

#### **HIGHLIGHTS:**

## **BUTCHERBIRD HIGH PURITY MANGANESE STUDIES**

- Mining Lease Application submitted covering key portions of the Butcherbird Manganese resource.
- Scoping Study on schedule for completion in April 2018.
- Discussions continue with CSIRO to negotiate the terms of a collaboration framework to commercialise the process.

### STRATEGIC REVIEW

- ➤ Decision to rename the Company to "Element 25 Limited" to reflect the focus on the 25<sup>th</sup> element of the periodic table, manganese.
- ➤ General Meeting to be held on 4 May 2018 seeking shareholder approval for the company name change.

#### **INVESTOR RELATIONS**

The Company is scheduled to present the results of the Scoping Study at the 121 Mining Investment Forum in Hong Kong and the Resource Stocks Sydney events in April and May 2018.

During 2017, work with CSIRO demonstrated that the Butcherbird Project manganese ores have a unique mineralogy, which allows for a new atmospheric pressure/ambient temperature process to produce a high purity leach liquor with rapid kinetics and very low impurities.

This work opened the door for a commercialisation pathway to potentially produce high purity, high value manganese products including battery grade manganese sulphate, Electrolytic Manganese Metal ("EMM") and Electrolytic Manganese Dioxide ("EMD").

The focus of the current quarter has been to progress a Scoping Study to provide a commercial framework to underpin the Company's next steps in fast tracking the development of this world class resource.







TIVE PROCESSING HIGH PURITY MANGANESE PRODU

# QUARTERLY OPERATIONS REPORT 31 MARCH 2018

#### ABOUT MONTEZUMA

Montezuma Mining Company Ltd (ASX: MZM) is a diversified explorer focused on manganese, cobalt, lithium and gold. Our objective is to achieve shareholder returns through selected strategic acquisitions and targeted exploration.

Montezuma is currently undertaking a Scoping Study to determine preliminary economics for the production of high purity manganese at the Company's 100% owned Butcherbird Project.

Montezuma also has 100% interests in the Holleton and Green Dam Gold Projects, the Pinnacles Cobalt Project and the Lake Johnson Lithium Project, all in Western Australia.

#### **MARKET DATA**

ASX code: MZM

Shares on issue: 83,464,350

## **BOARD AND MANAGEMENT**

Chairman Seamus Cornelius
Executive Director Justin Brown
Non-Executive Director John Ribbons
Exploration Manager Dave O'Neill



Company information, ASX announcements, investor presentations, corporate videos and other investor material can be viewed at: http://www.montezuma.com.au

## **BUTCHERBIRD MANGANESE PROJECT: (MZM 100%)**

## **Scoping Study**

An internal review of the potential for the project to produce a range of **high value manganese products** on a commercial scale triggered the decision during the quarter to **commence a Scoping Study** into the development of the Butcherbird Manganese Deposit. The Scoping Study has focussed on assessing the options for project development and provide an assessment of the potential **capital and operating cost** requirements for different scenarios. Key components include:

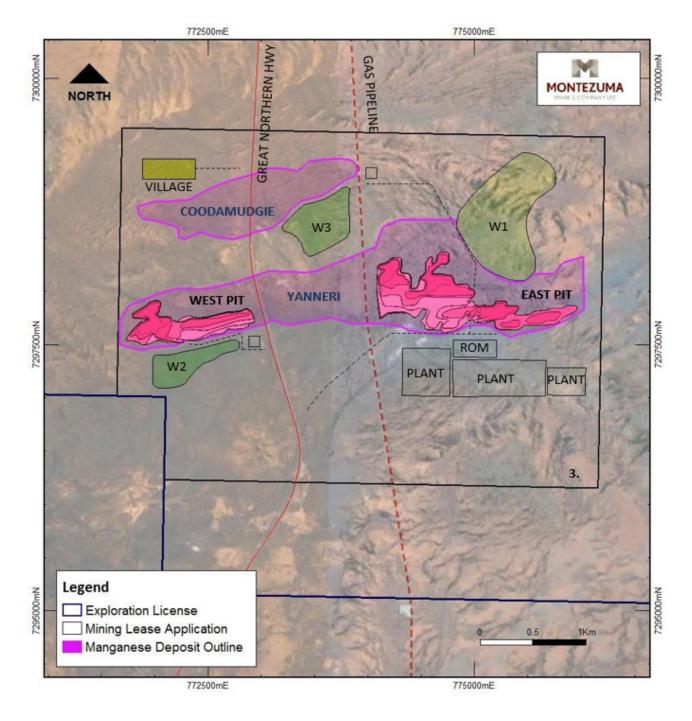
- Determining the optimal scale and potential to benefit from economies of scale at larger plant sizes.
- Market dynamics and price variability investigations to identify any potential limitations to product selection and higher production rates.
- Establishing the optimal product selection based on the above factors.
- Modelling the hydrometallurgical process including mass balances to determine water, power, reagent requirements as well as capital and operating cost estimates.
- Assessment of power alternatives and investigating a potential gas/renewables hybrid solution.
- Gap analysis of environmental permitting process to identify key outstanding tasks.

