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QUARTERLY REPORT TO SHAREHOLDERS

for the three months ended
31 December 2019

ASX Code - EME

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This report and further
information are available on
Energy Metals' website at:

www.energymetals.net



HIGHLIGHTS

Bigrlyi JV Project (NT)

Geological model confirms significantly expanded
scale of vanadium mineralisation at Bigrlyi.

New Exploration Target range for vanadium
estimated.

Anomaly-7 to Anomaly-9 corridor found to
contain a large proportion of Bigrlyi vanadium.

Vanadium and uranium co-extraction test-work
using a novel acid cure method in progress.

FINANCIAL

Energy Metals had approximately \$17.37M in cash
and 209.7M shares on issue at 31 December 2019.

Shuqing Xiao
Managing Director
29 January 2020

INTRODUCTION

Energy Metals (EME) is a dedicated uranium company with eight exploration projects located in the Northern Territory (NT) and Western Australia covering over 2,700 km² (Figure 1). Most of the projects contain uranium mineralisation discovered by major companies in the 1970s, including the advanced Bigryli Project (NT).

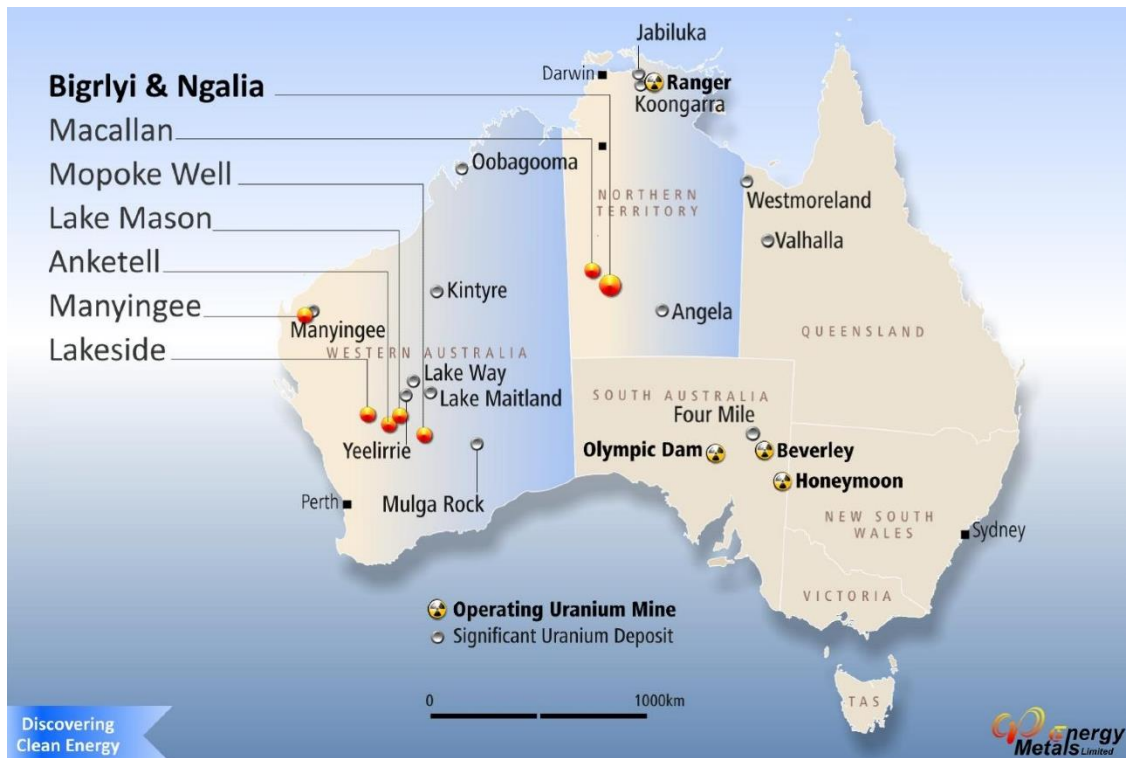


Figure 1 – Location of Energy Metals Projects

Energy Metals is well placed to take advantage of the favourable outlook for uranium as nuclear power continues to play an increasing role in reducing global carbon emissions.

