



**ABN 63 111 306 533**

## **QUARTERLY REPORT TO SHAREHOLDERS**

for the three months ended  
31 December 2017

### **ASX Code - EME**

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This report and further  
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Energy Metals' website at:

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



## **HIGHLIGHTS**

### **Malawiri Joint Venture (NT)**

Initial JORC, inferred-category mineral resource estimate of 542 tonnes U<sub>3</sub>O<sub>8</sub> at 1,288 ppm (100ppm cut-off) obtained for the historical Malawiri deposit, eastern Ngalia Basin.

### **Ngalia Regional Project (NT)**

Gradient-array and pole-dipole induced polarisation surveys over three key western Ngalia Basin prospects identify buried targets prospective for uranium mineralisation.

Following sacred site surveys and issue of Authority Certificates, ground disturbing and drilling activities now permitted in four high priority target areas.

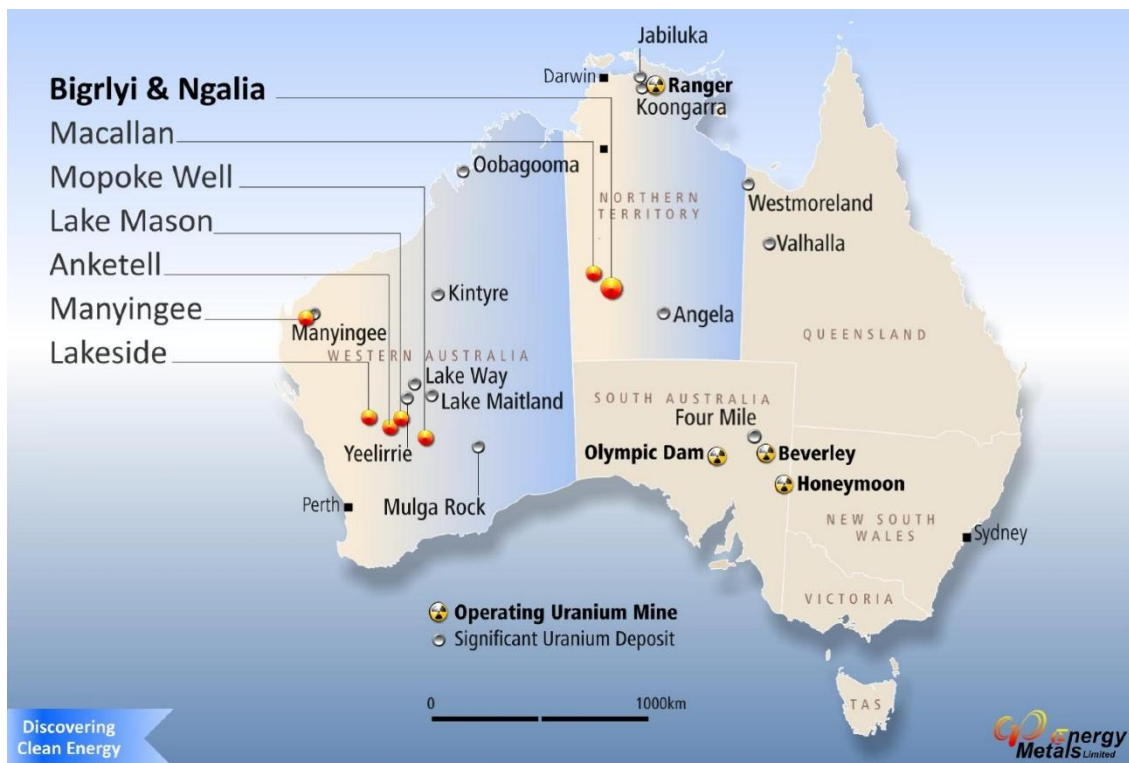
## **FINANCIAL**

Energy Metals had approximately \$19.35M in cash and 209.7M shares on issue at 31 December 2017.

**Weidong Xiang**  
**Managing Director**  
**29 January 2018**

## **INTRODUCTION**

Energy Metals (EME) is a dedicated uranium company with eight exploration projects located in the Northern Territory (NT) and Western Australia covering over 3,400 km<sup>2</sup> (Figure 1). Most of the projects contain uranium mineralisation discovered by major companies in the 1970's, including the advanced Bigrlyi 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, formerly China Guangdong Nuclear Power Holding Company), 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 2016, CGN had 19 operating nuclear power units with a generation capacity of 20,370MWe and more than 11,356MWe of capacity under construction in 9 other nuclear power units across various locations in China. Additionally CGN is one of only two companies authorised by the Chinese government to import and export uranium.

