



MONTEZUMA

MINING COMPANY LTD

Highlights:

BUTCHERBIRD

- First phase of CSIRO studies to produce high purity manganese successful, with **rapid leach times**, good leach selectivity and **over 95% Mn extraction**.
- Butcherbird is Australia's **largest onshore manganese resource** at >170 million tonnes of manganiferous ore.
- Production of high purity manganese products for use in battery manufacturing will potentially add significant value to the business case for developing Butcherbird.
- Li-Ion battery cathodes contain **up to 60% manganese**, ~5X the contained value and ~15 times the amount of lithium.

PINNACLES

- Eight reverse circulation drill holes completed for 1,335m to test multiple target types with **all assays pending**.
- **Nickel sulphide**: two late time bedrock conductors identified in a recent EM survey, one of which is located beneath a historic sulphide intercept of **2m @ 2.3% Ni¹**.
- **Cobalt**: confirmation drilling of high grade cobalt identified in historic drilling including intercepts of **16m @ 0.27% Co from 18m²**. Handheld XRF analysis indicates significant **shallow cobalt mineralisation** over about 40m downhole.
- **Gold**: historic work failed to analyse for gold in almost all drillholes however strong arsenic anomalism is clearly defined over significant strike lengths. Programme tests for gold association.

LAKE JOHNSTON

- First pass target generation completed last quarter has been followed up with a second round of field work involving ground truthing of interpreted pegmatites and rock chip sampling.

HOLLETON

- Landholder access agreement negotiations nearing completion.
- Only three holes >50m drilled to date at Brahma.
- All three intersected broad mineralised intervals with **grades up to 7.6 g/t Au**. Further drilling is warranted.

¹ See company announcement dated 17 May 2017

² See company announcement dated 10 May 2017

QUARTERLY OPERATIONS REPORT 30 JUNE 2017

ABOUT MONTEZUMA MINING

Listed in 2006, Montezuma Mining Company Ltd (ASX: MZM) is a diversified explorer primarily focused on gold and technology metals including manganese, lithium and cobalt. The Company's objective is to achieve returns for shareholders through selected strategic acquisitions and targeted exploration.

Montezuma has 100% interests in the Holleton and Yamarna Gold Projects, the Butcherbird Manganese/Copper Project, the Pinnacles Cobalt-Nickel Project, and the Lake Johnston Lithium-Gold Project all located 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 on the Company's projects can be viewed at:
<http://www.montezuma.com.au>

BUTCHERBIRD MANGANESE PROJECT: (MZM 100%)

CSIRO Processing Studies

During the quarter, the Commonwealth Scientific and Industrial Research Organisation (“CSIRO”) Process Science and Technology Group undertook the first phase of research and development studies into the production of a number of high value, high purity manganese products from manganese ores sourced from the Company’s 100% owned, infrastructure endowed Butcherbird Project in Western Australia.

The first successful phase of work involved establishing the parameters for a hydrometallurgical process to leach the ores into a solution for downstream processing. The early work has investigated the efficacy of a number of potential processing pathways, with very encouraging results. In particular, the first tests using selected reductive leaching, designed by CSIRO scientists, yielded excellent manganese leaching results, rapid leach kinetics (>95% Mn extraction in 30 minutes), and impressive selectivity over key impurities.

Further work is currently underway to optimise these direct leach methods to further improve leach solution purity, whilst maintaining the high level of manganese extraction achieved so far, and to reduce the reagent requirements. An update on the results of this work and the commencement of the second phase of work focussing on purification of the Pregnant Leach Solution (“PLS”) is expected to be announced in the current quarter.

The Department of Industry, Innovation and Science have agreed to co-fund the work up to \$50,000 as part of the Innovations Connections Programme.

ABOUT THE BUTCHERBIRD PROJECT

The Butcherbird Manganese Deposit is Australia’s **largest onshore manganese resource**³ comprising large tonnages of near surface manganese oxide ore in seven deposits.

The Project also has some **excellent infrastructure advantages** with a gas pipeline and main bitumen highway passing directly adjacent to and through the mineralised envelope.

Classification	Inferred Resource	
Cut-off	10% Mn	
Deposit	Tonnes (Mt)	Mn (%)
Bindi Bindi Hill	8.75	11.09
Budgie Hills	1.03	10.82
Cadgies Flats	0.25	11.08
Coodamudgi	12.9	11.48
Illgararie Ridge	17.0	10.71
Mundawindi	14.2	12.23
Richies Find	16.1	11.56
SUBTOTAL	70.2	11.4
Yanneri Ridge	48.8	11.8
GLOBAL TOTAL	119.0	11.6

Table 1. Inferred Mineral Resource Estimates at the Butcherbird Manganese Project are reported at a 10% Mn cut.

Classification	Inferred Resource	
Cut-off	8-10% Mn	
Deposit	Tonnes (Mt)	Mn (%)
Bindi Bindi Hill	5.7	9.2
Budgie Hills	3.5	8.9
Cadgies Flats	0.2	9.1
Coodamudgi	3.6	9.5
Illgararie Ridge	18.5	9.2
Mundawindi	2.1	9.4
Richies Find	6.6	9.4
SUBTOTAL	40.1	9.3
Yanneri Ridge	15.8	9.4
GLOBAL TOTAL	55.9	9.3

Table 2. Inferred Mineral Resource Estimates at the Butcherbird Manganese Project are reported at 8-10% Mn.

