

# QUARTERLY EXPLORATION AND MINING ACTIVITIES REPORT

## January to March 2023 (Q3 FY23)



26 April 2023

Mineral Resources Limited (**ASX:MIN**) (**MinRes** or the **Company**) is pleased to present its Quarterly Exploration and Mining Activities Report for the period to 31 March 2023.

### Q3 KEY POINTS

- Safety performance for the quarter remained strong with no Lost Time Injuries. Total Reportable Injury Frequency Rate was 2.11.
- Mining Services production volumes were lower in Q3 at 52Mt, following completion of two external mining contracts. Equipment and people were moved to joint venture projects but delays in approvals impacted volumes. During the quarter, one new external crushing contract and two new mining contracts were secured, along with an extension to an existing haulage contract. As a result of the delays in approvals and delays associated with the award of new contracts, FY23 volume guidance has been reduced to 245-255 Mt from 270-280 Mt.
- Iron ore shipments were 4.5M wmt, up 10% qoq and in line with FY23 guidance of 17.2-18.8M wmt.
- Average realised iron ore price was US\$109 per dry metric tonne (dmt), 12% higher qoq to represent an 87% realisation of the Platts 62% IODEX.
- Iron ore FY23 Free On Board (FOB) costs are expected to be at the upper end of the guidance range of \$65-75/t for Utah Point and \$85-95/t for Yilgarn.
- A record total of 111k dmt (attributable) of spodumene concentrate (SC6 Eq 85k dmt) was shipped, up 15% qoq.
- A total of 7,666 tonnes (attributable) of lithium battery chemicals was converted, stable qoq, with 5,925 tonnes (attributable) sold, down 14% qoq.
- The average realised lithium battery chemicals revenue was US\$56,996/t (exclusive of China VAT), down 14% qoq.
- The Mt Marion expansion progressed and remains in line with the initial budget of \$120 million. Completion of the expansion is now anticipated to commence from mid-May.
- Mt Marion FY23 volumes are expected to be at the lower end of spodumene concentrate guidance of 160-180k dmt (SC6 equivalent) and lithium battery chemicals sold guidance of 19.0-21.3kt. This reflects the impact of a delay in the plant expansion and mine sequencing, resulting in the drawdown of contact ore stockpiles. Accordingly, Mt Marion FY23 spodumene FOB cost guidance has been revised to \$1,200-\$1,250/t (SC6 equivalent) (previously \$850-900/t).
- Wodgina remains on track to achieve FY23 spodumene shipped guidance of 150-170k dmt (SC6 equivalent) and lithium battery chemicals production guidance of 11.5-12.5kt. Reflecting current marketing arrangements and market dynamics, FY23 lithium battery chemicals sold guidance is expected to be 5.0-6.0kt (previously 8.5-9.5kt).
- During the quarter, MinRes entered<sup>1</sup> into binding agreements with Albemarle Corporation (NYSE: ALB) (**Albemarle**) to restructure the MARBL Joint Venture and investment in lithium conversion assets in China. Subject to receipt of regulatory approvals, MinRes expects the Australian part of the MARBL JV restructure to complete in the June quarter. The transaction effective date of 1 April 2022 for the change in ownership interests remains.
- Subsequent to quarter's end, the Lockyer-2 gas appraisal well was drilled<sup>2</sup>. The primary target, Kingia Sandstone, had low levels of background gas and wireline data indicates that the reservoir is water saturated.
- MinRes extended the offer period under its off-market takeover bid of Norwest Energy NL (ASX: NWE) (**Norwest**) to 29 April 2023. As at 24 April, MinRes had voting power in Norwest of 88.08%<sup>3</sup>.

<sup>1</sup> ASX announcement 23 February 2023.

<sup>2</sup> ASX announcement 12 April 2023.

<sup>3</sup> ASX announcement 24 April 2023.