Importantly Energy Metals is one of only five companies that currently hold all the required permits and authorities to export Uranium Oxide Concentrates (UOC) from Australia. The Company has completed its first shipment of UOC and is negotiating with Australian uranium producers to enable further shipments from Australia for resale, primarily to major Chinese utility China General Nuclear Power Group (CGN), ultimately Energy Metals' largest shareholder.

China Uranium Development Company Limited, Energy Metals' largest shareholder (with 66.45% of issued capital), is a wholly owned subsidiary of CGN. As of 31 December 2019, the installed capacity of CGN's operating nuclear generating plants was 27,140MWe from 24 nuclear power units with five other power units of 5,780MWe capacity under construction in various locations across China. Additionally, CGN is one of only two companies authorised by the Chinese government to import and export uranium.

This unique relationship with CGN gives Energy Metals direct market exposure as well as access to significant capital and places the Company in a very strong position going forward.

NORTHERN TERRITORY

Bigrlyi Joint Venture (EME 72.39%)

The Bigrlyi Joint Venture comprises 11 granted exploration licences in retention (ELRs), one granted EL, and several applications within the Ngalia Basin, located approximately 350km northwest of Alice Springs. EME operates the Joint Venture in partnership with Northern Territory Uranium Pty Ltd (NTU) and Southern Cross Exploration NL (SXX).

The Bigrlyi Joint Venture has been the subject of significant exploration activity since 1973, including over 1,040 drill-holes, metallurgical test-work and mining studies focussed on the flagship Bigrlyi deposit, which comprises a number of sub-deposits over a 11km strike length (Figure 2). The Bigrlyi project is characterised by relatively high uranium grades, vanadium credits and excellent metallurgical recoveries. Further information is available in ASX announcements or from Energy Metals' website: www.energymetals.net.

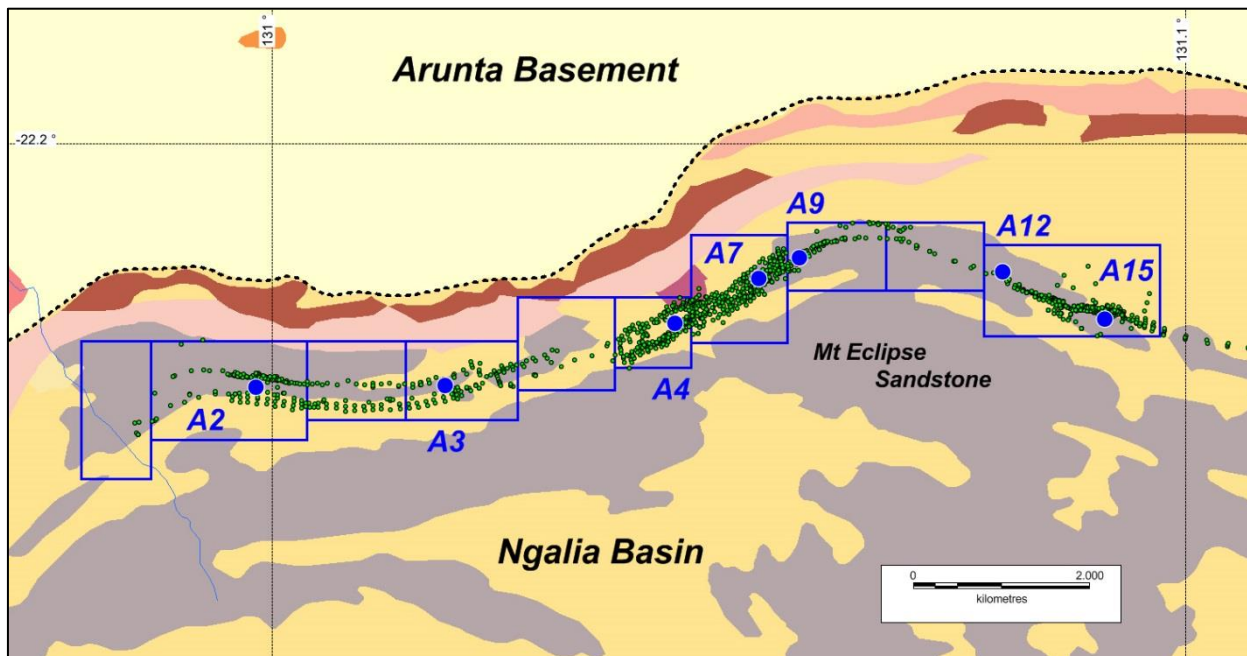


Figure 2 – Bigrlyi Joint Venture project area showing simplified geology (grey = Mt Eclipse Sandstone) with ELR tenement outlines (blue polygons); Anomaly-2 to Anomaly-15 (A2 to A15) sub-deposit locations (blue dots) and exploration drill-hole collars (green dots) are shown.