³ Montezuma Mining Company Ltd ASX release dated 7 December 2012

The mineralisation occurs as supergene enrichment of a regional scale basal manganese shale which underlies much of the Project area. The shale beds are gently folded and where the folds approach the surface topography, supergene processes have significantly upgraded the manganese content to form a potential feedstock for further upstream processing.

BENEFICIATION POTENTIAL

The Company discovered the deposits in 2010-2011 and has subsequently undertaken several rounds of metallurgical test work which have shown that a **high silica concentrate with approximately 33% contained manganese and low deleterious elements** can be reliably produced through relatively simple processing methods⁴.

This medium grade concentrate is suitable for use in the production of silico manganese alloys, a major manganese feedstock for use in steel making. This concentrate was also used as the initial feed for the high purity manganese production process test work.

ABOUT EMD

Industry observers expect the global electrolytic manganese dioxide market to reach USD 635.7 million by 2022 with a **projected compound annual growth rate of 4.9%** from 2015 to 2022.⁵

Growth in demand from the battery manufacturing industry is expected to drive projected demand curves as technological advancements in **wind and solar power generation** and the need for associated grid electrical storage systems expands.

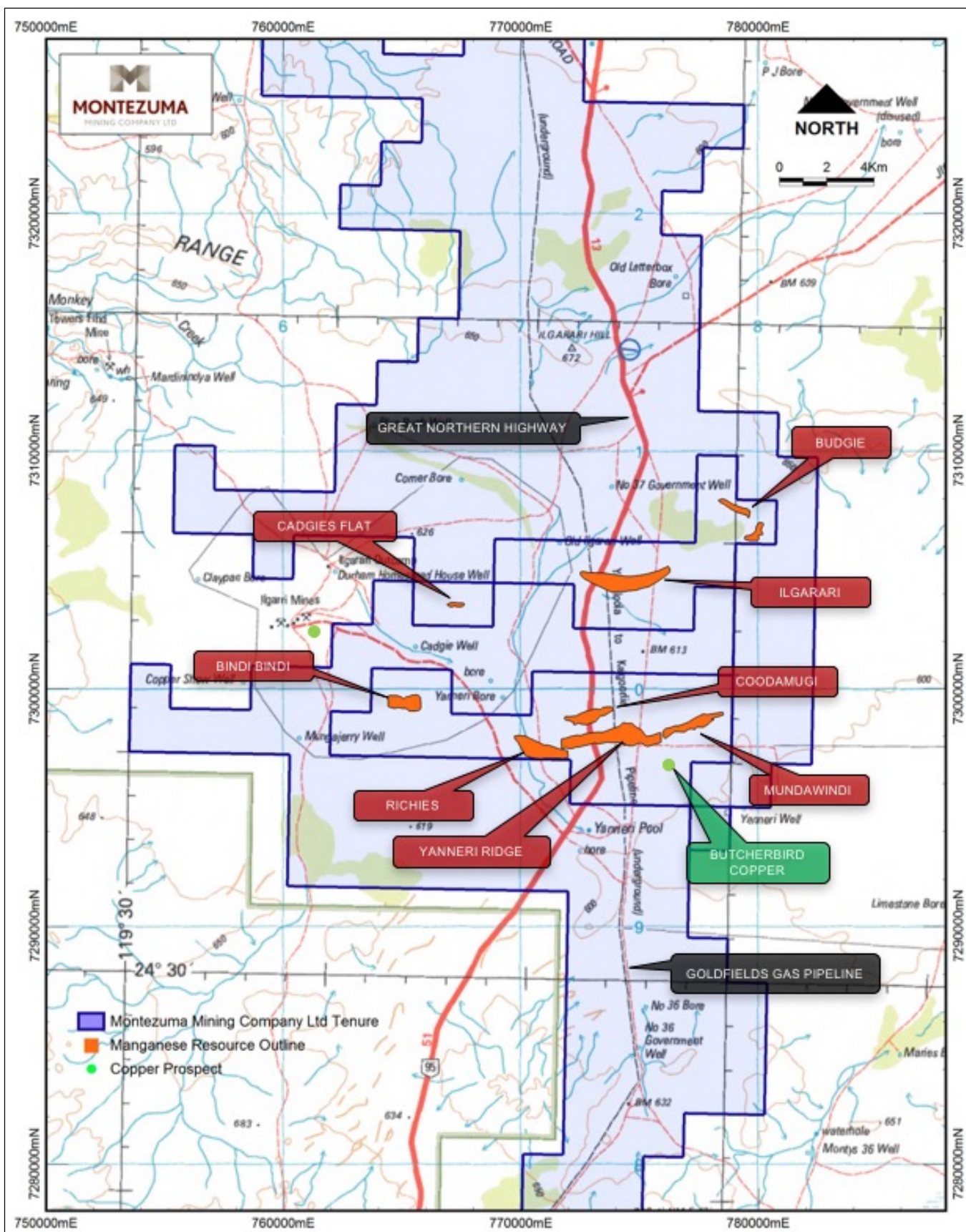
Battery production is the leading EMD consumer with market share estimated to exceed 90% of global consumption. This demand is expected to continue to grow in particular due to the current and expected future growth in the global electric vehicle industry, which in turn has a strong impact on battery demand. Manganese in the form of **EMD is a key ingredient in several types of widely used battery technologies including Li-ion, alkaline and zinc-carbon, and the next generation lithiated manganese dioxide batteries, with cathodes comprising over 60% Mn compared to approximately 4% lithium.**

Most recently the World Bank has published projections that suggest that the demand for manganese related to the transition to renewable energy sources and battery storage **may surge by up to 1000%** by 2050⁶.

