



# MARCH 2019 QUARTERLY REPORT

- Iron Valley Mine: Strong quarter, with BCI EBITDA of A\$2.8M from 1.8Mt shipments
- Mardie Salt & Potash Project: Definitive Feasibility Study ("DFS") progressing on schedule for completion in the Dec-19 quarter and final investment decision by the Mar-20 quarter:
  - WA Premier approval for the Department of Jobs Tourism, Science and Innovation (DJTSI) to be the lead agency for the Mardie Project
  - WA Minister for Ports approval for a new port facility at the Mardie site, subject to tenure and lease negotiations with WA Government authorities during 2019
  - Key engineering appointments GR Engineering as lead DFS engineer; Worley Parsons as design engineer for ponds & SOP plant; and Salt Partners as design engineer for the salt plant
  - Site activities progressing extensive geotechnical program and construction of small-scale trial evaporation ponds nearing completion. Planning underway for construction of initial project accommodation and large-scale trial pond
  - Environmental approval process on schedule for EPA assessment and referral to the WA Minister for Environment by Dec-19
- Cash balance at 31 March 2019 of A\$35.4M and zero debt

BCI Minerals Limited (ASX:BCI) ("BCI" or the "Company") presents its quarterly activities report for the period ended 31 March 2019.

# MARDIE SALT & POTASH PROJECT

The 100% owned Mardie Project will produce salt and sulphate of potash ("SOP") from seawater on the northwest coast of Western Australia, one of the world's premium locations for solar evaporation operations. Mardie is a unique and sustainable opportunity, which will use an inexhaustible seawater resource and apply mainly natural solar and wind energy to drive production of salt and SOP. These products will be supplied into the Asian growth markets over a potential project life of 50+ years.

A Definitive Feasibility Study ("DFS") is underway and due to be completed in the December 2019 quarter. A key objective of the DFS is to establish an improved project business case capable of producing 4Mtpa salt and 100ktpa SOP.<sup>1</sup>

#### Engineering Appointments

During the quarter, BCI appointed GR Engineering as lead DFS engineer, responsible for coordination and integration of the key process and engineering design packages and preparation

<sup>&</sup>lt;sup>1</sup> Project parameters currently remain as announced on 1 June 2018, with the 4Mtpa salt and 100ktpa SOP being aspirational targets for the DFS. All material assumptions and technical parameters underpinning the PFS production targets continue to apply and have not materially changed.

of capital and operating cost estimates. GR Engineering will also undertake design and supervision of pre-FID site work and supporting infrastructure during 2019.

GR Engineering is a reputable Perth-based engineering group with significant experience in study management, engineering design and construction of resource projects throughout Western Australia and the world, both as EPCM and EPC contractor.

WorleyParsons has been appointed to complete the process and engineering design of the evaporation and crystallisation ponds as well as the sulphate of potash ("SOP") plant.

WorleyParsons is a global engineering services consultant providing engineering, procurement and construction management services in a range of industries. WorleyParsons has more than 20 years' experience of engineering in the fertiliser industry, including completing design and engineering engagements for brine-based SOP projects globally. The WorleyParsons engagement will be undertaken with support from both the Perth office and its Potash Centre of Excellence in Saskatoon, Canada.

Salt Partners has been appointed to complete the process and basic engineering design of Mardie's salt plant. The detailed engineering of this project component will be managed by lead engineer, GR Engineering.

Salt Partners is a firm of engineering contractors primarily based in Switzerland, who have decades of experience in the field of salt production, processing and hypersaline biotechnology. Salt Partners has established a proprietary salt purification process - Hydrosal which can produce high purity salt with low product losses. Numerous plants utilising this process are operating successfully around the globe. This engagement continues an existing relationship between BCI and Salt Partners, who completed the Pre-Feasibility Study designs for the salt plant.



The final key design contract to be awarded for the Mardie DFS will be the Mardie port design and engineering contract. BCI expects this contract to be awarded within the next month, following the recent receipt of WA State Government support for a new port facility at Mardie (refer to Tenure and Approvals section below).

