



ABN 63 111 306 533

## QUARTERLY REPORT TO SHAREHOLDERS

for the three months ended  
31 March 2020

### ASX Code - EME

For further information,  
contact:

Shuqing Xiao  
Energy Metals Limited

Telephone: 61 8 9322 6904  
Facsimile: 61 8 9321 5240  
Email: enquiry@energymetals.net  
Level 2, 28 Kings Park Road,  
West Perth WA 6005

PO Box 1323  
West Perth WA 6872

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

[www.energymetals.net](http://www.energymetals.net)



## HIGHLIGHTS

### Bigrlyi JV Project (NT)

New uranium mineralisation wireframe model constructed for the Anomaly-4 to Anomaly-9 deposits.

Vanadium and uranium co-extraction test-work using a novel acid-cure method finalised but no advantage found over conventional acid leaching.

Field programs in the NT suspended due to coronavirus restrictions.

### Corporate

Mr Fei He, Deputy General Manager of CGNPC Uranium Resources Company Ltd, appointed as the Non-executive chairperson to EME's Board of Directors.

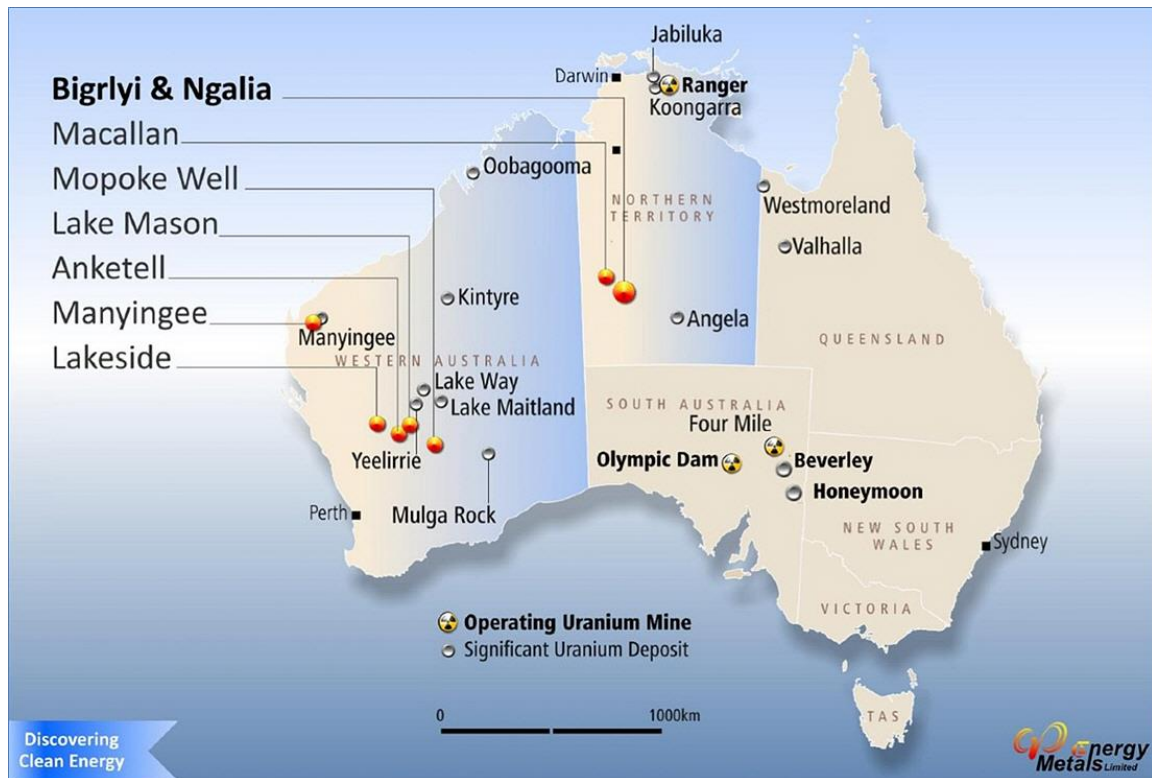
## FINANCIAL

Energy Metals had approximately \$16.86M in cash and 209.7M shares on issue at 31 March 2020.

**Shuqing Xiao**  
Managing Director  
28 April 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 km<sup>2</sup> (Figure 1). Most of the projects contain uranium mineralisation discovered by major companies in the 1970s, including the advanced Biglyi 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.