⁴ Montezuma Mining Company Ltd ASX release dated 27 December 2014

⁵ <http://www.grandviewresearch.com/press-release/global-electrolytic-manganese-dioxide-market>

⁶ <http://documents.worldbank.org/curated/en/207371500386458722/The-Growing-Role-of-Minerals-and-Metals-for-a-Low-Carbon-Future>



PINNACLES COBALT-NICKEL PROJECT (MZM 100%)

During the quarter, Montezuma completed a reconnaissance drilling programme comprising 8 holes for 1,335m at the Company's 100% owned Pinnacles Cobalt-Nickel Project.

The programme was designed to test a number of target types including nickel sulphide targets associated with two late time bedrock conductors, confirmation of the widespread high grade cobalt mineralisation defined in historical nickel laterite drilling and the virtually untested gold potential of the area.

Over 90% of historic drilling was not assayed for gold, and yet there is evidence of a regional scale arsenic anomaly associated with a number of favourable structural positions. Arsenic is a commonly used pathfinder element for gold mineralisation and if the current work shows a correlation, the prospectivity of the project for gold discoveries will be enhanced.

Preliminary visual observations of the drilling are as follows⁷:

- Drillhole PNRC0001 tested the southern EM anomaly and intersected approximately 200m of adcumulate ultramafic with bands of **cloud sulphide with elevated nickel values** measured with handheld XRF analyser.
- The base of the ultramafics strongly sheared with 30m of sheared, sulphidic quartz in sericite altered basalts which will be assayed specifically for gold and pathfinders.
- The surface EM anomaly is unexplained, with downhole EM indicating a bedrock conductor beneath the current drilling.
- Drillhole PNRC0004 tested the northern anomaly and intersected 53m of strong disseminated to massive sulphide which are not nickel enriched but may be prospective for other metals.
- A number of other drillholes intersected strongly altered rocks with variable levels of sulphide, silica and carbonate alteration plus or minus quartz veining.
- Handheld XRF analysis of drillhole PNRC0003 indicated broad zones of elevated cobalt where expected according to the historic drilling data.

All samples have been submitted to the laboratory and assays are pending.

⁷ http://mzm.live.irmau.com/irm/PDF/1655_0/DrillingCompletedatthePinnaclesProject