The historic Karins uranium deposit (Figure 3) is part of the Bigrlyi Joint Venture and a JORC-compliant resource estimate was released to the ASX in 2015. In 2015 a maiden JORC (2012) resource estimate was announced for the historic Sundberg deposit, which is part of the Bigrlyi Joint Venture, and a satellite of the larger Walbiri deposit (Figure 3).

On 4 July 2019, Marenica Energy Ltd (ASX: MEY) announced a conditional agreement to acquire the assets of NTU (Energy Metals' JV partner) from current owner Optimal Mining Ltd (OML). MEY announced completion of the acquisition of OML's 20.82% interest in the Bigrlyi JV on 16 December 2019.

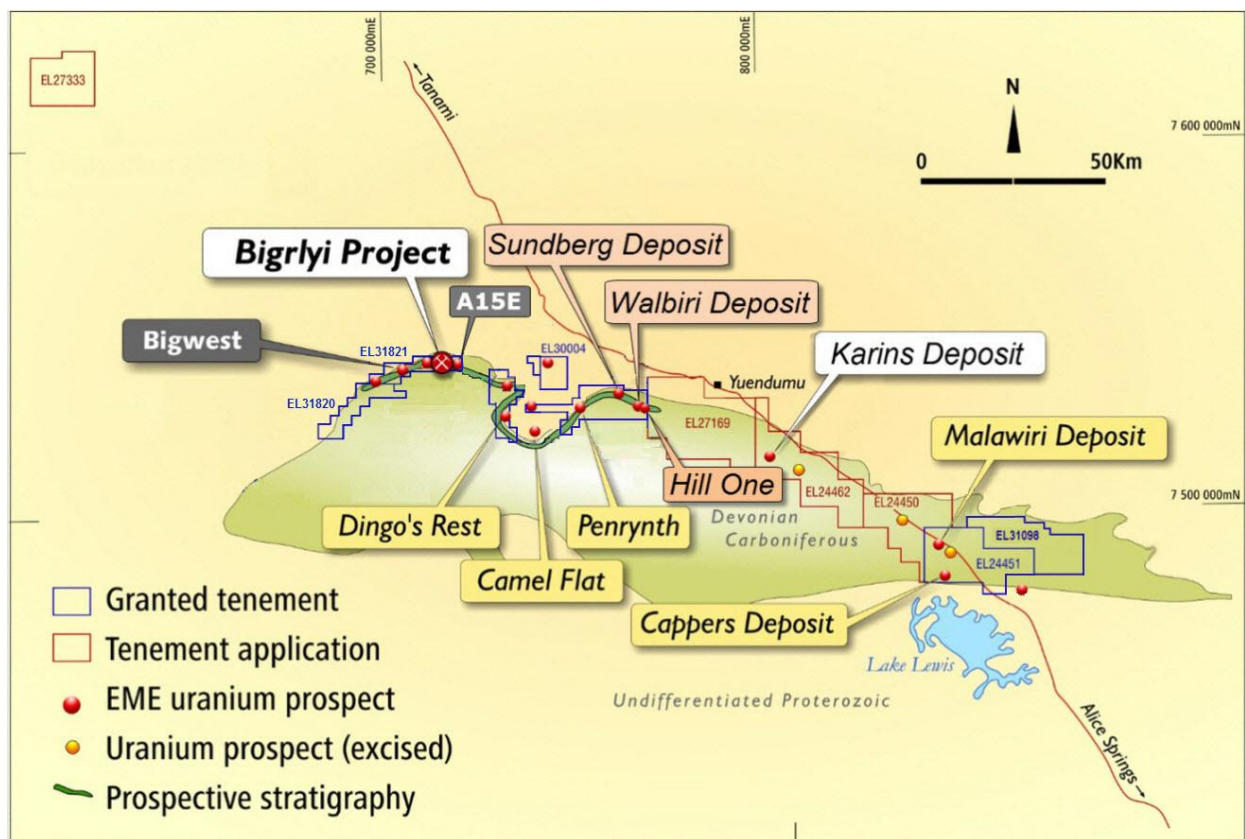


Figure 3 - Uranium deposits, occurrences and exploration target areas in the Ngalia Basin

