration of US\$820 million in cash (subject to completion adjustments capped at an additional US\$25 million) and the acquisition of a 40% interest in the first two 25,000 dry tonne per annum lithium hydroxide conversion units currently being built by Albemarle at Kemerton, Western Australia. MARBL JV, an unincorporated joint venture with MRL and Albemarle holding a 40% interest and 60% interest respectively, has been established.

Also on 1 November 2019, MARBL JV made the decision to place the Wodgina Lithium Project on care and maintenance. The transition to care and maintenance took approximately six weeks and was completed in December, with the cost not expected to be material for FY20. The decision was made in recognition of challenging global lithium market conditions and to preserve the value of the world-class Wodgina spodumene ore body.

MARBL JV will regularly review market conditions with a view to resuming spodumene concentrate production as and when required; driven by market demand. MRL remains confident in the Wodgina Lithium Project as a world-class asset and the decision to partner with Albemarle to help MRL drive sustainable and lasting value for shareholders.

Mt Marion Lithium Project

'000 wet metric tonnes	Q2 FY20	Q1 FY20	Q2 FY19
LITHIUM SPODUMENE			
Mined	804	727	738
Produced	124	115	115
Shipped	99	95	94

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

Mining activities remained steady during the quarter with 804,000 wmt of ore mined and 7.2 million wmt of total material moved. The mining activities provide ongoing access to the ore body to meet processing requirements.

A total of 99,000 wmt was shipped in the quarter, an increase of 4% against the prior quarter's shipments. The proportion of high-grade (6%) spodumene concentrate produced was 62%, compared to 64% in the previous quarter.

Production increased by 8% from the previous quarter with both 6% and 4% spodumene concentrate production continuing. Further work was undertaken to review the water and energy demands of various production alternatives. An updated production outlook for FY20 is expected to be completed in H2 FY20 for review by the co-owners later this year.

The MRL-operated Mt Marion Lithium Project is a joint project between MRL (50%) and one of the world's largest lithium producers, Jiangxi Ganfeng Lithium Co., Ltd (50%).

IRON ORE

Iron Valley

'000 wet metric tonnes	Q2 FY20	Q1 FY20	Q2 FY19
Mined	1,275	1,167	1,791
Produced	1,391	1,409	1,767
Shipped	1,535	2,056	2,053

Shipping of legacy fines from Iron Valley was completed during the quarter, reducing volumes to 1.5 million wmt.

Mining continued in the C8 pit during the quarter for blended feed. Four in-pit bores were successfully drilled in C8 to assist with groundwater management. Two of these bores have been commissioned to date with the remaining scheduled for February 2020. Mining in C8 has concentrated on de-stacking waste on the northern end and eastern side of the pit to facilitate access to ore at depth. The upgraded pumping arrangement and larger diameter discharge pipe are successfully managing groundwater inflows. C8 provided the majority of high-grade ore supplemented with ore from C1 Mini. C9 pit mining continued to provide low-phosphate ore for blending.

The Iron Valley crushing operations produced 1.4 million wmt of product for the quarter. The demand for fines continued through the quarter with all produced fines shipped.

Koolyanobbing

'000 wet metric tonnes	Q2 FY20	Q1 FY20	Q2 FY19
Mined	2,367	1,852	1,167
Produced	1,938	1,679	560
Shipped	1,745	1,413	292

Koolyanobbing mined at the targeted rate of 8Mtpa, with the standardisation of the haul truck fleet to 150t and 205t dump trucks to match the excavator size and maximise productivity. This resulted in iron ore production increasing by 15% to 1.9 million wmt compared to the prior quarter.

Shipping volumes increased by 23% to 1.7 million wmt compared to the prior quarter.

Additional rail capacity is to be brought online in Q3 FY20. Inventory at the mine is being built in preparation for the scheduled ramp-up by a further 3Mtpa to reach a run rate of 11.0Mtpa.