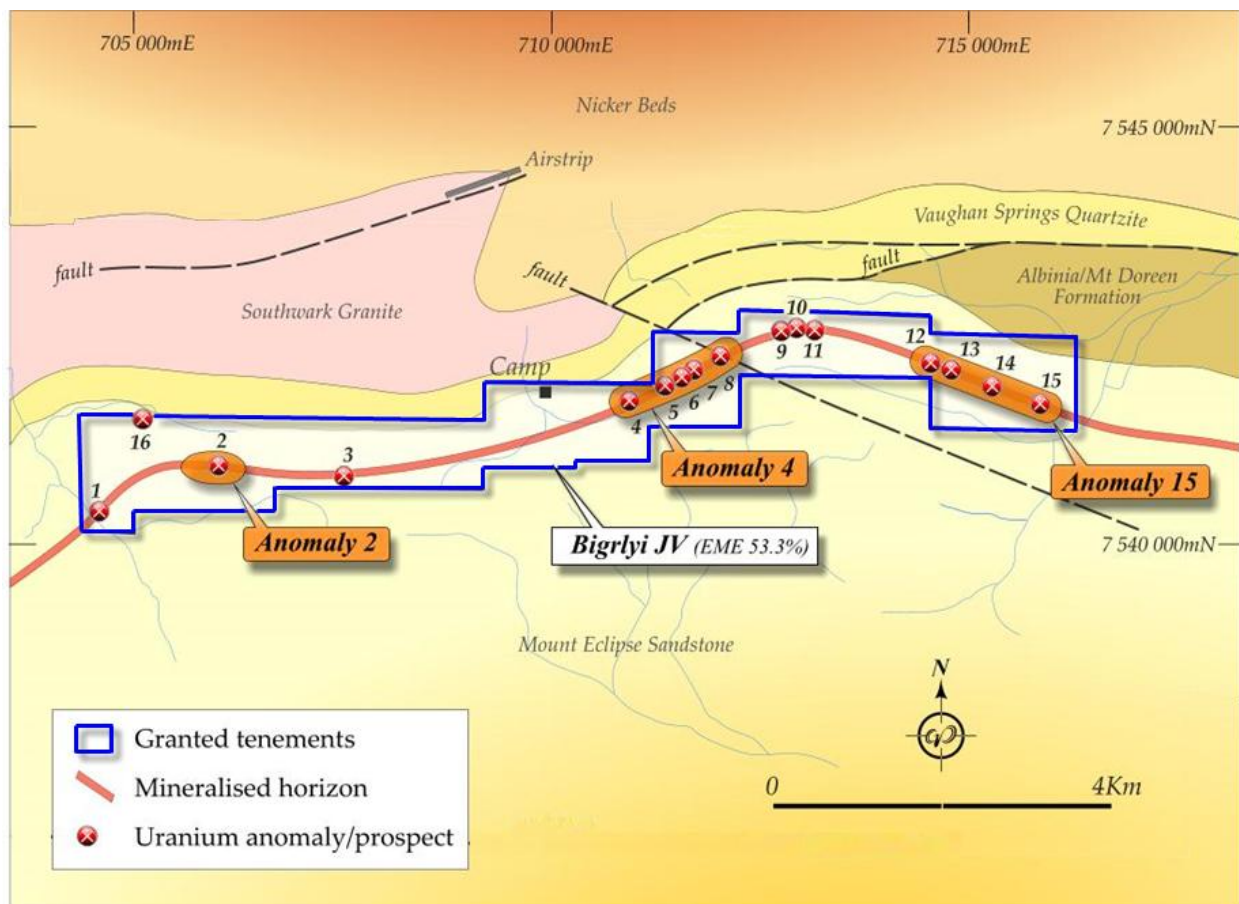
This unique relationship with CGN gives Energy Metals direct market exposure as well as access to significant capital and places the Company in a very strong position going forward.

## **NORTHERN TERRITORY**

### **Bigrlyi Joint Venture (EME 53.3%)**

The Bigrlyi Joint Venture comprises 11 granted exploration licences in retention (ELRs), two granted ELs, 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 and Southern Cross Exploration NL. The Bigrlyi Joint Venture tenements have been subject to significant exploration activity since discovery in 1973, including over 1,040 drill holes, metallurgical testwork and mining studies, with most work undertaken at the Bigrlyi Project (Figure 2).