Walbiri Joint Venture (EME 77.12%)

ELR45 covers part of the historical Walbiri deposit and part of the Hill One satellite deposit (Figure 3). The project is a joint venture with Northern Territory Uranium Pty Ltd (NTU), with EME as the operator. Energy Metals holds a 77.12% beneficial interest in the JV. A JORC (2012) mineral resource estimate was announced for the Walbiri deposit in 2015 confirming Walbiri as the second largest sandstone-hosted deposit in the Ngalia Basin after Bigrlyi. Marenica Energy Ltd announced the acquisition of NTU, which includes a 22.88% interest in the Walbiri JV, on 16 December 2019.

Malawiri Joint Venture (EME 76.03%)

ELR41 covers the historical Malawiri deposit. The project is a joint venture with NTU with EME as the operator. Energy Metals holds a 76.03% beneficial interest in the JV. EME advanced the Malawiri project to JORC-compliant resource status with release of a mineral resource estimate on 14 December 2017. Marenica Energy Ltd announced the acquisition of NTU, which includes a 23.97% interest in the Malawiri JV, on 16 December 2019.

JV Activities (December 2019 Quarter)

Energy Metals is committed to improving the economics of its flagship Bigrlyi project and this year has initiated a program to enhance the value of vanadium as a by-product commodity in a future Bigrlyi mining operation. Bigrlyi sandstone-hosted uranium-vanadium ores contain vanadium in various mineral forms that can be extracted by conventional acid leaching processes without the need for the extreme conditions required in the processing of more widely known magnetite-hosted vanadium ores. Bigrlyi uranium-vanadium ores are mineralogically identical to those of the Colorado Plateau district of the USA, which has a decades-long history of co-mining and co-recovery of uranium and vanadium; the extraction and recovery processes of uranium and vanadium from sandstone-hosted deposits are therefore well understood.

The predominant industrial use of vanadium, at present, is as a steel strengthening agent; however, the metal has growing future uses in energy storage technologies, particularly redox flow batteries, which is the technology of choice in medium-scale storage of photovoltaically-generated energy. Although the significant price rises in vanadium seen in the latter part of 2018 was not sustained through 2019, demand is expected to grow in future years. The current vanadium price is approx. \$US 6/lb V_2O_5 , which is near the long-term average vanadium price and compares with the current uranium spot price of \$US24.6/lb U_3O_8 .

Vanadium Mineralisation Modelling. Modelling of uranium-vanadium mineralisation at the Bigrlyi deposit has previously been constrained by the uranium distribution, resulting in vanadium resources being reported on the basis of uranium cut-off grades. However, it has been recognised since the 1990s that a larger halo of vanadium mineralisation surrounds uranium mineralisation and that parts of the deposit are significantly vanadium-rich, yet uranium-poor; these parts of the deposit have not been adequately modelled and are expected to contribute additional vanadium resources. This quarter, a new vanadium mineralisation model together with an updated Exploration Target (ET)* for vanadium was announced for the Bigrlyi deposit (refer ASX: EME release of 4 December 2019 and the caveats mentioned therein). The models included construction of vanadium wireframe volumes for a 100 ppm V_2O_5 cut-off grade and implicit 3D modelling of the distribution of vanadium, uranium and calcium (calcium being a proxy for acid-consuming carbonate) using Leapfrog software.

Key results from these studies are:

- A significantly expanded scale of vanadium mineralisation at Bigrlyi has been identified, compared to previous uranium-focussed results;
- Modelled mineralised volumes show that, on average, the vanadium mineralised volume is more than 3 times larger than the previously estimated, uranium-constrained mineralisation volume at the 100 ppm U_3O_8 cut-off level;
- An Exploration Target range* for vanadium of between 40.5 and 47.6 kilotonnes contained V_2O_5 has been estimated for the Bigrlyi deposit as a whole at the 100 ppm V_2O_5 cut-off level;
- The Anomaly 7-to-9 corridor of sub-deposits has an estimated vanadium-mineralised volume of more than 8 times the size of the uranium-mineralised volume (Figure 4) and contains over 30% of the estimated Bigrlyi vanadium ET tonnage*;
- Significant vanadium mineralisation occurs within reduced, grey sandstone, known locally as Unit C, in addition to the vanadium hosted in uranium-mineralised zones on Unit C upper and lower stratigraphic contacts;
- A calcium halo extends stratigraphically above and below uranium-mineralised zones.