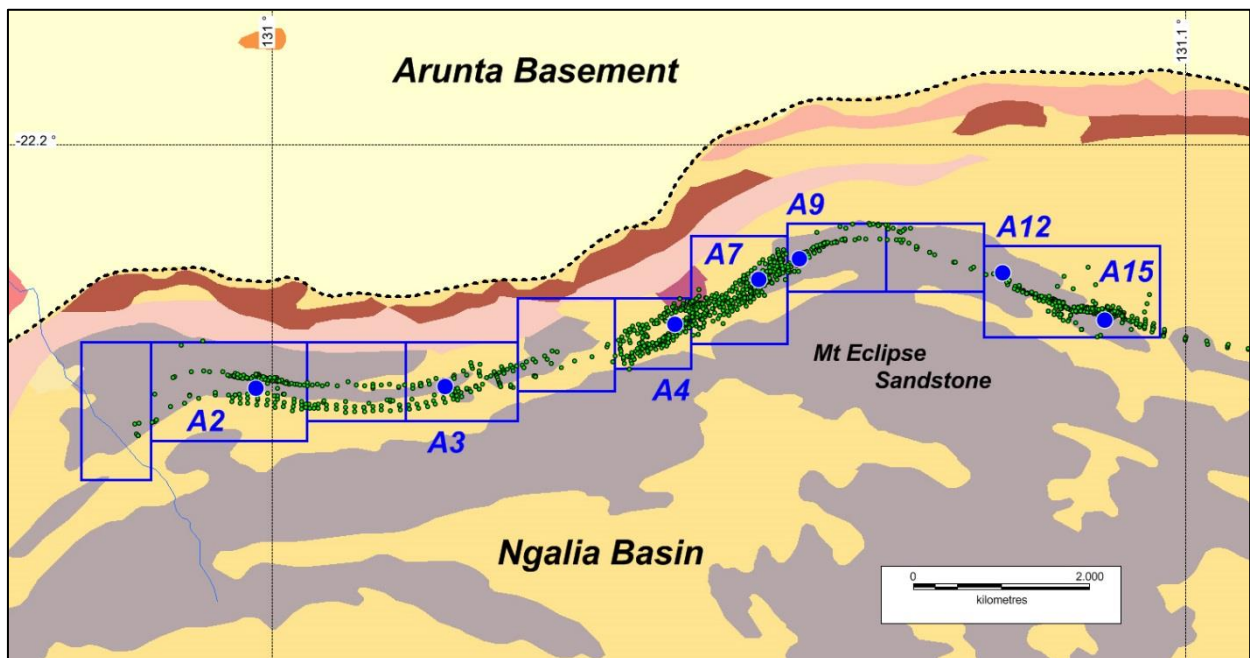
This unique relationship with CGN gives Energy Metals direct market exposure as well as access to significant capital and places the Company in a very strong position going forward.

## NORTHERN TERRITORY

### **Bigrlyi Joint Venture (EME 72.39%)**

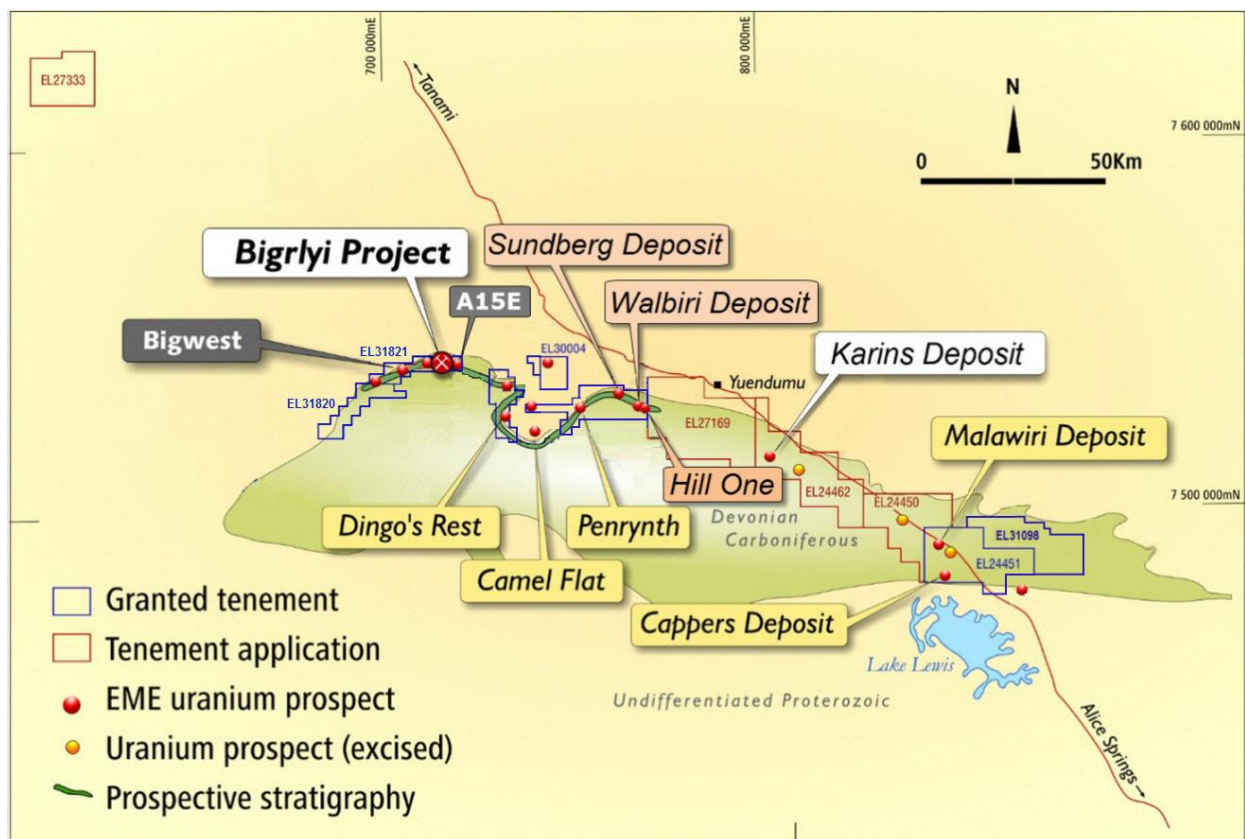
The Bigrlyi Joint Venture comprises 11 granted exploration licences in retention (ELRs), one granted EL, and several applications within the Ngalia Basin, located approximately 350km northwest of Alice Springs. EME operates the Joint Venture in partnership with Northern Territory Uranium Pty Ltd (NTU; a wholly-owned subsidiary of Marenica Energy Ltd, MEY) 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](http://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).



