



MONTEZUMA

MINING COMPANY LTD

Highlights:

BUTCHERBIRD HIGH PURITY MANGANESE STUDIES

- Purification testwork **achieved industry specification** for producing Electrolytic Manganese Dioxide (“EMD”).
- Leaching step completed using a **coarse 6mm** particle size.
- Next step is to produce a crystalline product for final assay to underpin discussions with **battery cathode** manufacturers.
- **Scoping Study commenced**, key study manager appointed.
- Discussions initiated with CSIRO to negotiate the terms of a collaboration framework to **commercialise the process**.

STRATEGIC REVIEW

- Strategic review initiated to potentially restructure the Company to focus resources on the high purity manganese business.

In July 2017, the Company reported results from the successful test work on the leaching of the Butcherbird manganese ores into solution which produced a pregnant leach solution (“PLS”) within excess of 90% manganese purity.

This led to the immediate commencement of investigations to establish the optimal method for purifying the PLS to allow the production of marketable manganese products including battery grade manganese sulphate, Electrolytic Manganese Metal (“EMM”) and Electrolytic Manganese Dioxide (“EMD”).

The Company advised during the quarter that the testwork had successfully produced a PLS which exceeds industry specifications for the production of a **high purity EMM or EMD** product. The impurity levels for all key contaminants are well below their respective limits.

The Board regards this as **key milestone** in the path to development, confirming the amenability of Butcherbird ores to be converted to high purity, high value manganese products.



LARGE MANGANESE RESOURCE



INNOVATIVE PROCESSING



HIGH PURITY MANGANESE PRODUCTS

QUARTERLY OPERATIONS REPORT 31 DECEMBER 2017

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 return 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%)

CSIRO Studies

The work on the Butcherbird manganese ore has been conducted in collaboration with the Commonwealth Scientific and Industrial Research Organisation (“CSIRO”) Process Science and Technology Group. Following the success of the investigations, the Company and CSIRO have initiated discussions to enter into a collaborative framework to pursue opportunities to commercialise the technology outside of the Butcherbird Project. To this end, the Company has engaged legal advisers to confirm the best IP protection strategy to underpin commercialisation efforts.

Although there remain a number of avenues to further optimise the process flowsheet, the Company believes it is now in a position to accelerate the development of the Butcherbird Project and has initiated discussions with a number of key consulting groups with a view to moving quickly toward feasibility work in the new year. In parallel with the finalisation of the purification studies which are currently being undertaken, the expectation is that the first stages of the feasibility work will include detailed flowsheet modelling and optimisation, followed by a piloting phase in Q1 of 2018 to take the process from a lab scale batch process to a scaled up, continuous process more in line with a commercial scale implementation.

The assay results from the purified PLS are shown in Table 1, normalised to 100 g/l Mn content and benchmarked against a widely used, industry accepted North American specification. The results exceed expectations and are comfortably below the requisite contaminant levels, meaning the PLS is compatible with the production of both EMM and EMD.

Element	Mn g/l	Cu ppm	Co ppm	Ni ppm	Fe ppm	K ppm	Li ppm	Na ppm	Ca ppm	Mg ppm	P ppm	Cl ppm	Al ppm	Cr ppm	Ti ppm	B ppm
Industry Standard PLS (normalised to 100g/l Mn)	100	1	3	3	3	41	41	407	1222	4072	2	2036	204	2	2	2
Purified Butcherbird PLS (normalised to 100 g/l Mn)	100	0.2	1.5	0.2	0.3	17.3	-1	44	536	585	-1	*	0.9	0.3	0.2	-1
		As ppm	V ppm	Ba ppm	Bi ppm	Cd ppm	Tl ppm	Ga ppm	Se ppm	Te ppm	Mo ppm	Sb ppm	Ge ppm	Pb ppm	Hg ppm	Zn ppm
Industry Standard PLS (normalised to 100g/l Mn)		2	2	2	2	0.2	0.2	10	2	2	2	0.2	0.2	0.2	0.2	0.2
Purified Butcherbird PLS (normalised to 100 g/l Mn)		0.1	0.2	0.3	0	-1	0.057	8.1	-1	-1	-1	-1	-1	-1	-1	0.4

Table 1. Assay of the purified PLS from the leaching of Butcherbird manganese ores showing levels of key contaminants important in the production of EMM and EMD. Assays undertaken by Bureau Veritas using the ICP-AES method.
-1 indicates assay is below detection.* indicates assay value pending.