## IRON ORE

	Units	Q3 FY23	QoQ Var	PcP Var
<b>Yilgarn Hub</b> (100% attributable basis, unless otherwise indicated)				
Mined	k wmt	2,059	5%	11%
Produced	k wmt	2,078	(6%)	3%
Shipped	k wmt	2,130	10%	0%
<b>Utah Point Hub</b> (100% attributable basis, unless otherwise indicated)				
Mined	k wmt	2,947	5%	11%
Produced	k wmt	2,929	(11%)	2%
Shipped	k wmt	2,416	9%	(5%)

During the quarter, iron ore shipments were 4.5M wmt, up 10% qoq. Iron ore production and shipments across both hubs were in line with the mine plan and FY23 guidance (17.2-18.8M wmt).

Quality control for the Yilgarn products continued to improve and, as a result, attracted broader buyer interest in the products.

After re-commencing in October 2022, lump production from Yilgarn increased to 29% and began to realise higher lump premiums as the quality stabilised. Utah shipments lagged production due to materials handling constraints in the wetter months and shiploader outages.

The Chinese steel industry prioritised raw material cost over productivity and product discounts narrowed due to increased demand for lower grade products. The average realised iron ore price for the quarter was US\$109 per dmt, 12% higher qoq and representing an 87% realisation of the Platts 62% IODEX.

FOB costs at both hubs are expected to be at the upper end of the FY23 guidance range of \$65-75/t for Utah Point and \$85-95/t for Yilgarn.

State royalty relief for Yilgarn ended during the quarter, with a State royalty rate of 7.5% of FOB price achieved applicable from February 2023.

## LITHIUM

### Mt Marion

	Units	Q3 FY23	QoQ Var	PcP Var
<b>Mt Marion: Spodumene concentrate<sup>4</sup></b> (50% attributable basis, unless otherwise indicated)				
Mined (100% basis)	k dmt	537	1%	34%
Produced	k dmt	60	(1%)	15%
Shipped	k dmt	62	6%	32%
Shipped – SC6 equivalent	k dmt	40	5%	24%
<b>Mt Marion: Lithium battery chemicals<sup>5</sup></b>				
Sold	t	4,420	(3%)	N/A

Expansion activities to double plant capacity to 900ktpa of mixed grade spodumene concentrate (100% basis) (570-600ktpa SC6 equivalent) accelerated during the quarter. A total of 725 people were on site to support existing operations as well as the integration of the expansion. Accommodation and flights have been challenging due to multiple projects in the region and the mine preparing for higher volumes once commissioning is complete, which impacted bed availability. The site has subsequently come off the peak workforce demands, with the crushing plant completed and going through the final stage of commissioning. Construction works continue on non-process infrastructure and the beneficiation plant.

The Mt Marion expansion progressed and remains in line with the initial budget of \$120 million. Completion of the expansion is now anticipated to commence from mid-May. A study to ensure water security of the project was undertaken, leading to a decision to install dry stack tailings. This investment will halve water usage and provide substantial water cost savings, as well as extend the tailings life by 4-6 years at an additional cost of \$25 million.

In advance of the expansion, mine pre-stripping has increased to access multiple mining fronts to support the expansion in processing capacity. Consequently, lower grade contact ore stockpiles were processed to support mining activities while pre-stripping of new mining areas was undertaken. Mining access to higher quality feed is now expected to occur progressively over FY24 to support the ramp up in production.

In line with production, Mt Marion shipped 62k dmt of 3.8% spodumene concentrate (50% share) over the quarter (SC6 equivalent 40k dmt), up 6% qoq. The average realised spodumene concentrate price was US\$3,367/dmt, inclusive of grade adjustments and product discounts.

MinRes' 51% offtake share of Mt Marion spodumene concentrate for the quarter of 63k dmt was converted into 4,420 tonnes of lithium battery chemicals under the toll-treating agreement with Jiangxi Ganfeng Lithium Co. Ltd (**Ganfeng**).