Figure 1: Operating salt wash plant designed by Salt Partners

#### Mardie DFS Site Activities

A geotechnical drilling and test work program is nearing completion. The program, comprising more than 60 wide diameter drill holes, is being undertaken to confirm optimal locations for evaporation ponds and infrastructure, including the alignment of an export jetty.





Construction of a small-scale evaporation trial is underway at site. The trial will comprise pan evaporators plus a 1:40,000 scale version of the entire project layout, including the eight evaporation ponds and one series of the primary salt crystallisers and SOP crystallisers covering a total area of ~1 hectare. The trial, which is expected to be operational by May 2019, is being constructed on a raised 'island' to protect the scaled-down walls from potential weather impacts. Given the trial is located off the Mardie mudflats, the ponds and crystallisers will be plastic-lined to simulate the low permeability conditions of the mudflats. The trial will provide site-specific evaporation data at a range of densities and simulate the full evaporation process at a reduced scale. The trial will also produce raw NaCl salt and kainite-type mixed salts ("KTMS") for salt and SOP processing test work and marketing samples. Approximately 20,000 litres of potassium-rich bitterns have been acquired from an existing salt operation to fast-track the production of KTMS and SOP test work.

Figure 3: Small-scale Evaporation Trial Under Construction



### Tenure and Approvals

A number of recent WA State Government communications have highlighted significant support for development of the Mardie Project.

The WA Premier and Minister for State Development, Jobs & Trade has appointed the Department of Jobs Tourism, Science and Innovation ("DJTSI") to act as lead agency for the Mardie Project. DJTSI will assist BCI to co-ordinate Government interactions through its established network to facilitate the Mardie Project securing the required approvals.

The Minister for Ports has provided approval for BCI to commence the planning process for development of a multi-user port facility at the Mardie site. This in-principle approval for a Mardie Port follows positive discussions with various Government bodies over a number of months. BCI is now working with the Pilbara Ports Authority and other Government departments to establish the tenure and agreements required for BCI to develop the multi-user Mardie Port as a foundation proponent.

Developing port facilities at Mardie instead of Cape Preston East (PFS base case) is BCI's preferred logistics solution for the Project and will improve the business case and project economics by eliminating road haulage costs (~20% of PFS salt opex).

All environmental surveys and studies required to support assessment of the Mardie Project have now been completed. The Environmental Review Document has also been prepared and is due to be submitted to the WA Environmental Protection Authority ("EPA") within days. This represents the next key step in the EPA endorsed approvals timeline for the Mardie Project and BCI remains on track for full Ministerial approval by early 2020.

### Heritage

BCI has native title agreements in place with the Yaburara & Mardudhunera ("YM") and Kuruma Marthudunera ("KM") people that allow for production at Mardie. Approximately 90% of the planned project footprint is within the YM claim area and BCI has received the required heritage-related consents to proceed with construction and operations. A heritage survey with the KM people is planned in April 2019 over the remaining 10% of the project footprint area.

# **IRON VALLEY MINE**

Iron Valley is a mine in the Central Pilbara region that is operated by Mineral Resources Limited ("MIN") and has Ore Reserves of 95Mt at 58.4% Fe as at 30 June 2018.<sup>2</sup>

MIN shipped 1.8 million wet metric tonnes ("M wmt") during the quarter, which is a solid result considering the weather impacts associated with Cyclone Veronica in late March. Approximately 65% of Iron Valley product shipped during the quarter was fines, as MIN took advantage of higher headline iron ore prices and lower discounts for 58% Fe products to draw down on existing fines stockpiles. Fines, which attracts significantly lower pricing than lump, has accounted for approximately 45% of Iron Valley product shipped to date.

Due to strong iron ore prices and despite the increased proportion of lower-priced fines shipped, BCI's EBITDA from Iron Valley for the quarter was a healthy A\$2.8M, which includes a positive prior quarter adjustment of A\$0.6M.