Work is now being undertaken to produce a crystalline manganese sulphate product from the PLS which can be benchmarked against industry specifications for use in the manufacture of **lithium ion battery cathodes**. Very low levels of certain impurities such as arsenic, lead and cadmium suggest good potential to also explore product options in the agricultural sector.

Scoping Study

An internal review of the potential for the project to produce a range of **high value manganese products** on a commercial scale has triggered the decision to **immediately commence a Scoping Study**. The Study will assess the options for project development and provide an assessment of the potential **capital and operating cost** requirements for project development.

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

It is the Company's intention 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**.

To expedite the initial study phase, the Company has appointed experienced mining consultant Mr Ian Huitson to manage the Scoping Study. Mr Huitson has a Mining Engineering degree and is currently consulting to the mining industry based in Perth and has over thirty years experience in the mining industry working in operations and project development.

Previously Mr Huitson was the Project Manager of Gulf Manganese Corporation Limited, responsible for developing the Kupang Manganese Smelter hub in Indonesia. He started his career working with WMC at Kambalda and later with Dominion Mining Limited. He joined Consolidated Minerals Limited in 1999 until 2007 initially as the Resident Manager at the Woodie Woodie Manganese Mine and then as the Technical Services Manager in Perth. Also, he worked for Shaw River Manganese Limited on their manganese mine in Namibia.

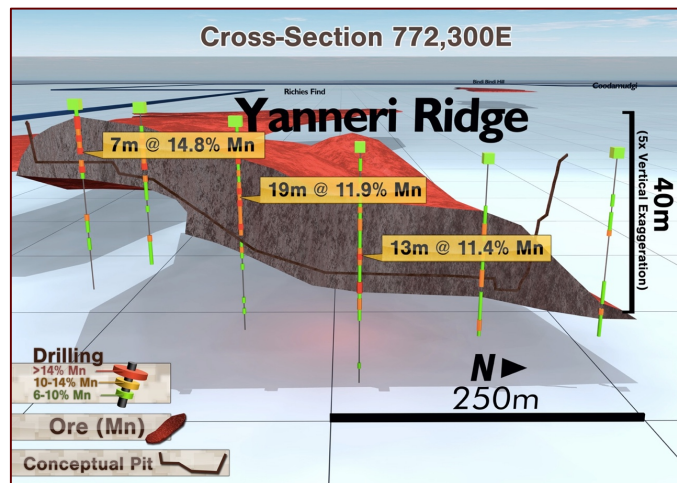
Ian's extensive study, projects and operations management experience in manganese make him the ideal candidate to manage this critical phase of project development at Butcherbird.

Mr Jim Moore of **Asia Pacific Mining Solutions** is a mining engineer with more than 20 years experience. His work has taken him to Africa, Asia, Europe and Australia with the focus being on open cut hard rock mining. Operationally he has worked to the level of Mine Manager and on the planning side is engaged as a Principal Engineer for a range of companies completing life of mine work and feasibility studies. He is a member of the AUSIMM. Mr Moore has completed preliminary pit optimisations for the Scoping Study.

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 products**.



Prospect	Tonnes (Mt)	Mn (%)	SiO ₂ (%)	Fe (%)	P ₂ O ₅ (%)	Al ₂ O ₃ (%)
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 2. JORC 2012 Butcherbird Mineral Resource Estimate¹

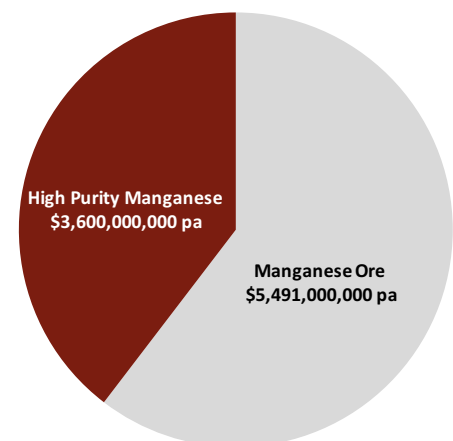
There are no material changes to the assumptions used to provide the JORC 2012 Butcherbird Resource Estimate.