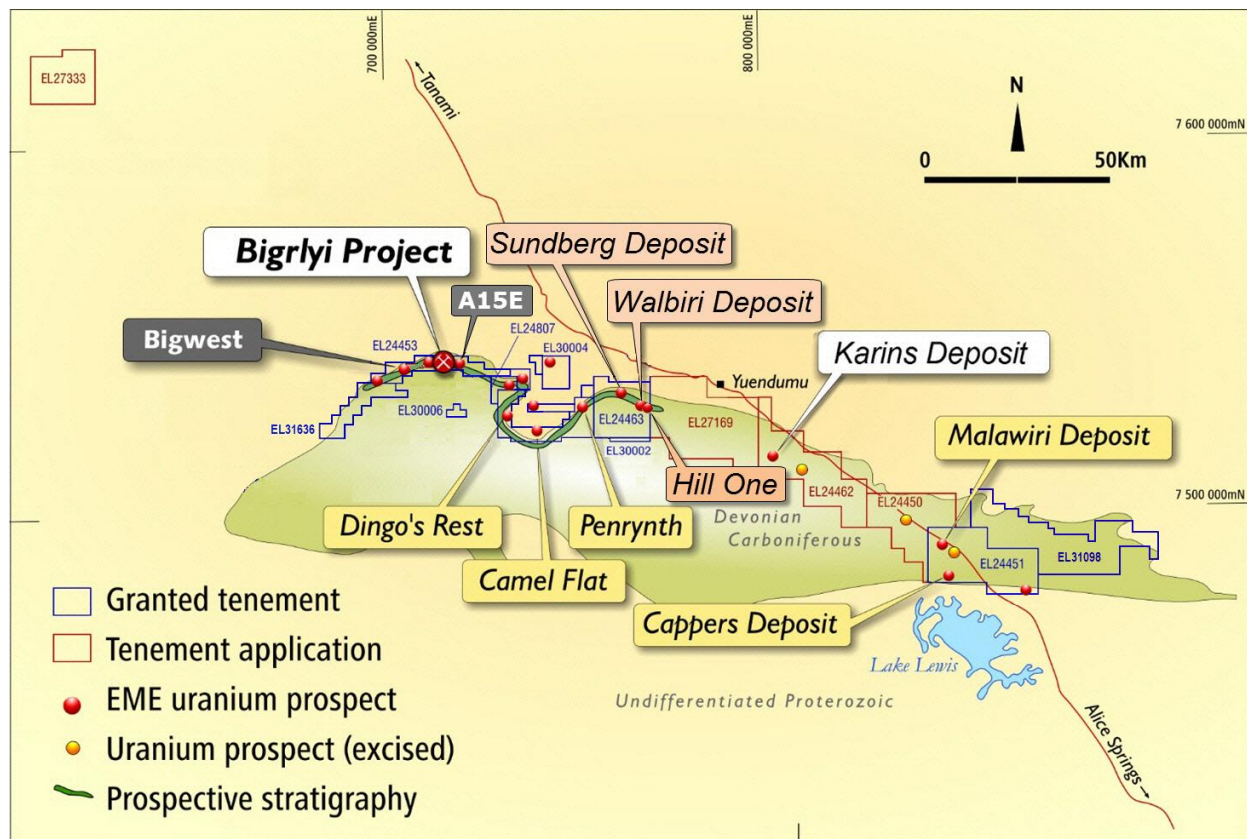
The Bigrlyi Project is characterised by relatively high uranium grades and excellent metallurgical recoveries. Historical base case acid leach tests recorded extraction rates of 98% uranium. For further information on metallurgical testwork, resource estimates and economic studies please refer to ASX announcements or the Company's website [www.energymetals.net](http://www.energymetals.net).



**Figure 2 – Bigrlyi Joint Venture Project area showing simplified geology**

The historic Karins deposit, located approximately 260km northwest of Alice Springs (Figure 3), is located on tenement applications MLN1952 and MCS318-328, which are part of the Bigrlyi Joint Venture. Karins is a tabular uranium-vanadium style of deposit similar to Bigrlyi although with an oxidised zone (carnotite zone) of variable thickness. EME acquired CPM's interest in the project in 2005, including all the historical exploration records. A maiden JORC-compliant resource estimate for the Karins Deposit was released to the ASX in July 2015.

On 27<sup>th</sup> October 2015, a maiden JORC (2012) resource estimate was announced for the historic Sundberg deposit (Figure 3).



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

### **Walbiri Joint Venture (EME 41.9%)**

ELR45, granted in August 2014, 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 (58.1%), with EME as the operator. In the ASX announcement of 27<sup>th</sup> October 2015 an initial JORC (2012) mineral resource estimate was announced for the Walbiri deposit, confirming Walbiri as the third largest sandstone-hosted uranium deposit in Central Australia after Angela and Bigrlyi.

### **Malawiri Joint Venture (EME 52.1%)**

ELR41, granted in August 2014, covers the historical Malawiri prospect. The project is a joint venture with Northern Territory Uranium Pty Ltd (47.9%) with Energy Metals as the operator. A program of digitisation and reprocessing of historical gamma logs, core re-logging, and historical data compilation and verification was completed in mid-2015 and a small drilling program was completed in September 2016. Significant historical drill-hole intercepts from the reprocessed gamma logs included:

- 12.1m at 3,409 ppm  $eU_3O_8$  from 164.6m in GCRD9
- 6.1m at 2,105 ppm  $eU_3O_8$  from 183.1m in GCRD9
- 4.7m at 1,594 ppm  $eU_3O_8$  from 189.0m in GCRD6
- 11.9m at 946 ppm  $eU_3O_8$  from 229.8m in GCRD21
- 12.8m at 583 ppm  $eU_3O_8$  from 126.2m in GCRD8



(For further details see ASX announcements of 27<sup>th</sup> September 2016 & 14<sup>th</sup> December 2017).