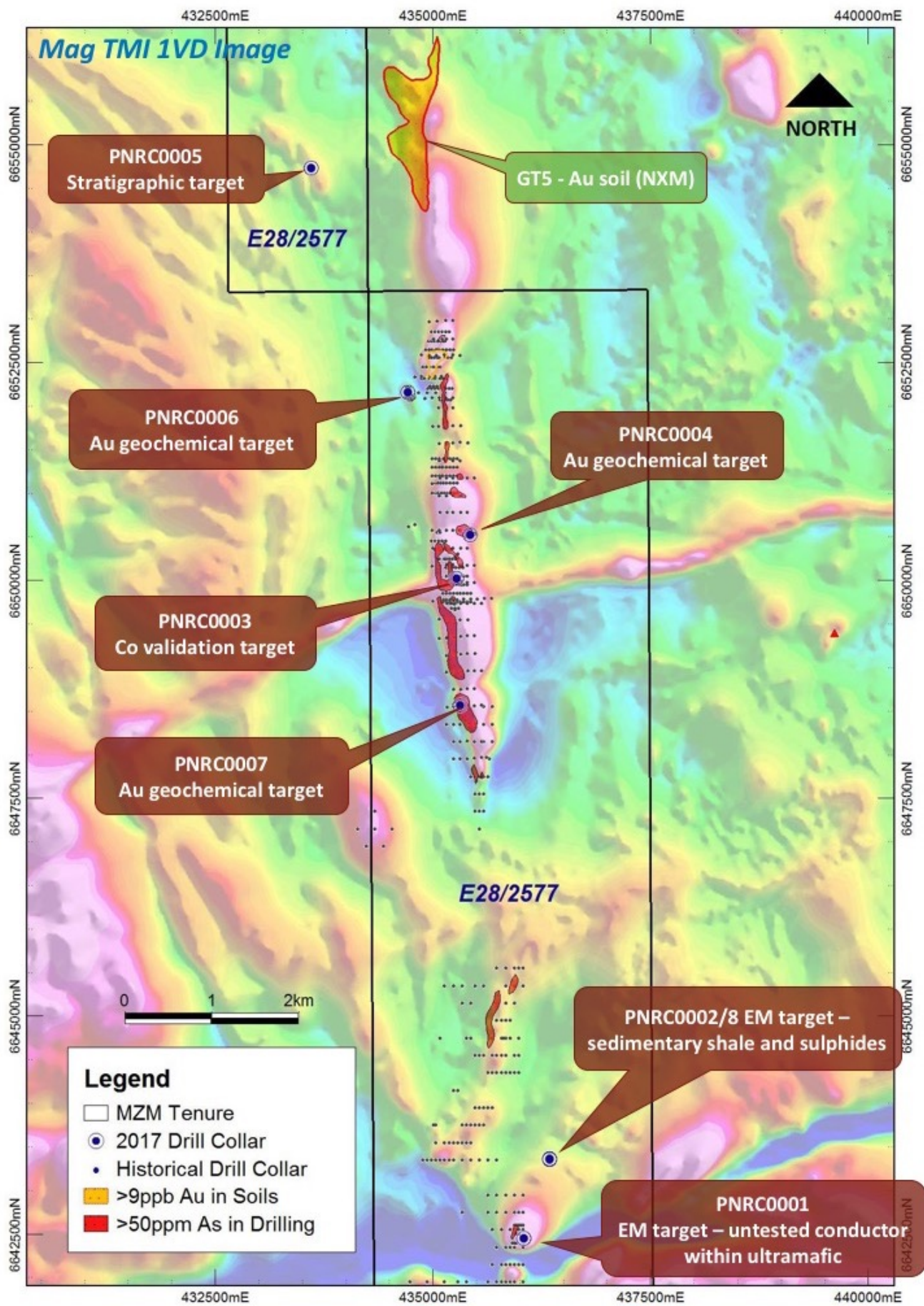


Figure 2: Drillhole collar location plan

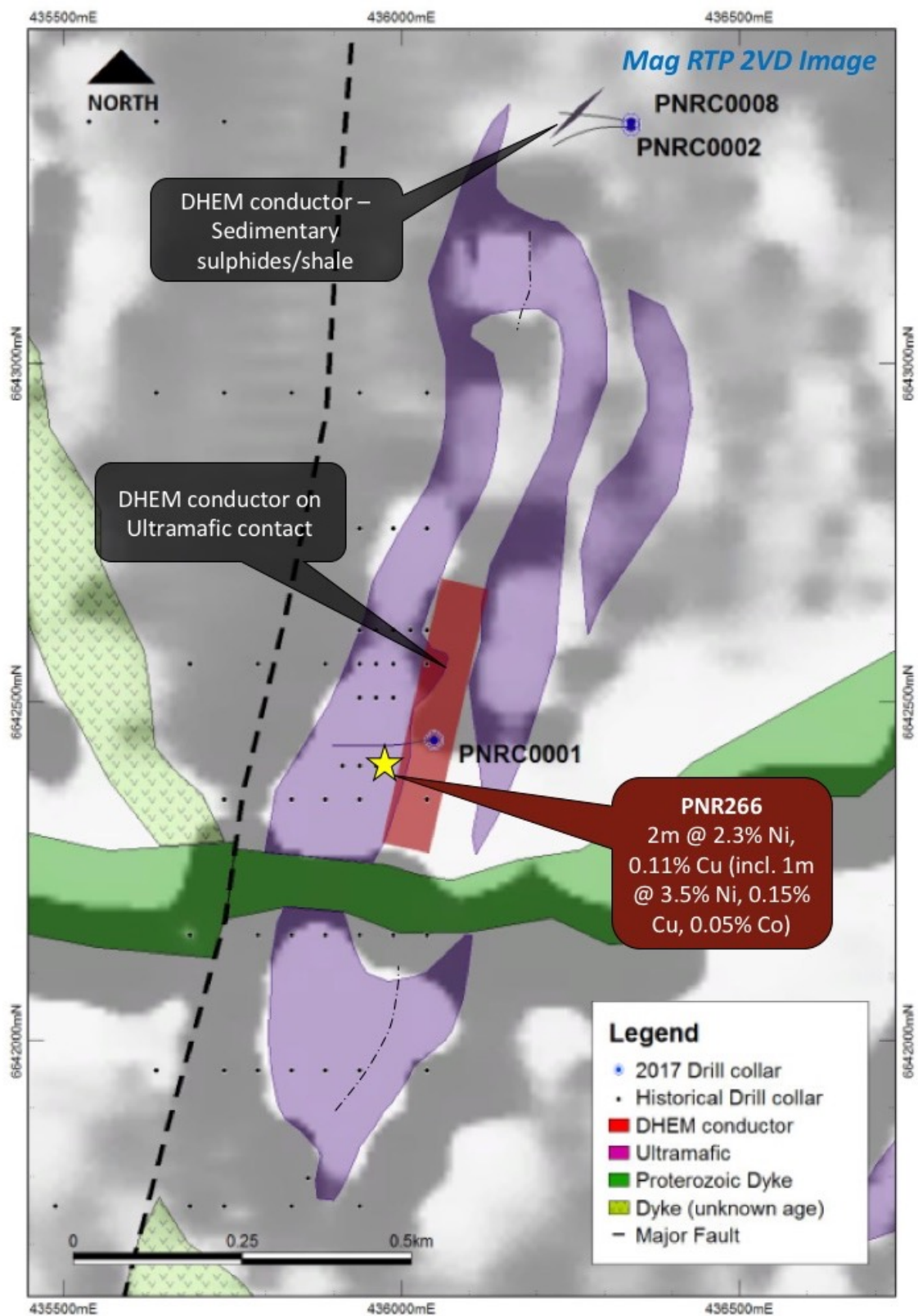


Figure 3: Nickel sulphide target collar location plan and visual drilling results. Northern anomaly explained by sedimentary sulphides and shales. Southern anomaly offhole conductor remains untested. Intercepts are downhole widths.