The average achieved price for lithium battery chemicals from Mt Marion was US\$50,943/t (exclusive of China VAT). Pricing is typically finalised based on indices two months after the shipment month. At the end of each period, shipments not yet finalised are marked-to-market based on estimated pricing. The impact of the price movements for the period are recorded as an adjustment to revenue. Excluding prior quarter adjustments, the March quarter average achieved price was US\$54,433/t.

Mt Marion FY23 volumes are expected to be at the lower end of spodumene concentrate guidance of 160-180k dmt (SC6 equivalent) and lithium battery chemicals sold guidance of 19.0-21.3kt. The FY23 forecast volume range reflects the impact of the delay of completing the expansion project as well as mine sequencing, which resulted in the drawdown of contact ore stockpiles. Accordingly, Mt Marion FY23 spodumene concentrate FOB cost guidance has been revised to \$1,200-\$1,250/t (SC6 equivalent) (previously \$850-900/t).

Subsequent to quarter's end, MinRes lodged an initial substantial holder notice disclosing a 19.55% interest in Essential Minerals (ASX:ESS) (**Essential**)<sup>6</sup>. Essential's Pioneer Dome lithium project is approximately 100km from Mt Marion. MinRes' interest in Essential is consistent with the Company's focus on lithium opportunities in the Mt Marion region.

<sup>4</sup> MinRes operates 100% of the Mt Marion project, in which it has a 50% equity interest.

<sup>5</sup> MinRes has a 51% offtake share of spodumene concentrate produced which is toll-converted into lithium hydroxide based on conversion rates as per the toll treating agreement with Ganfeng.

<sup>6</sup> ASX announcement 14 April 2023.

## Wodgina

	Units	Q3 FY23	QoQ Var	PcP Var
<b>Wodgina: Spodumene concentrate<sup>7</sup></b> (40% attributable basis, unless otherwise indicated)				
Mined (100% basis)	k dmt	725	(26%)	N/A
Produced	k dmt	44	19%	N/A
Shipped	k dmt	49	28%	455%
Shipped – SC6 equivalent	k dmt	45	19%	464%
<b>Wodgina: Lithium battery chemicals<sup>5</sup></b> (40% attributable basis, unless otherwise indicated)				
Produced	t	3,246	5%	N/A
Sold	t	1,504	(34%)	N/A

Mining and processing at Wodgina continued to ramp up towards installed capacity, with 49k dmt (40% share) of 5.6% spodumene concentrate shipped, up 28% qoq. The quarterly spodumene concentrate 6% FOB equivalent price applied on Wodgina shipments to be converted to lithium battery chemicals for the June quarter is US\$5,444/dmt.

During the quarter, 24k dmt of MinRes' share of Wodgina spodumene concentrate was converted by Albemarle into 3,246 tonnes of lithium battery chemicals, up 5% qoq. Albemarle sold 1,504 tonnes of lithium battery chemicals on behalf of MinRes at an average realised price of US\$74,781/t (exclusive of China VAT).

Wodgina remains on track to achieve FY23 spodumene shipped guidance of 150-170k dmt (SC6 equivalent) and lithium battery chemicals production guidance of 11.5-12.5kt.

FY23 lithium battery chemicals sold guidance is reduced to 5.0-6.0kt from 8.5-9.5kt<sup>8</sup>. This reduction reflects current MARBL Joint Venture (JV) marketing arrangements, under which Albemarle is responsible for all sales, as well as short-term market dynamics.

On completion of the Australian part of the restructure of the MARBL Joint Venture (JV), MinRes will be responsible for the marketing and sales of its share of lithium battery grade chemicals. To support this, MinRes has established an office and warehouse in Ningbo, China, together with a sales and marketing team to manage future sales and logistics functions.

MinRes has now received mining and environmental approvals to expand the Wodgina mine. Development work and pre-stripping of the Stage 2 cut-back recently commenced. Mined ore feed to support the operation of three processing trains is now expected at the end of 2023 with a six to eight month ramp up.