<sup>&</sup>lt;sup>2</sup> Refer to BCI's announcement "Updated Mineral Resources and Ore Reserves" dated 18 October 2018 for further details. BCI is not aware of any new information or data that materially affects the information included in that document.









# ASSET DIVESTMENT PROCESS

BCI continues with a process to divest its iron ore assets and exploration tenements, with the aim of providing additional funding for and focusing management time on the Mardie Project.

# CORPORATE

#### Cash and Debt Position

BCI's cash balance as at 31 March 2019 was A\$35.4M (31 December 2018: A\$36.6M) and the Company remains debt free. With a market capitalisation of A\$63.6M on 31 March 2019, this implies an enterprise value of only A\$28.2M, including the value of the Iron Valley royalty and the 100% owned Mardie Project.

#### Half-Yearly Results

During the quarter, BCI released its financial results for the half-year ended 31 December 2018. The Company reported a group EBITDA of A\$15.3M and group net profit after tax of A\$15.6M. Contributing to this result was the A\$17.8M gain on disposal recorded from the Kumina Iron Ore Project sale.

### Health & Safety

BCI has not recorded a lost time injury ("LTI") for more than 3.5 years and is committed to providing a safe working environment for its staff and contractors. This will remain a key focus for the Company as on-site activities increase at Mardie during 2019.

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### **ABOUT BCI MINERALS**

BCI Minerals Limited (ASX:BCI) ("BCI") is an Australian-based company that is developing a salt and potash business supported by iron ore royalty earnings and divestment proceeds.

BCI is focused on rapidly advancing its 100% owned Mardie Salt & Potash Project, a potential Tier 1 project located on the West Pilbara coast in the centre of Australia's key salt production region.

Mardie will produce high-purity salt and sulphate of potash ("SOP") via solar evaporation of seawater. Using an inexhaustible resource and a production process driven mainly by natural solar and wind energy, Mardie is a sustainable opportunity to supply the salt and potash growth markets in Asia over many decades.

The long-term demand outlook for both salt and SOP is positive. Salt, or NaCl, is an essential mineral used extensively in modern life. High purity salt (>99.7% NaCl), which will be produced at Mardie, is used in chemical and industrial processes that create thousands of everyday products. Demand in this market segment, particularly in Asia, is expected to grow strongly over the next decade and result in a supply deficit.

Increasing population and urbanisation requires more and better-quality food to be produced from less arable land. SOP is a premium fertiliser which provides two key nutrients – potassium and sulphur – which improves plant growth and makes it drought resistant. SOP is mostly used on high value crops where yield increases deliver larger financial benefits.

Following a positive Pre-Feasibility Study in 2018, a Definitive Feasibility Study on a 4Mtpa salt and 100ktpa SOP operation is underway and due to be completed by late 2019. Key approvals are expected to be in place by early 2020 and a Final Investment Decision (FID) is targeted by Q1 2020.

BCI receives quarterly royalty earnings from Iron Valley, an iron ore mine located in the Central Pilbara region of Western Australia which is operated by Mineral Resources Limited (ASX:MIN) (95Mt JORC Ore Reserve<sup>1</sup>). BCI's EBITDA from Iron Valley was ~\$18M in FY17 and ~\$6M in FY18.

A process is underway for the divestment of BCI's iron ore and exploration portfolio. The first transaction completed in December 2018, with the sale of the Kumina iron ore tenements to MIN for total consideration of A\$35M cash, of which \$8M is still to be received after operations commence.

### **KEY STATISTICS**

Shares on issue:	397.6 million	
Cash and cash equivalents:	\$35.4 million	as at 31 March 2019
Board:	Brian O'Donnell	Non-Executive Chairman
	Alwyn Vorster	Managing Director
	Michael Blakiston	Non-Executive Director
	Jenny Bloom	Non-Executive Director
Major shareholders (>5%):	Wroxby Pty Ltd	27.6%
Website:	www.bciminerals.com.au	

1: Refer to BCI's announcement "Updated Mineral Resources and Ore Reserves" dated 18 October 2018 for further details. BCI is not aware of any new information or data that materially affects the information included in that announcement.