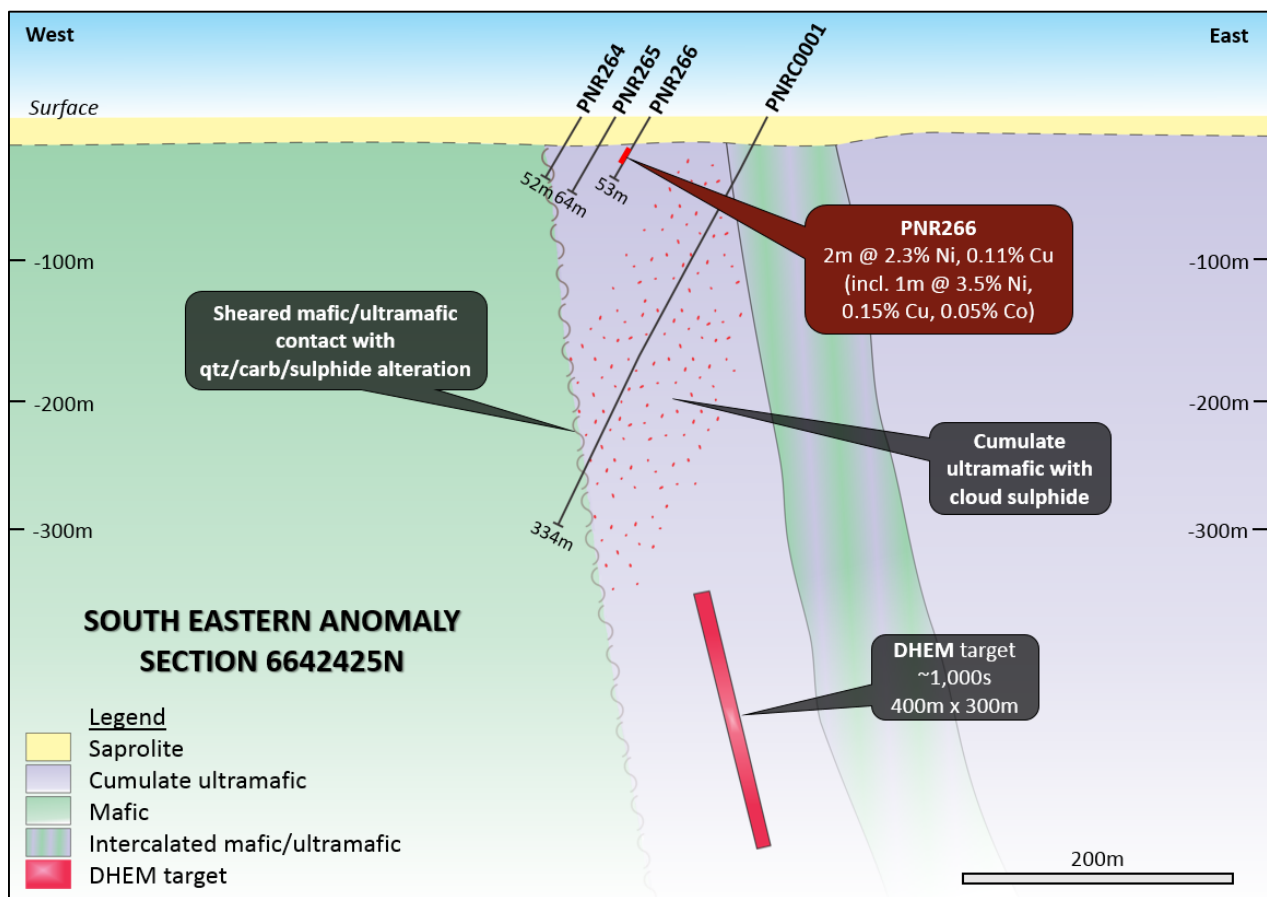


Figure 4: Schematic section along 6642425N showing historical drill holes, interpreted geology of PNRC0001 and untested DHEM conductor. Intercepts are downhole widths.

Hole ID	Easting (MGA 94 Z51)	Northing (MGA 94 Z51)	RL (m)	Dip (°)	Azimuth (mag °)	Total Depth (m)
PNRC0001	436049	6642443	390	-65	270	334
PNRC0002	436340	6643348	393	-65	270	297
PNRC0003	435276	6650012	403	-60	270	100
PNRC0004	435432	6650513	397	-60	225	150
PNRC0005	434716	6652156	401	-60	270	22
PNRC0006	433608	6654725	373	-60	240	142
PNRC0007	435315	6648560	401	-65	270	52
PNRC0008	436340	6643355	398	-65	282	238

Table 3: Drillhole collar location details.