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 market².

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.



¹ Reference: Montezuma Mining Company Ltd ASX release dated 12 October 2017

² ¹UBS 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>

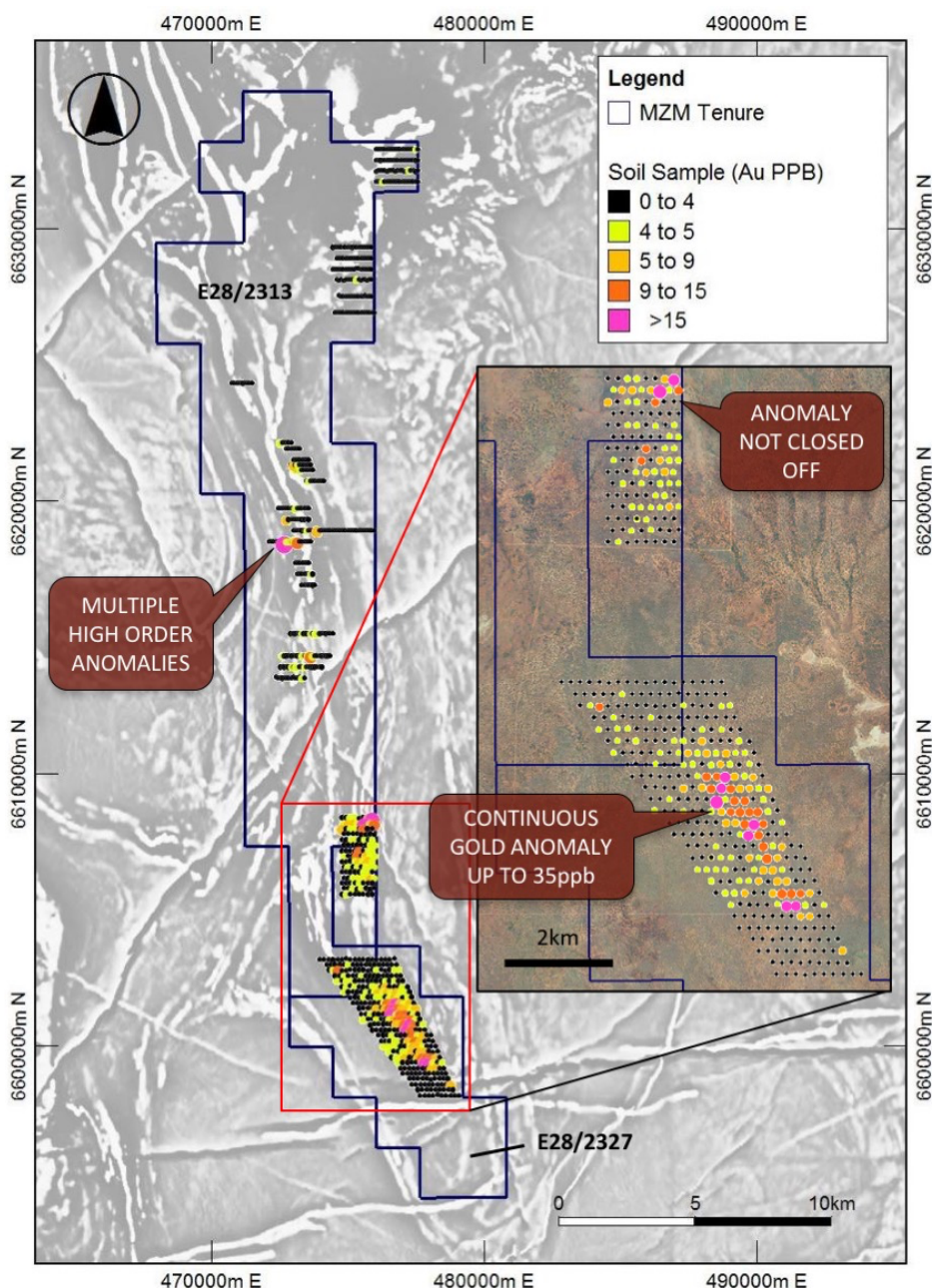
GREEN DAM (MZM 100%)