These results will form the basis of future resource estimation and economic model updates in the coming year.

* Note: The modelling results discussed in the ASX announcement of 4 December 2019, and summarised here, have provided sufficient information for a vanadium Exploration Target to be outlined under JORC (2012), however, the potential quantities and grades so determined should be regarded as conceptual in nature and the figures mentioned are approximate. At this stage, there has not been sufficient assessment of the available data to determine whether estimation of a Mineral Resource for vanadium can proceed under JORC (2012), and it is uncertain whether further exploration work will result in a Mineral Resource. The Exploration Target information is provided to give context to the scale and distribution of Bigrlyi vanadium mineralisation in relation to uranium mineralisation, and to identify areas of the deposit having potential to host significant vanadium resources not previously considered because of the uranium-focus of past studies. Details regarding the methodology and basis on which the Exploration Target and grade ranges were determined are provided in the ASX announcement of 4 December 2019 and the commentary that accompanies that report.

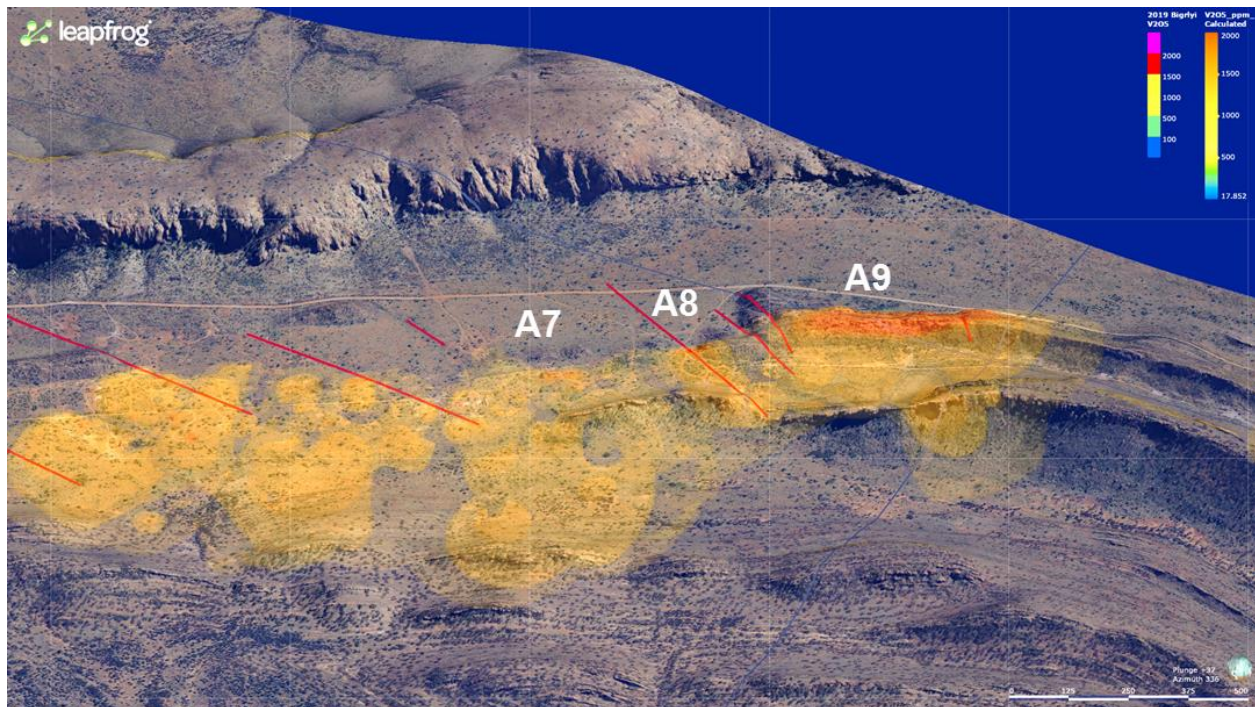


Figure 4. Spheroidal interpolated Leapfrog model showing V_2O_5 distribution in relation to the digital terrain model (semi-transparent). The figure is an oblique view looking north over the Anomaly-7 (A7) to Anomaly-9 (A9) corridor showing buried V_2O_5 mineralisation shells. Red lines = modelled fault traces. Hot colours indicate zones of high grade V_2O_5 mineralisation.