LAKE JOHNSTON LITHIUM-GOLD-NICKEL PROJECT (MZM 85%)

Recently completed target generation activities have confirmed the potential for lithium mineralisation at the Company's Lake Johnston Project in Western Australia. The Lake Johnston Project is located approximately 460km east of Perth, and 25km south of the Maggie Hays and Emily Ann nickel deposits, currently held by Poseidon Nickel Ltd ("Poseidon").

The Lake Johnston area has recently become the focus of intensive lithium exploration due to known lithium occurrences at Mount Day and Lake Percy, and the recent discovery of the nearby, and potentially world-class, Earl Grey lithium deposit (Kidman Resources Ltd or 'Kidman')⁸.

During a detailed review of historic data, a number of priority lithium targets have been identified within the project area. These targets have been generated with historical mapping and field reconnaissance in areas of outcrop, and historical drilling and auger sampling. The review has highlighted a high volume of pegmatites, both in drilling, and in outcrop, some coincident with elevated levels of lithium (up to 75ppm in lake auger drilling). Significantly, none of the identified pegmatites have been sampled for lithium or associated elements (eg rubidium).

The Company intends to undertake follow up work to validate these lithium targets.

⁸ http://kidmanresources.com.au/live/wp-content/uploads/2016/12/ASX-Announcement_Earl-Grey-Maiden-Resource-Correction-Announcement.pdf

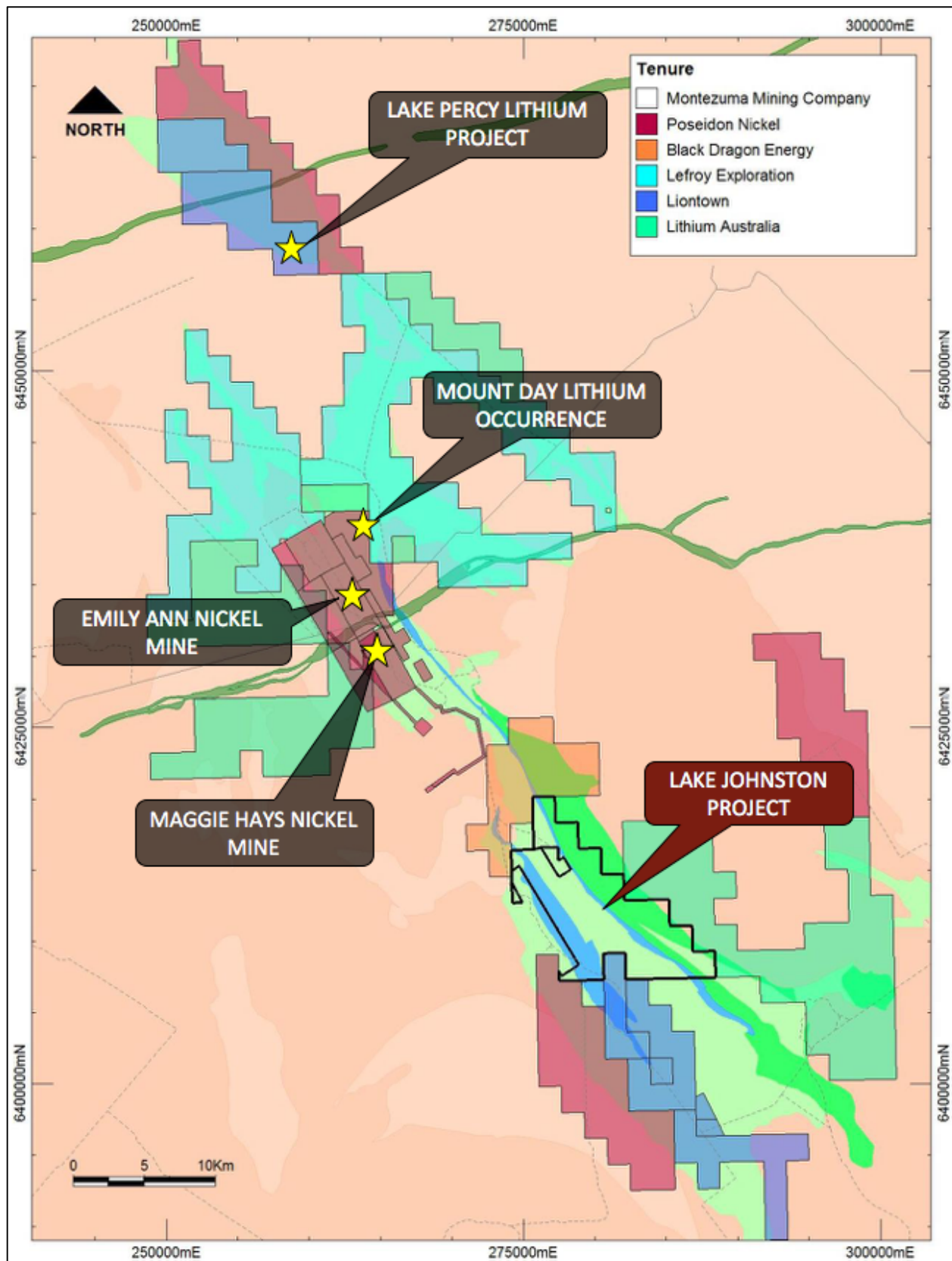


Figure 5: Lake Johnston Project location plan and regional lithium competitor map.