**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 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.

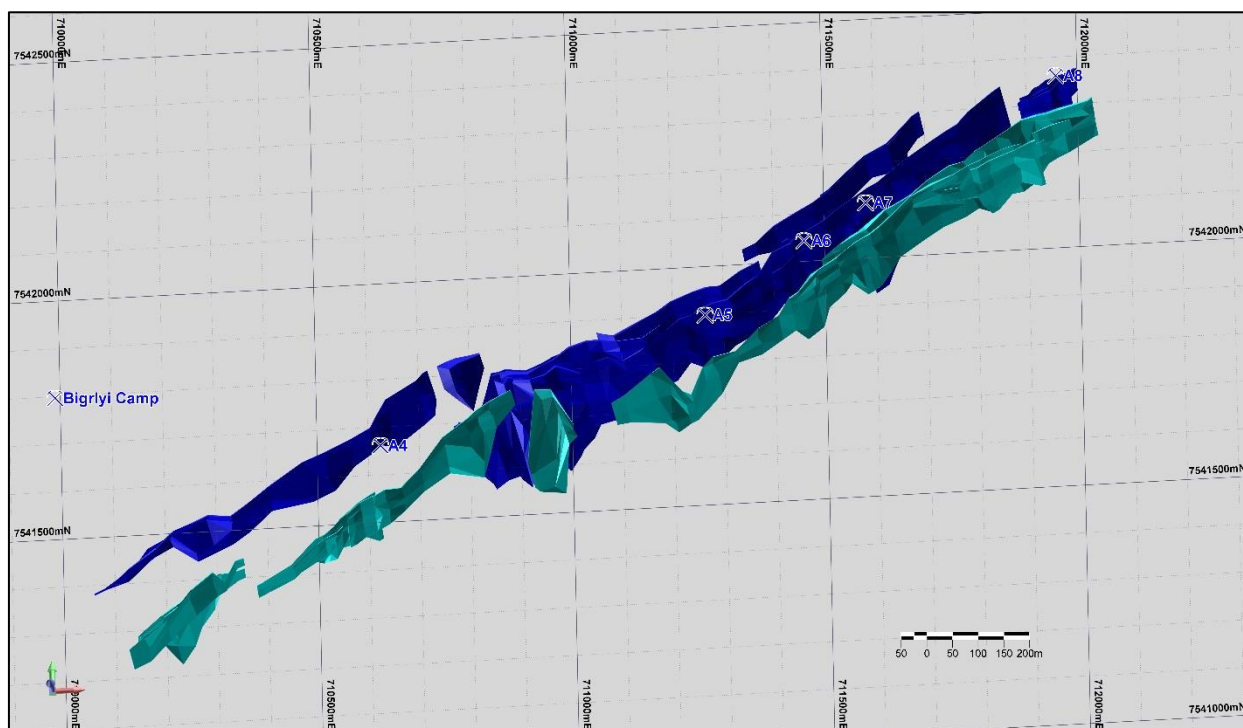
### **Malawiri Joint Venture (EME 76.03%)**

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 and NTU holds a 23.97% interest. EME advanced the Malawiri project to JORC-compliant resource status with release of a mineral resource estimate on 14 December 2017.