## Kemerton

The Kemerton Train 1 conversion plant has produced product meeting specification requirements in April 2023. The Kemerton Train 2 conversion plant is progressing through commissioning as planned, with production expected in Q1 FY24. The plant remains subject to the qualification process.

## MARBL JV

During the quarter, MinRes announced<sup>9</sup> it had entered into binding agreements with Albemarle to restructure the MARBL JV and investment in lithium conversion assets in China.

Western Australian Ministerial consent for the parties to change their ownership interests at Wodgina has been obtained. Completion of the Australian part of the transaction remains conditional on Albemarle obtaining approval from the Foreign Investment Review Board to increase its ownership interest in the Kemerton Lithium Hydroxide Processing Plant. MinRes is hopeful that this approval will be obtained and for completion of the Australian part of the MARBL JV restructure to occur in the June quarter. The transaction effective date of 1 April 2022 for the change in ownership interests remains.

<sup>7</sup> MinRes has a 40% equity interest in the Wodgina project. MinRes' equity interest in Wodgina will increase to 50% following the completion of the Australian part of the MARBL JV restructure.

<sup>8</sup> Wodgina guidance assumes a 1 June 2023 Completion Date for the expanded MARBL JV as set out in the ASX announcement 23 February 2023.

<sup>9</sup> ASX announcement 23 February 2023.

## EXPLORATION AND DEVELOPMENT ACTIVITY

### IRON ORE

#### Onslow Iron Project

The Onslow Iron Project is designed to be a 30+ year project at a 30+ Mtpa export rate, with infrastructure capable of 35 Mtpa. The Project will comprise new mines, processing plant, airport, accommodation resorts, sealed 150km private haul road, port, marine infrastructure and transshipping vessel fleet. The first-ore-on-ship delivery target of June 2024 remains.

Construction of the Ken's Bore Aerodrome and mine site construction camp is well advanced. Mobile fleet is being mobilised to site with the intention to break ground for mine development activities in the June quarter, pending regulatory approvals. Resource definition drilling was impacted by inclement weather and access issues to site. A total of 5,425m of reverse circulation (RC) and 369m of diamond core was drilled across the Upper Cane and Cardo Bore East deposits.

At the Port of Ashburton, dredging has been completed for the transshipping wharf and bulk earthworks have commenced for the landside port infrastructure.

The first of five transshippers – christened the MinRes Airlie – was successfully launched in March at the COSCO shipyard in Zhoushan, China. The first tug has commenced modification works in Batam, Indonesia, and will move to Singapore in late May for drydocking and accommodation upgrades.

Primary environmental approvals for the Project progressed during the quarter with the release of the Environmental Protection Agency's (EPA) Assessment Report and Recommendations. The EPA's Appeals Process is currently being progressed.



Runway apron and airport terminal bulk earthworks at Ken's Bore



350-person construction camp at Ken's Bore



Big lift ship at Port of Ashburton unloading first steel shipment



Cargo laydown from first shipment at Port of Ashburton





Unloading shed vault concrete progression at Port of Ashburton



Product storage shed backfill at Port of Ashburton



Launching ceremony of transhipper MinRes Airlie



Transhipper MinRes Airlie launched into the water

## Yilgarn Hub

The Koolyanobbing Magnetite Phase 1 drilling program was completed during the quarter, with more than 1,000m of diamond core drilled. An infill Phase 2 drilling program, comprising 16,000m of RC, is scheduled to commence across the Southern Koolyanobbing Range in late May.

## Pilbara

Project development activities at the Marillana deposit continued throughout the quarter, including ongoing work on a hydrogeology drilling campaign and a drill hole spacing study. A total of 9,120m of RC drilling was performed during the quarter to mark the completion of the drill spacing study, which commenced in late February. Hydrogeology drilling is ongoing and scheduled for completion in Q4 FY23.

## LITHIUM

### Mt Marion

A 20,000m diamond core drilling program designed to test depth extents of Mt Marion North and support underground mining assessment studies commenced during the quarter. A total of 3,016m of diamond core was drilled throughout the quarter. A further 18,187m of RC was drilled for the purpose of near mine exploration and resource development.