#### JV Activities (December 2017 Quarter)

During the period, EME advanced the Malawiri project to JORC (2012)-compliant resource status (refer to ASX announcement of 14<sup>th</sup> December 2017). A maiden inferred-category mineral resource estimate of 542 tonnes U<sub>3</sub>O<sub>8</sub> was obtained for the Malawiri deposit (Table 1):

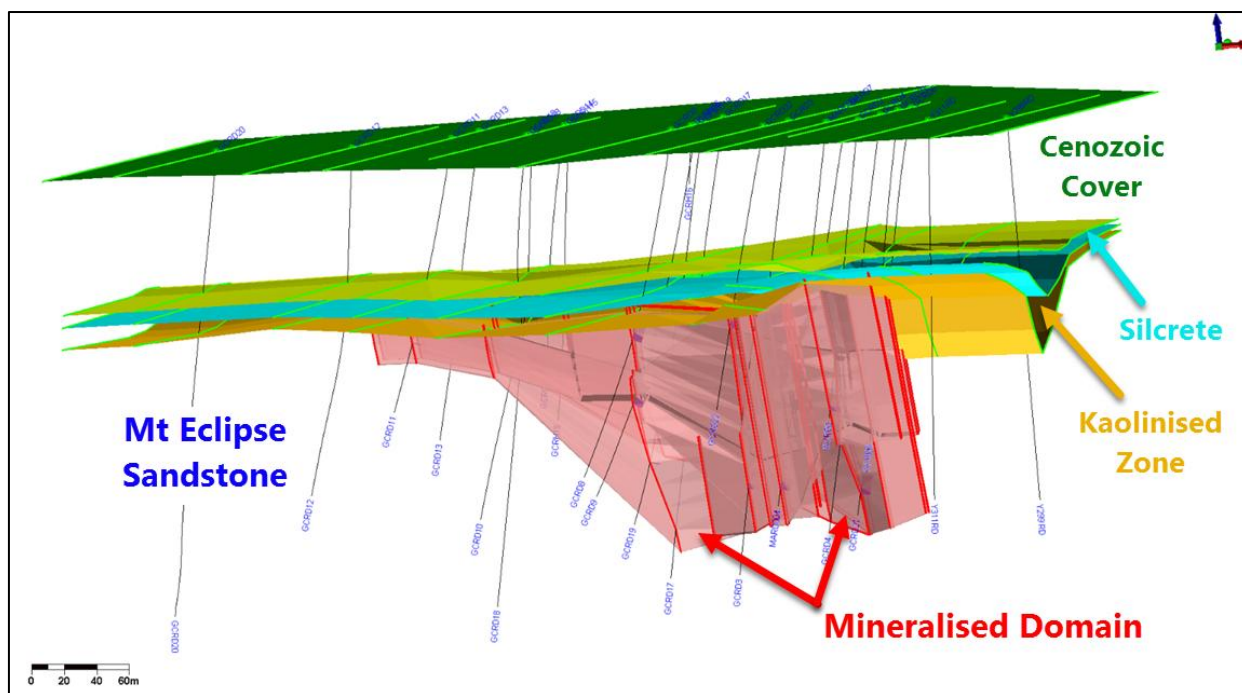
**Table 1.** Estimate of Mineral Resources for the Malawiri Deposit as at 14 December 2017

Category	Volume, '000 m <sup>3</sup>	Kilotonnes	Bulk Density, t/m <sup>3</sup>	Grade U <sub>3</sub> O <sub>8</sub> ppm	U <sub>3</sub> O <sub>8</sub> tonnes	U <sub>3</sub> O <sub>8</sub> Mlb	U%	U, t
Inferred	172.0	421.3	2.45	1,288	542	1.20	0.109	460

Notes:

1. The Mineral Resources are for a 100% interest in the associated joint venture and not the Mineral Resources attributable to the individual joint venture partners.
2. Mineral Resources are based on 100 ppm cut-off grade per resource block.
3. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
4. Mineral Resources are based on JORC-2012 definitions.
5. Mineral Resources are based on a bulk density of 2.45 t/m<sup>3</sup>.
6. Calculations and unit conversions may not yield exact figures due to rounding.

Although Malawiri is a small deposit, it is relatively high grade (1,288 ppm U<sub>3</sub>O<sub>8</sub>). Mineralisation is Bigirlyi-style, sandstone-hosted and occurs within a number of sub-vertically oriented, stacked, tabular lenses bounded by conglomerate marker beds. The width of the mineralised intervals varies from 0.3m to 12.6m, averaging 3.2m thickness. The host Mt Eclipse Sandstone is unconformably overlain by 80 to 100m of younger, unconsolidated sediments of Cenozoic age. The unconformity is marked by a silcrete cap and an underlying zone of kaolinised sandstone (weathered Mt Eclipse) as depicted in Figure 4.



**Figure 4 – Wireframe models of the Malawiri deposit in cross-section showing the mineralised domain and unconformity-related surfaces together with drill-hole traces.**

## **Ngalia Regional Project (EME 100%)**

The Ngalia Regional project comprises twelve 100% owned exploration licences (total area approximately 3,100 km<sup>2</sup>) 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. In October 2015 EME announced inferred JORC resources for the historical Walbiri, Sundberg and Hill One deposits (Figure 3).