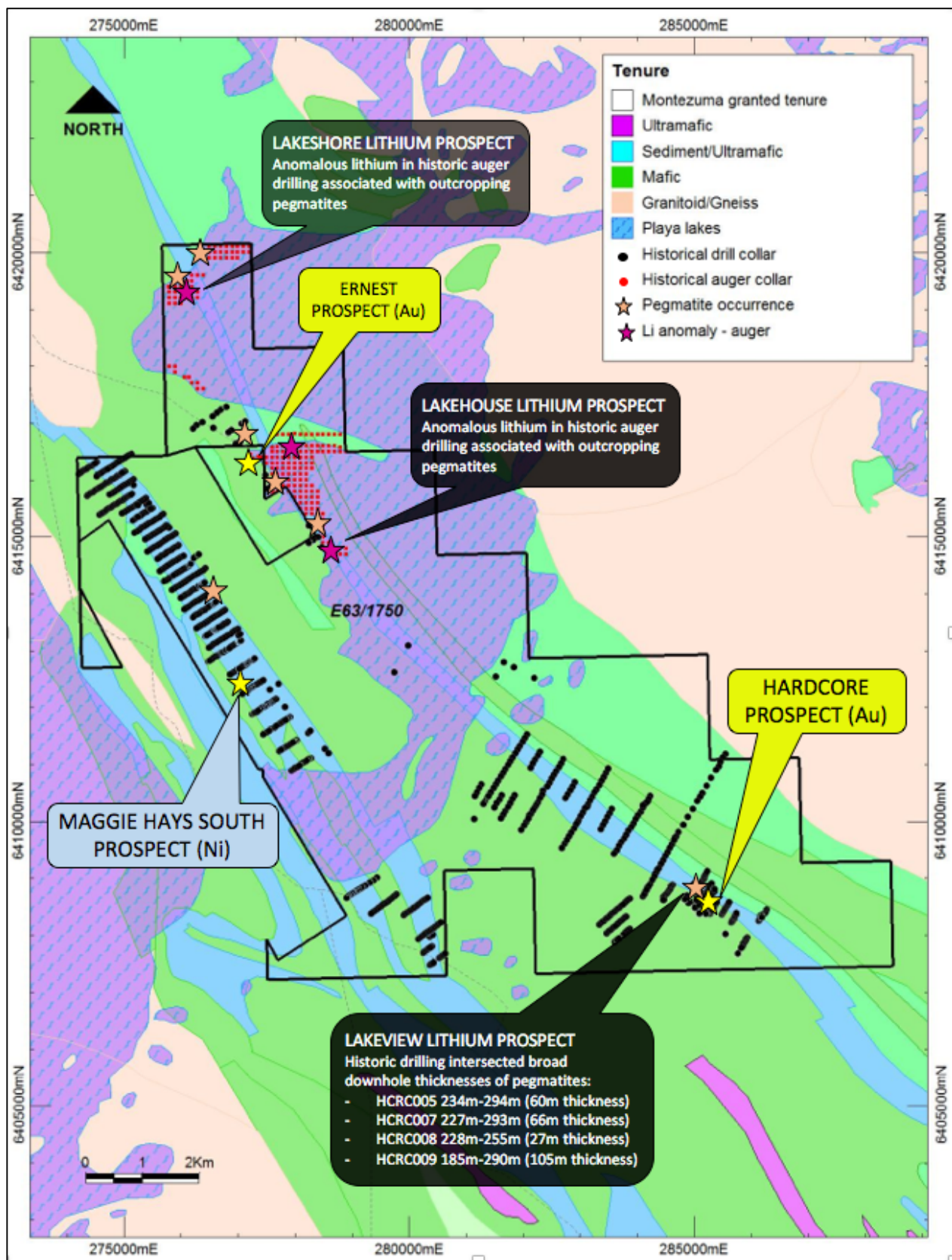


Figure 6: Detailed geological map showing historical auger and drilling locations, and the known pegmatite occurrences and lake auger lithium anomalies.

HOLLETON PROJECT: (MZM 100%)

Previous exploration by Independence Group NL at the Company's 100% owned Holleton Project included a broad regional surface geochemical programme that defined numerous gold anomalies across an area of poorly exposed greenstones comprised mostly of meta-basalts with minor schist, pegmatite and granite. Follow-up drilling across these anomalies was typically first-pass in nature with many intersections left open.

The best of the historic results is at the Brahma Prospect ("Brahma") where a >2.5km long, >50ppb Au in soil anomaly was defined and subsequently followed up with shallow aircore drilling which confirmed a strong basement anomaly. Three diamond drillholes in a confined area of the anomaly represent the only holes drilled to deeper than 50m. The best intersections at Brahma include **73m @ 0.3 g/t Au** (including **4m @ 1.6 g/t Au** and **1m @ 7.6 g/t Au**) however all three diamond holes returned broad mineralised intervals⁹. Numerous other intersections greater than 100ppb Au remain open along the length of the soil anomaly.