In the event that a successful Scoping Study is delievered, a decision to proceed to a **Preliminary Feasibility Study** will be considered by the Company.

It is the Company's intenton to expedite this process to take advantage of strong market conditions around commodity markets and more specifically in relation to those metals required for Lithium Ion battery production which includes **high purity manganese**.

## **Mining Lease Application**

The Yanneri Ridge Manganese deposit has been identified during historical resource definition work and a more recent mining study as the optimum location to commence mining operations. To allow the necessary permitting activities to be initiated, a **Mining Lease Application** has been submitted that will cover the Yanneri Ridge and Coodamudgi Manganese deposits which contain the manganese resources being assessed in the Scoping Study (see Figure 1).

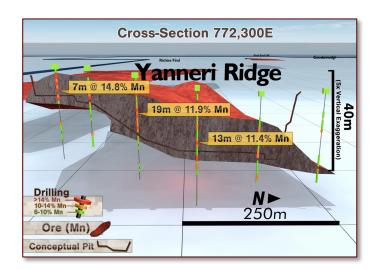


**Figure 1:** Yanneri Ridge Mining Lease Application (MLA) and proposed locations of key infrastructure including preliminary pit optimistations, waste landforms and plant and associated installations.

## **About the Butcherbird Project**

Montezuma's 100% owned Butcherbird Manganese Project host Australia's largest onshore manganese resource in multiple outcropping deposits.

The work that has been completed by CSIRO has successfully developed a hydrometallurgical flowsheet which can unlock the large volume of manganese metal contained within these deposits and positions Montezuma to be a



producer of high purity, high value manganese prodcuts.

Prospect	Tonnes (Mt)	Mn (%)	SiO <sub>2</sub> (%)	Fe (%)	P <sub>2</sub> O <sub>5</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)
Yanneri Ridge						
Inferred	48.0	10.7	43.0	11.1	0.262	10.7
Indicated	22.5	12.0	43.8	11.6	0.297	10.6
Additional Deposits						
Inferred	110.3	10.6	44.4	11.9	0.3	11.0
Total	180.8	10.8	43.9	11.7	0.3	10.9

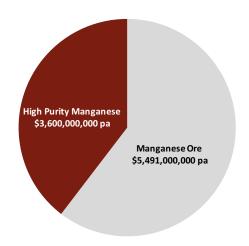
**Table 1.** JORC 2012 Butcherbird Mineral Resource Estimate<sup>1</sup>

There are no material changes to the assumptions used to provide the JORC 2012 Butcherbird Resource Estimate.

#### **ABOUT HIGH PURITY MANGANESE**

Whilst high purity manganese makes up only 10% of the manganese market by volume, it accounts for an estimated 40% of the total value in sales of the market<sup>2</sup>.

The production of high purity products from Butcherbird ores allows the Company to initiate commercial studies into becoming a producer of high value products rather than attempting to compete in the traditional bulk commodity manganese markets.



The flowsheet developed for Butcherbird is unique in that it is conducted at atmospheric pressure, ambient temperature and at a coarse grind size, all of which reduce costs over traditional approaches.

 $<sup>^{\</sup>rm 1}$  Reference: Montezuma Mining Company Ltd ASX release dated 12 October 2017

 $<sup>^{2}</sup>$   $^{1}$ UBS Global Research May 2017

Assumes EMM price of USD\$2,000/t Ref: https://www.metalbulletin.com/My-price-book.html?price=34473 Assumes manganese price of USD\$3.23/dmtu Ref:https://www.south32.net/docs/default-source/all-financial-results/reports-and-presentations/mamatwan-site-tour-2016.pdf

## **CORPORATE**

In parallel with the Scoping Study, the Company has been undertaking a strategic review of the Company's business strategies and asset portfolio with the aim of establishing the best way to extract shareholder value whilst maintaining a priority focus on the project development activities at Butcherbird.

The first key decision from the review has been to rename the Company to "Element 25 Limited" and to seek shareholder for the change at an General Meeting ("GM") to be held on 4 May 2018.

The new name is a reference to the fact that manganese is the 25<sup>th</sup> element of periodic table and is a reflection of the Company's intention to focus on becoming a high purity manangese producer by utilising our innovative processing technology to develop the world class manganese resource at the 100% owned Butcherbird project.

The Notice of General Meeting also includes a resolution seeking shareholder approval to issue shares to raise new capital. The purpose of the resolution is to provide the Board with funding alternatives should strategically attractive scenarios present that would allow further acceleration of the development of the Butcherbird Project.