## **Activities (December 2017 Quarter)**

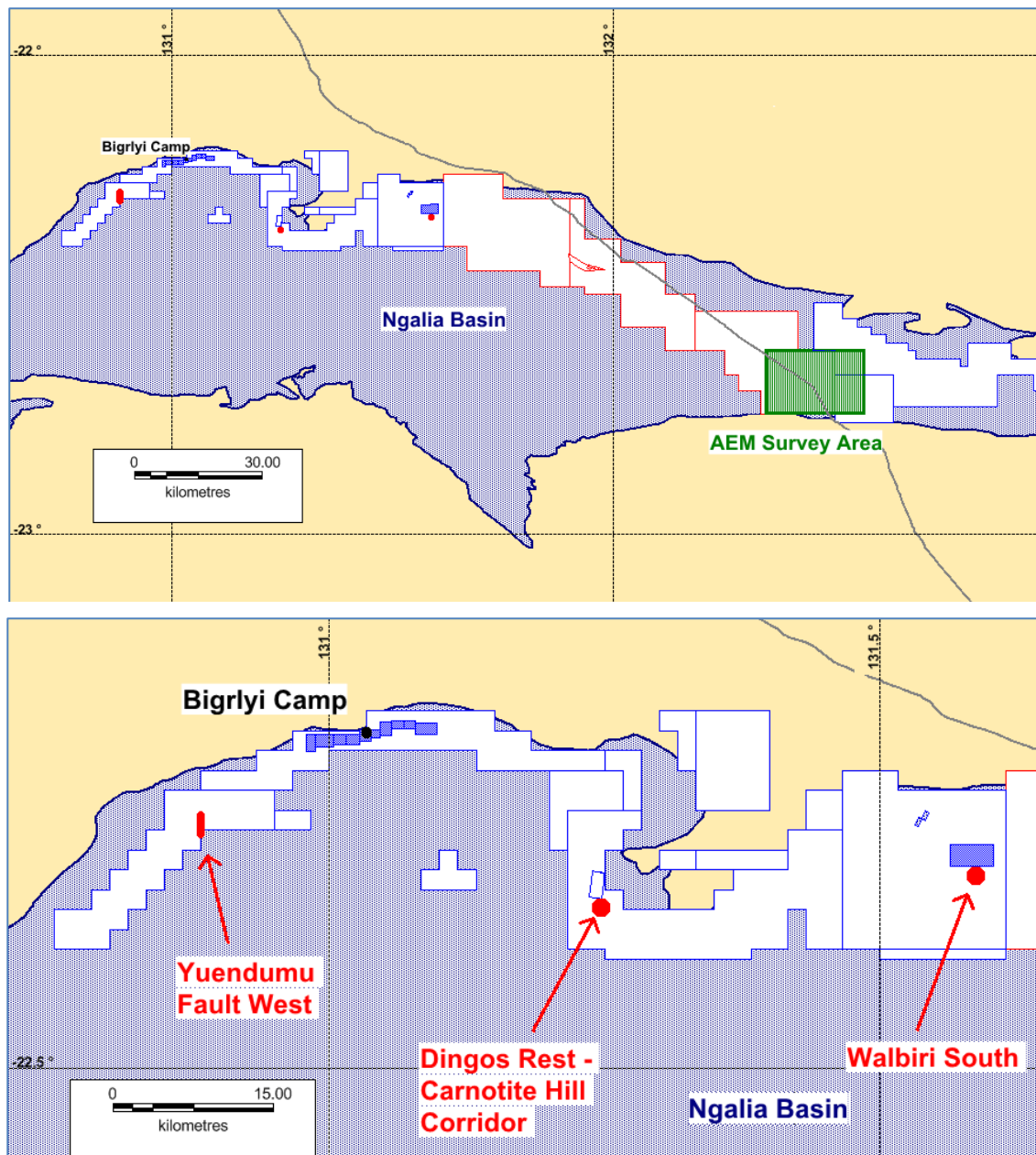
The 2017 exploration program has focused on geophysical targeting of undercover uranium mineralisation utilising aerial electromagnetic (AEM) and induced polarization (IP) survey methods.

During the previous quarter an AEM survey was flown over parts of EL24453 and EL31098 in the eastern Ngalia Basin (Figure 5) in conjunction with Geoscience Australia's *Exploring for the Future Program*. Geoscience Australia has advised that final data products from the survey will be available for targeting and interpretive work in early 2018.

Gradient-array (GA-IP) and pole-dipole (PDIP) induced polarisation surveys over three key western Ngalia Basin prospect areas (Figure 5) were completed in September with final results received in November and interpretative work completed by year end. The method is able to target buried, reduced pyrite-bearing beds (chargeable beds) prospective for Bigrlyi-style mineralisation. The following results have been obtained:

- In the Dingos Rest-Carnotite Hill corridor, a strong chargeable anomaly was detected in a tightly folded nose of an interpreted syncline located to the south of known surface mineralisation (Figure 6);
- At the Walbiri South prospect, target units were found not to extend onto the southern limb of the Eclipse Anticline as predicted (Figure 7) but prospective beds were found to be concentrated just north of the axial plane of the fold;
- At Yuendumu Fault West prospect the main thrust fault was located together with a chargeable anomaly suggestive of Camel Flat style mineralisation (Figures 8 & 9).