Metallurgical Test-work Program. Last quarter EME announced the results of a series of conventional leach tests aimed at optimising the co-extraction of uranium and vanadium from representative Bigrlyi ore. The tests were undertaken at the Australian Nuclear Science and Technology Organisation (ANSTO), Lucas Heights, Sydney. Further results were announced on 4 December 2019. The results confirmed that vanadium extraction is pH-sensitive with conditions of pH 1.2, temperature 60°C, and 24 hours leach time providing optimal vanadium extraction of over 72%.

While the present results represent a significant improvement in vanadium extraction, and have identified acidity (pH) as the key driver for vanadium extraction, a review of the literature indicates that some non-conventional acid leach processes, specifically those designed to

decompose the structure of vanadium aluminosilicate minerals, may improve vanadium co-extraction and reduce both acid consumption and the concentration of impurity elements in the leachate. To this end, an investigation of a novel acid-cure, water-leach extraction method, similar to that used in the processing of vanadiferous stone-coals in China and elsewhere, is now in progress with results expected in the next quarter.

Ngalia Regional Project (EME 100%)

The Ngalia Regional project comprises twelve 100% owned exploration licences, applications and exploration licences in retention located in the Ngalia Basin, between 180km and 350km northwest of Alice Springs in the Northern Territory (Figure 3). The tenements are contiguous and enclose the Bigrlyi project as well as containing a number of uranium occurrences, including part of the historic Walbiri deposit and the Cappers deposit.

Nine of the twelve Ngalia Regional exploration licences have been granted; the three remaining applications (ELs 24450, 24462 and 27169) are located on Aboriginal Freehold (ALRA) land and Energy Metals is negotiating access agreements with the Traditional Owners through the Central Land Council (CLC) (Figure 3).

A number of high priority targets have been identified on the 100% owned tenements and Energy Metals is undertaking a program of systematic evaluation of these prospects, some of which were originally discovered in the 1970s. In February 2014, EME announced maiden resource estimates for the Bigwest, Anomaly-15 East and Camel Flat satellite deposits and in October 2015 EME announced inferred JORC resources for the historical Walbiri, Sundberg and Hill One deposits (Figure 3).

Activities (December 2019 Quarter)

A prospectivity and tenement review was completed during the quarter with recommendations made for the surrender of non-prospective ground, providing savings on both tenement holding costs and exploration commitments. The proposed tenement changes will be implemented progressively during the first half of 2020 as anniversaries fall due.

Macallan (EME 100%)

The Macallan project comprises a single exploration licence application (ELA27333), located 460 km NW of Alice Springs and 140 km from Bigrlyi. The tenement covers a strong 3km-wide bullseye radiometric anomaly. The Macallan anomaly lies within the Wildcat Palaeovalley, an ancient valley system that drains into Lake Mackay to the southwest. The Macallan anomaly most likely represents a surficial accumulation of uranium minerals associated with the Wildcat palaeodrainage system, although other explanations are possible.

ELA27333 lies on land under Aboriginal Freehold title and access is subject to negotiation with the Traditional Owners and the CLC. The negotiation period has been extended until October 2020 and the CLC are currently reviewing EME's comments on a draft exploration agreement.

WESTERN AUSTRALIA

Manyingee (EME 100%)

The Manyingee project comprises retention licence application R08/3, underlying tenement E08/1480 and exploration licence application E08/2856, which are located 85 km south of Onslow. The project is located adjacent to mining leases containing Paladin Energy's Manyingee resource, a stacked series of buried, palaeochannel-hosted, roll-front uranium deposits. In November 2016 EME announced an initial JORC (2012) Mineral Resource Estimate for the Manyingee East uranium deposit, which is located up-channel of Paladin's Manyingee deposit.