Montezuma regards the Brahma prospect as drill ready and intends to commence work on this target and a number of other more regional target areas as soon as terms are reached with the landholder in relation to an access agreement. The Company expects to be able to announce the execution of an Access Agreement and for on ground exploration work to commence in the current quarter.

YAMARNA PROJECT: (MZM 100%)

In addition to ongoing work in the interpretation of drilling data at the Jatz Prospect, the Company has been watching with interest as work by Gold Road Resources Limited continues to identify significant gold mineralisation on a trend which strikes into the western portion of Montezuma's 100% owned E38/2889¹⁰.

Geological interpretation of this western zone is underway with a programme of works to test this new potential underway.

⁹ http://www.montezuma.com.au/images/uploads/160720_Priority_Gold_Targets_Identified_at_Holleton_Project_.pdf

¹⁰ <http://www.goldroad.com.au/document/yamarna-exploration-update-significant-intersections-returned/>

CORPORATE

Investment Portfolio (as at 30 June 2017)

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

Listed securities at market value:	No. Held	Closing Price	Market Value
Buxton Resources Ltd (BUX) 12.5c Options	4,000,000	N/A	-
Duketon Mining (DKM)	1,450,000	0.1350	\$195,750
Exterra Resources Ltd (EXC)	14,000,000	0.0420	\$588,000
Auris Minerals Ltd (AUR)	1,000,000	0.0500	\$57,000
Lefroy Exploration (LEX) (escrowed)	4,200,000	0.1300	\$546,000
Danakali Limited (DNK)	7,527,369	0.7600	\$5,720,800
Danakali Limited (DNK) 35c Options	2,272,727	N/A	-
Total as at 30 June 2017			\$7,107,550

FOR MORE INFORMATION...

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Executive Director

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The information in this report that relates to Exploration Results, Mineral Resources and Mineral Reserves is based on information compiled by Mr Justin Brown who is a member of the Australasian Institute of Mining and Metallurgy. At the time that the Exploration Results, Mineral Resources and Mineral Reserves were compiled, Mr Brown was an employee of Montezuma Mining Company Ltd. Mr Brown 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 Brown or an entity related to or controlled by Mr Brown holds fully paid shares and and options over fully paid shares in the Company at the time of this report. Mr Brown consents to the inclusion of this information in the form and context in which it appears in this report.

In accordance with Listing Rule 5.23.2, the Company confirms in the subsequent public report that it is not aware of any new information or data that materially affects the information included in the relevant market announcement 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.

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 30 June 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%	N/A	100%
	E20/922	Sunday Well WA	100%	N/A	100%
	E20/923	McCaskill Hill 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%
	E28/2630	Judada Rock WA	100%	Disposed	0%
	E28/2688	Pinnacles WA	100%	N/A	100%
	E28/2701	Pinnacles East WA	0%	Acquired	100%
	E36/843	Leinster WA	100%	Disposed	0%
	E37/1176	Leonora WA	100%	N/A	100%
	E37/1295	Leonora WA	100%	N/A	100%
	E38/2889	Malle Hen Point WA	100%	N/A	100%
	E38/2961	Mt Venn WA	100%	N/A	100%
	E38/2999	Malle Hen Point North WA	100%	Disposed	0%
	E38/3092	Point Sunday WA	100%	N/A	100%
	E51/1622	Telegraph Well WA	100%	Disposed	0%
	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%
	E52/2831	Millidie Creek WA	100%	N/A	100%
	E52/3082	Mt Padbury WA	100%	N/A	100%
	E52/3354	Peak Hill WA	100%	N/A	100%
	E52/3438	Butcher bird North WA	100%	Disposed	0%
	E52/3470	Butcher Bird WA	100%	N/A	100%
	E52/3493	Butcher Bird WA	100%	N/A	100%
	E57/1060	Victory Well WA	100%	N/A	100%
	E58/494	Naluthanna Hill WA	100%	N/A	100%
	E59/2184	Twin Peaks WA	100%	N/A	100%
	E59/2241	Narndee WA	100%	Disposed	0%
	E59/2246	Milgoo Peak WA	100%	N/A	100%
	E59/2267	Twin Peaks WA	0%	Acquired	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%

	Tenement reference	Location	Interest at beginning of quarter	Acquired/ Disposed	Interest at end of quarter
	E69/3478	Cunyu WA	100%	N/A	100%
	E69/3491	Glover Hill WA	100%	N/A	100%
	E70/4923	Holleton West WA	100%	Disposed	0%
	E70/4994	Holleton West WA	0%	Acquired	100%
	E77/2334	Holleton WA	100%	N/A	100%
	E77/2415	Holleton WA	100%	Disposed	0%
	E77/2458	Holleton WA	0%	Acquired	100%
	E80/5056	Eileen Bore WA	100%	N/A	100%
	E80/5092	Cummins Range WA	0%	N/A	100%

Notes:

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