These chargeable anomalies will be targeted for drill testing in a future program with planning underway in 2018.

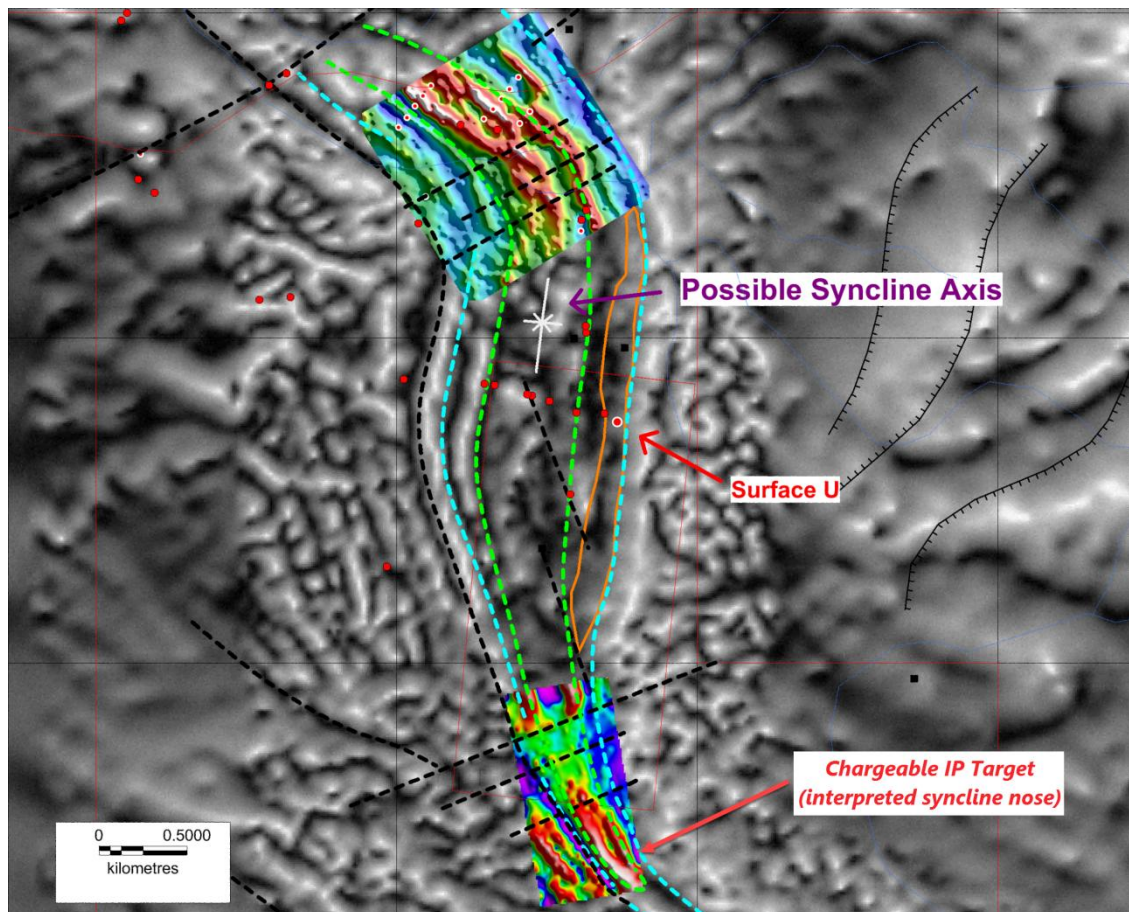


**Figure 5 – Locations of aerial electromagnetic (AEM) survey (green – top panel) and Induced Polarisation Survey areas (red – bottom panel). Refer to Figure 3 for tenement and prospect information.**