The ongoing strategic review process is also actively looking at ways to advance the Company's non-manganese assets and investors will be updated as key decisions are made.

## **Investment Portfolio (as at 31 March 2018)**

In addition to cash reserves, the Company also currently holds securities in the following listed entities:

Listed securities at market value:	No. Held	Closing Price	Market Value
Alt Resources Ltd (ARS)	1,250,000	\$0.064	\$80,000
Buxton Resources Ltd (BUX)	500,000	\$0.13	\$65,000
Buxton Resources Ltd (BUX) 12.5c Options	2,000,000	N/A	-
Duketon Mining (DKM)	1,450,000	\$0.250	\$362,500
Anova Metals Ltd (AWV)	7,000,000	\$0.055	\$385,000
Lefroy Exploration (LEX)	4,200,000	\$0.145	\$609,000
Danakali Limited (DNK)	9,455,097	\$0.695	\$6,571,292
Total as at 31 March 2018			\$8,072,792

#### FOR MORE INFORMATION...

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#### **Executive Director**

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The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr David O'Neill who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Exploration Results and Exploration Targets were compiled, Mr O'Neill was an employee of Montezuma Mining Company Ltd. Mr O'Neill is a geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr O'Neill consents to the inclusion of this information in the form and context in which it appears in this report.

The information in this report that relates to the Butcherbord Mineral Resources is based on information compiled by Mr Mark Glassock who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Mineral Resources were compiled, Mr Glassock was a consultant to Montezuma Mining Company Ltd. Mr Glassock is a geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Glassock consents to the inclusion of this information in the form and context in which it appears in this report.

Please note with regard to exploration targets, the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

# Montezuma Mining Company Limited ASX Additional Information for Quarterly Report to 31 March 2018

	Tenement reference	Location	Interest at beginning of quarter	Acquired/ Disposed	Interest at end of quarter
The mining tenements held at the end of the quarter and their location	E20/659	Eelya Hill WA	10%	N/A	10%
	E20/922	Sunday Well WA	100%	N/A	100%
	E20/923	McCaskill Hill WA	100%	Disposed	0%
	E20/927	Yallon Well WA	100%	N/A	100%
	E28/2313	Green Dam WA	100%	N/A	100%
	E28/2327	Green Dam WA	100%	N/A	100%
	E28/2577	Pinnacles WA	100%	N/A	100%
	E28/2688	Pinnacles WA	100%	Disposed	0%
	E28/2701	Pinnacles East WA	100%	N/A	100%
	E28/2757	Pinnacles WA	0%	Acquired	100%
	E37/1176	Leonora WA	100%	N/A	100%
	E37/1295	Leonora WA	100%	N/A	100%
	E38/2961	Mt Venn WA	100%	N/A	100%
	E38/3092	Point Sunday WA	100%	Disposed	0%
	E46/1220	Black Hill WA	100%	N/A	100%
	E51/1781	Mt Maitland WA	100%	N/A	100%
	E52/1529	Mt Padbury WA	100% (Note 1)	N/A	100% (Note 1)
	E52/2350	Butcher Bird WA	100%	N/A	100%
	E52/3082	Mt Padbury WA	100%	N/A	100%
	E52/3470	Butcher Bird WA	100%	N/A	100%
	E52/3493	Butcher Bird WA	100%	N/A	100%
	E52/3588	Dead Camel WA	100%	N/A	100%
	E57/1060	Victory Well WA	100%	N/A	100%
	E52/3606	Yaneri Bore WA	0%	Acquired	100%
	E52/3607	Neds Gap WA	0%	Acquired	100%
	E52/3626	Corner Bore WA	0%	Acquired	100%
	M52/1074	Yaneri Ridge WA	0%	Acquired	100%
	E59/2246	Milgoo Peak WA	100%	N/A	100%
	E59/2267	Twin Peaks WA	100%	N/A	100%
	E63/1750	Lake Johnston WA	100%	N/A	100%
	E63/1789	Lake Johnston WA	100%	N/A	100%
	E63/1838	Lake Johnston WA	100%	N/A	100%
	E69/3478	Cunyu WA	100%	Disposed	0%
	E69/3491	Glover Hill WA	100%	Disposed	0%
	E69/3523	Fraser Range WA	100%	N/A	100%
	E69/3541	Cunyu Woolshed WA	100%	N/A	100%

	Tenement reference	Location	Interest at beginning of quarter	Acquired/ Disposed	Interest at end of quarter
	E70/5033	Holleton West WA	100%	N/A	100%
	E77/2334	Holleton WA	100%	N/A	100%
	E77/2458	Holleton WA	100%	N/A	100%
	E80/5056	Eileen Bore WA	100%	N/A	100%
	E80/5092	Cummins Range WA	100%	N/A	100%

## Notes:

1) 100% interest held in all minerals other than iron ore and manganese.