MINING EXPLORATION AND DEVELOPMENT ACTIVITY

Yilgarn Iron Ore Strategy

During the quarter, MRL announced its Yilgarn Iron Ore Strategy to build a long-life iron ore export business in the Yilgarn, using MRL's industry leading capabilities and innovative approach to mine development. Separate JORC Mineral Resources, Ore Reserve and Exploration Target statements were also released to complement the Yilgarn Iron Ore Strategy. See MRL ASX announcements 20 November 2019.

As disclosed to the ASX, MRL reported Mineral Resources totalling 108.6Mt (dry) at 56.8% Fe for the Koolyanobbing, Mt Dimer and Parker Range assets. The Mineral Resources that make up Yilgarn Iron Ore are located within a 120-kilometre radius of MRL's Koolyanobbing train loading and rolling stock infrastructure hub, which connects to MRL's existing stockpile and ship loading facilities at Esperance Port. The inaugural combined Ore Reserve Statement discloses Mineral Reserves of 40.8Mt (dry) at 58.2% Fe that includes deposits at Koolyanobbing, Windarling, Deception and Parker Range (Mt Caudan). An Exploration Target Statement was defined over the Mt Richardson tenement of between 30Mt and 83Mt at between 55% to 60% Fe.

Kumina Iron Ore Project

A drilling program at the Kumina Iron Ore Project in the Pilbara commenced on 22 September 2019. All drill pads required for the program have been cleared and 6,572 metres of drilling was completed in the quarter (reverse circulation: 5,464 metres, 52% complete; and diamond drilling: 1,108 metres, 75% complete). Field mapping activities were carried out to support further exploration opportunities in the area during this period. The Kumina exploration camp was demobilised at the completion of the drill campaign, with a follow-up drill campaign planned for Q4 FY20 and a JORC update expected by the end of FY20.

McIntosh Joint Venture

MRL withdrew its 51% interest in the McIntosh Graphite Project (McIntosh Project) under the McIntosh Joint Venture (MJV) with Hexagon Resources Limited (Hexagon, ASX: HXG), terminating the MJV with effect from 31 October 2019. See MRL ASX announcement 2 October 2019. The MJV tenements covering the McIntosh Project in northern Western Australia reverted 100% to Hexagon as of 31 October 2019.

MRL originally entered into the MJV to increase its exposure to battery materials with the inclusion of graphite as well as to create additional mining services contracting opportunities. However, MRL has determined that any future investment in the McIntosh Project will not meet MRL's minimum investment return threshold when compared to other significant projects currently undergoing evaluation that would require development capital. MRL will write off its investment in the McIntosh Project, of less than \$5 million, in FY20.

OIL AND GAS

Energy Resources Limited (ERL), a wholly owned MRL subsidiary, holds nine oil and gas exploration permits across the onshore Perth Basin, extending from south of the Perth metropolitan area to the Shire of Mingenew north of Perth and covering an area of 6,603 square kilometres. This makes ERL one of the largest permit holders in the onshore Perth Basin.

The exploration strategy is primarily to explore for gas resources to provide MRL with self-sufficiency in gas supply, reducing reliance on diesel and lowering MRL's carbon emissions.

MRL announced on 20 December 2019 that it had acquired 804,000,000 shares in Norwest Energy NL (ASX: NWE, Norwest) following an on-market share purchase, taking its shareholding to 19.9%. See MRL ASX announcement 20 December 2019. ERL and Norwest are joint venture partners in two Perth Basin exploration permits - EP368 (ERL 80% and operator; Norwest 20%) and EP426 (ERL 77.78% and operator; Norwest 22.22%). ERL will continue to work with Norwest on delivering value from these two permits.

During the quarter, ERL progressed its exploration strategy by completing ecological surveys and continuing with community consultation and land access agreement discussions in preparation for future seismic acquisition programs. ERL commenced a comprehensive portfolio review to identify and evaluate future drilling opportunities for conventional gas.



This announcement dated 24 January 2020 has been authorised for release to the ASX by Derek Oelofse, Company Secretary of Mineral Resources Limited.

Further Information

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Competent Person's Statement

The information presented is extracted from previous MIN ASX announcements available on the company website at www.mrl.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.

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.

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