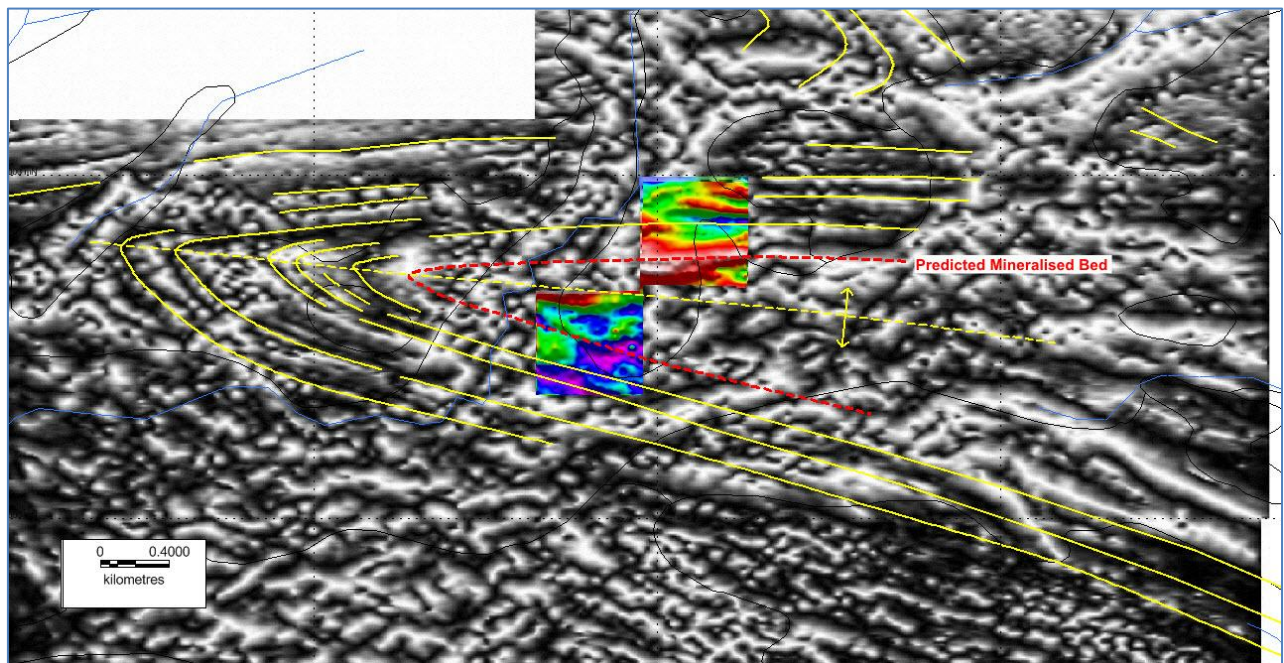
Late in the quarter EME received four Authority Certificates from the Aboriginal Areas Protection Authority (AAPA), the NT Government agency responsible for sacred site and heritage clearances. The issue of the certificates followed from site clearance surveys undertaken at the Dingos Rest, Penrynth, Walbiri South and Patmungala prospect areas in October 2017.

The certificate conditions permit future ground disturbing works, including drilling, within all the high-priority target areas of these prospects and greatly assist Energy Metals in its future drill targeting programs.