During the quarter, 930 soil samples were collected from the Green Dam Project to infill historic data to the north and to test for geochemical anomalism in an area to the south where the regolith was deemed amenable to this style of exploration, interpreted as subcropping greenstones.

The main target commodity was gold, with recent discoveries in the area by Breaker Resources NL³ (directly west) and Apollo Consolidated Limited⁴ (northeast) demonstrating the potential for this area to host both large and high grade gold deposits.

The programme highlighted a number of significant gold anomalies, with one returning continuous elevated gold values and a peak value of 35ppb gold over an area approximately 3km by 1.5 km in size.

Follow up work is currently being planned to ground truth the anomalies and generate specific target areas for either infill soil sampling or drill testing.



CORPORATE

During the quarter, the Company initiated 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 Company will update investors when the review has been completed.

³ https://www.breakerresources.com.au/wp-content/uploads/announcements/180110-ASX-Lake-Roe-RCDD_Final.pdf

⁴ <http://www.asx.com.au/asx/statistics/displayAnnouncement.do?display=pdf&idsId=01941129>

Investment Portfolio (as at 31 December 2017)

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	\$0.054	\$67,500
Buxton Resources Ltd (BUX)	500,000	\$0.115	\$57,500
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	\$0.077	\$539,000
Auris Minerals Ltd (AUR)	1,000,000	\$0.053	\$53,000
Lefroy Exploration (LEX)	4,200,000	\$0.150	\$630,000
Danakali Limited (DNK)	7,527,369	\$0.715	\$5,382,069
Danakali Limited (DNK) 35c Options	2,272,727	N/A	-
Total as at 31 December 2017			\$7,091,569

FOR MORE INFORMATION...

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Executive Director

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Company information, ASX announcements, investor presentations, corporate videos and other investor material on the Company's projects can be viewed at <http://www.montezuma.com.au>.

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 Glascock who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Mineral Resources were compiled, Mr Glascock was a consultant to Montezuma Mining Company Ltd. Mr Glascock 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 Glascock 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 December 2017

	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%
	E20/903	Yallon Well WA	100%	Disposed	0%
	E20/922	Sunday Well WA	100%	N/A	100%
	E20/923	McCaskill Hill WA	100%	N/A	100%
	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%	N/A	100%
	E28/2701	Pinnacles East WA	100%	N/A	100%
	E37/1176	Leonora WA	100%	N/A	100%
	E37/1295	Leonora WA	100%	N/A	100%
	E38/2889	Malle Hen Point WA	100%	Disposed	0%
	E38/2961	Mt Venn WA	100%	N/A	100%
	E38/3092	Point Sunday WA	100%	N/A	100%
	E46/1220	Black Hill WA	0%	Acquired	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%
	E52/3354	Peak Hill WA	100%	Disposed	0%
	E52/3470	Butcher Bird WA	100%	N/A	100%
	E52/3493	Butcher Bird WA	100%	N/A	100%
	E52/3588	Dead Camel WA	0%	Acquired	100%
	E57/1060	Victory Well WA	100%	N/A	100%
	E59/2246	Milgo 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%	N/A	100%
	E69/3491	Glover Hill WA	100%	N/A	100%
	E69/3523	Fraser Range WA	100%	N/A	100%
	E69/3541	Cunyu Woolshed WA	0%	Acquired	100%
	E70/4994	Holleton West WA	100%	Disposed	0%
	E70/5033	Holleton West WA	100%	N/A	100%

	Tenement reference	Location	Interest at beginning of quarter	Acquired/ Disposed	Interest at end of quarter
	E77/2334	Holleton WA	100%	N/A	100%
	E77/2458	Holleton WA	1000%	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.