### Wodgina

A 7,000m diamond drilling program designed to test depth extents of Wodgina commenced during the quarter, with 352m of diamond core drilled. Geometallurgical studies to support plant optimisation are ongoing.

## ENERGY

### Perth Basin

During the quarter, Energy Resources (EnRes, a wholly owned subsidiary of Mineral Resources) commenced a drilling campaign for up to seven wells in the onshore Perth Basin.

The Lockyer-2 well, designed to appraise the Lockyer Deep-1 gas discovery, commenced drilling on 15 March. Subsequent to the end of the quarter<sup>10</sup>, the primary target for Lockyer-2, the Kingia Sandstone was reached at 4,347 metres with low levels of background gas evident. The Kingia Sandstone is of excellent quality. However, analysis of wireline logging data indicates the reservoir is water saturated and that the aquifer is at a much higher pressure than previously interpreted.

The Ensign Rig 970 is mobilising for the drilling of the North Erregulla Deep-1 exploration well.

The Rococo 3D seismic survey was completed across permits EP 368 and EP 426. 3D seismic data processing commenced in the quarter and interpretation will run into Q4 FY23. The 3D dataset will be used to optimise future exploration and development well locations and define gas reserves.

During the quarter, MinRes extended the offer period under its off-market takeover bid for Norwest to 29 April 2023<sup>11</sup>. Norwest is MinRes' junior JV partner in the Lockyer gas field. As at 24 April, MinRes had voting power in Norwest of 88.08%.

### Carnarvon Basin

Areas G22-7 and G22-10, part of the recent Western Australia Government Geothermal Acreage Release of 2022, have been offered to MinRes as Operator (100%). These areas sit adjacent to the southern portion of permit EP 510 and to the south of EP 510. The addition of the two new areas totals 18,059km<sup>2</sup> and will further facilitate MinRes energy exploration activities in the region.

The successful geothermal applications demonstrate the commitment by MinRes to pursue renewable energy technologies across Western Australia. These permits are strategically located adjacent to the Dampier to Bunbury natural gas pipeline and also close to MinRes' Onslow Iron Project.

<sup>10</sup> ASX announcement 12 April 2023

<sup>11</sup> ASX announcement 30 March 2023 and 6 April 2023

## CONFERENCE CALL

MinRes' investor relations team will be conducting a quarterly results conference call on **26 April 2023** at **8:00am AWST**.

To register use this link: <https://web.lumiconnect.com/356005799>. Dial-in details will be received upon registration.

### **ENDS**

*This announcement dated 26 April 2023 has been authorised for release to the ASX by Mark Wilson, Chief Financial Officer and Company Secretary of Mineral Resources Limited.*

## Further Information

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### **About Mineral Resources**

Mineral Resources Limited (ASX: MIN) (MinRes) is a leading diversified resources company, with extensive operations in lithium, iron ore, energy and mining services across Western Australia. With a focus on people and innovation, MinRes has become one of the ASX's best-performing companies since listing in 2006. For more information, visit [www.mineralresources.com.au](http://www.mineralresources.com.au).

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## OPERATING PERFORMANCE SUMMARY