## JV Activities (March 2020 Quarter)

Energy Metals is committed to improving the economics of its flagship Bigrlyi project and last year initiated a program to enhance the value of vanadium as a by-product commodity. At the time of writing (April 2020) the vanadium price is \$US 6.30/lb V<sub>2</sub>O<sub>5</sub>, which is near the long-term average vanadium price; this compares with the current uranium spot price of \$US33/lb U<sub>3</sub>O<sub>8</sub> which has shown a significant (27%) increase so far this year due in part to production cuts from major producers.

**Bigrlyi Mineralisation Modelling.** Last quarter, a new vanadium mineralisation model together with an updated Exploration Target for vanadium was announced for the Bigrlyi deposit (refer ASX release of 4 December 2019). This quarter the mineralisation model for uranium along the Anomaly-4 to Anomaly-9 trend was updated including construction of new uranium wireframes for a 100 ppm U<sub>3</sub>O<sub>8</sub> cut-off grade utilising data from Energy Metals' recently updated and revalidated exploration database (Figure 4). This program is on-going and the results will form the basis for planned resource estimation, pit design and economic model updates.



**Figure 4 – Bigrlyi uranium wireframe model at the 100ppm U<sub>3</sub>O<sub>8</sub> cut-off level for the Anomaly-4 to Anomaly-9 trend showing Unit B-C mineralisation in turquoise (34% of the mineralised volume) and Unit C-D mineralisation in blue (66% of the mineralised volume). Oblique view looking to northeast.**

**Metallurgical Test-work Program.** The results of a series of conventional leach tests aimed at optimising the co-extraction of uranium and vanadium were announced in an ASX release 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% for acid consumption of 123 kg/t.

This quarter the results of further test work involving a novel acid-cure, water-leach extraction method, similar to that used in the extraction of vanadium from stone-coals in China were received from ANSTO, Sydney. For 150 kg/t sulphuric acid addition, extractions of 91% U and 76% V were achieved for a cure time of 24 hours at 90°C followed by 2 hours room temperature

water leach with addition of oxidant. For 200 kg/t acid addition, 91% extraction of both vanadium and uranium were achieved for the same cure and water-leach times, however, for 120 kg/t acid addition only 39% vanadium and 80% of uranium were extracted. Therefore, in terms of acid consumption, the acid-cure method was found not to offer an advantage over conventional tank leaching.

**Field Program Suspension.** This year's field exploration and camp maintenance programs have been suspended indefinitely due to coronavirus land access restrictions. At this stage it is unknown when field activities will be able to resume. Next quarter the NT Government is expected to release a series of relief measures to assist mineral explorers who are unable to access their ground.

### **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 (March 2020 Quarter)**

A prospectivity and tenement review was completed last quarter and the recommended tenement changes, including partial relinquishments on EME's eastern Ngalia Basin tenure (EL24451 and EL31098), are being progressively implemented as tenement anniversaries fall due.

Interpretive work was concluded on the results of an aerial EM study in the eastern Ngalia Basin with some imagery and commentary provided in the Company's 2019 Annual Report released on 23 April 2020.

### **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. Matters progressed during the quarter with objections expected to proceed to a Warden's Court hearing later in 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**

On 3 April 2020 Energy Metals' Board of Directors announced the appointment of Mr Fei He and Mr Zhe Xu as Non-executive Directors and the election of Mr Fei He as the Chairperson of the Board. The Board thanked previous Directors Mr Deshao Chen and Mr Zimin Zhang for their service over the past few years.

Mr He is an experienced senior executive in utility and energy industry. He holds a Master degree in Civil and Commercial Law from the Renmin University of China. He has worked as a senior executive for China General Nuclear Power Corporation since 2011. He is currently the Deputy General Manager of CGNPC Uranium Resources Co., Ltd.

Mr Xu is an experienced engineer and a senior manager in the nuclear power industry. He holds a Master Degree of Business Administration of Nankai University of China and a Bachelor degree of Mechatronic Engineering from the United University of Jinan of China. He has worked as a senior manager for CGNPC URC since 2011. He is currently the Director of Resources business Department of CGNPC Uranium Resources Co., Ltd.

Energy Metals remains in a strong financial position with approximately \$16.86 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
<b>Northern Territory</b>				
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%	-
<b>Western Australia</b>				
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.*