Law firm Gilbert+Tobin were appointed in 2019 to assist Energy Metals with landholder objections to grant of the Manyingee title applications. During the quarter Energy Metals' lawyers prepared written submissions to the Wardens Court regarding evidence previously submitted by the objector. The objections are expected to proceed to a Warden's Court hearing in May 2020.

Other Deposits - Mopoke Well, Lakeside, Anketell, Lake Mason (all EME 100%)

These four projects are surficial uranium deposits associated with calcrete or calcretised sediments related to ancient drainage and/or lacustrine systems. All projects are located on granted retention licences and mineral resource estimates under the JORC 2004 or 2012 codes have previously been announced for each deposit. Under present uranium market conditions, the deposits are not economic, however, the market is expected to show improvement in the next 4-5 years and Energy Metals will continue to monitor the situation with a view to re-starting exploration and development activities in line with the prevailing uranium price.

There was no activity during the period.

CORPORATE

Energy Metals remains in a strong financial position with approximately \$17.37 million in cash and bank deposits at the end of the quarter, forming a solid resource for ongoing exploration and project development.

Table 3: Tenement Information as required by listing rule 5.3.3

TENEMENT*	PROJECT	LOCATION	INTEREST	CHANGE IN QUARTER
Northern Territory				
EL24451	Ngalia Regional	Napperby	100%	-
EL31098	Ngalia Regional	Napperby	100%	-
EL31820	Ngalia Regional	Mt Doreen	100%	-
EL31821	Ngalia Regional	Mt Doreen	100%	-
EL32113	Ngalia Regional	Mt Doreen	100%	-
ELR31754	Ngalia Regional	Mt Doreen	100%	-
ELR31755	Ngalia Regional	Mt Doreen	100%	-
ELR31756	Ngalia Regional	Mt Doreen	100%	-
ELR46	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR47	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR48	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR49	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR50	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR51	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR52	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR53	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR54	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR55	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR41	Malawiri Joint Venture	Napperby	76.03%	-
ELR45	Walbiri Joint Venture	Mt Doreen	77.12%	-
EL30004	Ngalia Regional	Mt Doreen	100%	-
ELA27169	Ngalia Regional	Yuendumu	100%	-
EL30144	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELR31319	Bigrlyi Joint Venture	Mt Doreen	72.39%	-
ELA24462	Ngalia Regional	Yuendumu	100%	-
ELA24450	Ngalia Regional	Yuendumu	100%	-
ELA27333	Macallan	Tanami	100%	-
MCSA318-328	Bigrlyi Joint Venture	Yuendumu	72.39%	-
MLNA1952	Bigrlyi Joint Venture	Yuendumu	72.39%	-
Western Australia				
E08/1480	Manyingee	Yanrey	100%	-
E08/2856	Manyingee	Yanrey	100%	-
R08/3	Manyingee	Yanrey	100%	-
R21/1	Lakeside	Cue	100%	-
R29/1	Mopoke Well	Leonora	100%	-
R57/2	Lake Mason	Sandstone	100%	-
R58/2	Anketell	Sandstone	100%	-

* EL = Exploration Licence (NT); ELA = Exploration Licence Application (NT); ELR = Exploration Licence in Retention (NT); ELRA = Exploration Licence in Retention Application (NT); MCSA = Mineral Claim (Southern) Application (NT); MLNA = Mineral Lease (Northern) Application (NT); E = Exploration Licence (WA); R = Retention Licence (WA).

Competent Persons Statement

Information in this report relating to exploration results, data and cut-off grades is based on information compiled by Dr Wayne Taylor and Mr Lindsay Dudfield. Mr Dudfield is a member of the AusIMM and the AIG. Dr Taylor is a member of the AIG and is a full time employee of Energy Metals; Mr Dudfield is a consultant to Energy Metals. They both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)". Dr Taylor and Mr Dudfield both consent to the inclusion of the information in the report in the form and context in which it appears.

The information discussed in this report relating to mineralisation modelling, exploration targets and metallurgical test-work results is based on information compiled by Dr Wayne Taylor and Mr Daniel Jordan. Dr Taylor and Mr Jordan are both members of the Australian Institute of Geoscientists (MAIG) and full-time employees of Energy Metals Ltd. They both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)". Dr Taylor and Mr Jordan both consent to the inclusion of the information in the report in the form and context in which it appears.

This report references mineral resource estimates and/or related information that was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.