	Units	Q3 FY23	Q2 FY23	Q3 FY22
<b>Safety</b>				
TRIFR		2.11	2.72	2.56
LTIFR		0.00	0.00	0.10
<b>Mining Services</b>				
Contract Tonnes	M wmt	52	70	63
<b>Yilgarn Hub</b> (100% attributable basis, unless otherwise indicated)				
Iron ore mined	k wmt	2,059	1,955	1,848
Iron ore produced	k wmt	2,078	2,210	2,022
Iron ore sales	k wmt	2,130	1,931	2,129
Lump weighting	%	29%	14%	0%
Fe grade	%	58.4%	58.1%	56.6%
Realisation	%	89%	98%	67%
Revenue	US\$/dmt	111.2	96.7	94.8
Moisture	%	5.4%	5.4%	5.3%
Revenue	\$/wmt	154.4	137.9	123.1
<b>Utah Point Hub</b> (100% attributable basis, unless otherwise indicated)				
Iron ore mined	k wmt	2,947	2,812	2,660
Iron ore produced	k wmt	2,929	3,305	2,871
Iron ore sales	k wmt	2,416	2,212	2,537
Lump weighting	%	18%	31%	26%
Fe grade	%	57.8%	58.1%	58.2%
Realisation	%	85%	99%	76%
Revenue	US\$/dmt	106.3	98.1	107.1
Moisture	%	13.2%	11.8%	10.9%
Revenue	\$/wmt	134.1	125.5	131.0
<b>Total Iron Ore</b>				
Iron ore sales	k wmt	4,546	4,144	4,666
Lump weighting	%	23%	23%	14%
Fe grade	%	58.1%	56.4%	57.5%
Realisation	%	87%	98%	72%
Revenue	US\$/dmt	108.7	97.4	101.3
Moisture	%	9.5%	8.8%	8.3%
Revenue	\$/wmt	143.6	131.3	127.4

	Units	Q3 FY23	Q2 FY23	Q3 FY22
<b>Mt Marion: Spodumene concentrate<sup>12</sup></b> (50% attributable basis, unless otherwise indicated)				
Spodumene ore mined (100% basis)	k dmt	537	529	402
Spodumene concentrate produced	k dmt	60	61	52
Spodumene concentrate shipped	k dmt	62	59	48
Weighted average grade shipped	%	3.8%	3.9%	3.9%
Spodumene concentrate shipped – SC6 equivalent	k dmt	40	38	32
High grade product contribution	%	36.1%	32.7%	17.0%
Revenue	US\$/dmt	3,367	4,151	1,952
<b>Mt Marion: Lithium battery chemicals<sup>13</sup></b>				
Conversion rate	x	14.3	13.0	-
Lithium battery chemicals sold	t	4,420	4,565	-
Achieved price (excluding VAT)	US\$/t	50,943	74,373	-
<b>Wodgina: Spodumene Concentrate<sup>14</sup></b> (40% attributable basis, unless otherwise indicated)				
Spodumene ore mined (100% basis)	k dmt	725	973	-
Spodumene concentrate produced	k dmt	44	37	-
Spodumene concentrate shipped	k dmt	49	38	9
Weighted average grade shipped	%	5.6%	6.0%	5.5%
Spodumene concentrate shipped – SC6 equivalent	k dmt	45	38	8
Spodumene concentrate shipped – spot sales	k dmt	-	9	9
Spodumene concentrate revenue – spot sales	US\$/dmt	-	5,131	2,201
<b>Wodgina: Lithium battery chemicals<sup>12</sup></b> (40% attributable basis, unless otherwise indicated)				
Conversion rate	x	7.4	7.4	-
Lithium battery chemicals produced	t	3,246	3,096	-
Lithium battery chemicals sold	t	1,504	2,290	-
Lithium battery chemicals revenue (excluding VAT)	US\$/t	74,781	51,209	-

<sup>12</sup> MinRes operates 100% of the Mt Marion project, in which it has a 50% equity interest.

<sup>13</sup> MinRes has a 51% offtake share of spodumene concentrate produced which is toll-converted into lithium hydroxide based on conversion rates as per the toll treating agreement with Ganfeng. Revenue under the tolling arrangement is recognised as the achieved price less the cost of production (excluding central costs). Pricing is typically finalised based on indices two months after the shipment month. At each period-end, shipments not yet finalised are marked-to-market based on estimated pricing. The impact of the price movements for the period are recorded as an adjustment to revenue.

<sup>14</sup> MinRes currently holds a 40% participating interest in Wodgina and Kemerton. MinRes and Albemarle have signed a binding agreement to increase MinRes' interest in Wodgina to 50% and reduce its interest in Kemerton to 15% (subject to approvals). Refer to ASX announcement dated 23 February 2023.