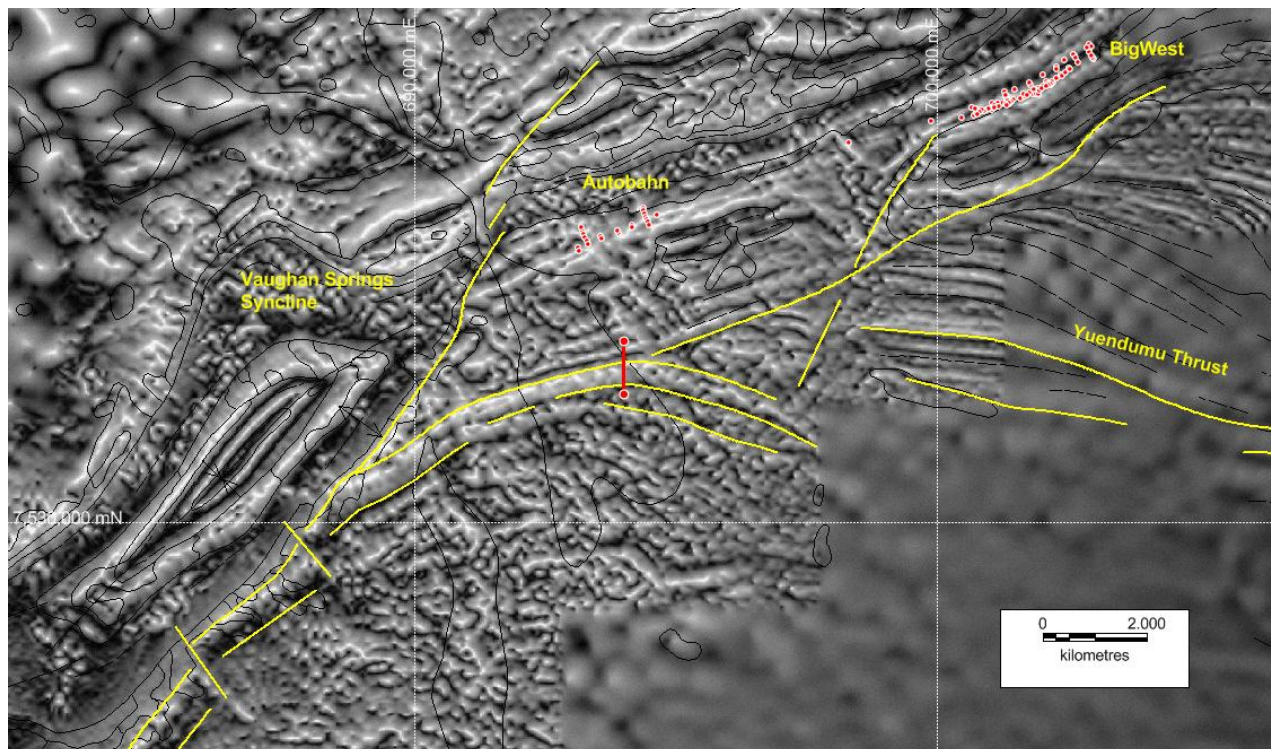


**Figure 6 - Dingos Rest Induced Polarisation Survey – the 2017 IP survey is the area to the south of surface U mineralisation – EME’s proposed geological model for the area is shown in which the new IP target beds are located in the nose of a tightly folded syncline that can be correlated with 2013 IP survey results to the north. Magnetic imagery backdrop. Red dots – previous drill holes. Black dashed lines - inferred faults.**

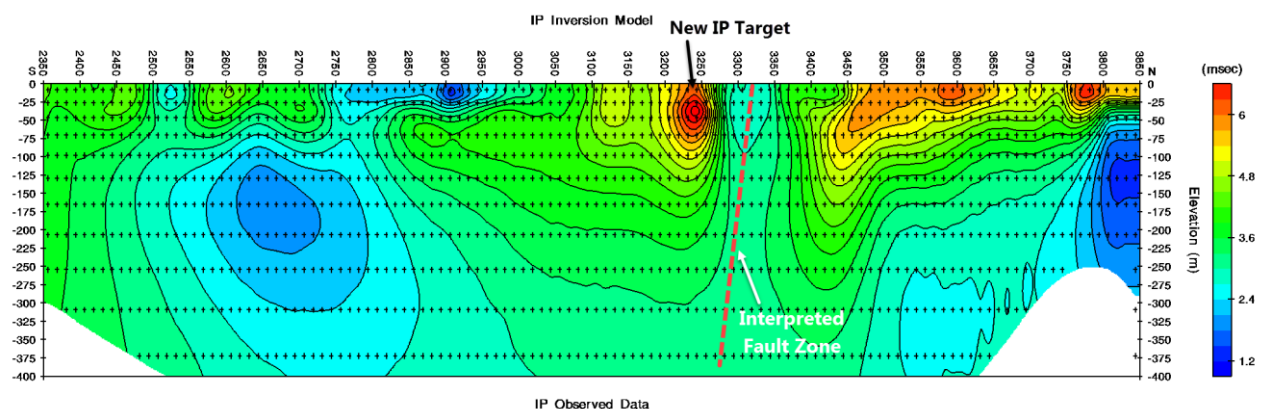


**Figure 7 - Walbiri Polarisation Survey – the 2017 IP survey is the area to the south and indicates the predicted mineralised bed does not extend around the anticline as previously assumed, instead favourable units are located just north of the axial plane. Magnetic imagery backdrop. Yellow lines = form lines of sandstone beds within the Eclipse Anticline.**





**Figure 8 - Location of the Yuendumu Thrust West PDIP Survey line (red) and location of inferred faults including the Yuendumu Thrust extension (in yellow). Magnetic imagery backdrop. Red dots are previous EME drilling.**



**Figure 9 - Yuendumu Thrust West (South-left to North-right) PDIP chargeability cross-section (y = depth) showing interpreted trace of Yuendumu Thrust fault zone and the new chargeable IP target located just south of the fault trace at about 50m depth.**

## 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; though 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 on the tenement has been extended until October 2018 and negotiations are proceeding.

## **WESTERN AUSTRALIA**

### **Manyingee (EME 100%)**

The Manyingee project comprises granted tenement E08/1480, retention licence application R08/3 and exploration licence application E08/2856, which are located 85 km south of Onslow. E08/1480 and R08/3 are located adjacent to mining leases containing Paladin Energy's Manyingee resource, a stacked series of buried, palaeochannel-hosted roll front uranium deposits.

On 7th 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. Manyingee-style mineralisation is considered favourable for extraction of uranium by cost effective in-situ recovery (ISR) methods, and Energy Metals will continue to evaluate future resource upgrade and development options as market conditions improve. In the meantime a Retention Licence application is progressing with the DMIRS over resource areas of E08/1480 in order to maintain the project under Energy Metals tenure until economic conditions improve.

### **Mopoke Well (EME 100%)**

The Mopoke Well project is located 55km west of Leonora on retention licence R29/1. The project contains two historic uranium prospects (Peninsula and Stakeyard Well) hosted by calcretised sediments associated with the Lake Raeside drainage system. A JORC (2004) mineral resource estimate was released to the ASX on 12<sup>th</sup> March 2013.

There was no activity during the period.

### **Lakeside (EME 100%)**

The Lakeside project is located in the Murchison district 20km west of Cue on retention licence R21/1. This project was acquired to follow up previously discovered surficial uranium mineralisation at Lake Austin associated with calcrete and saline drainages. Aircore drilling campaigns were undertaken by EME in 2007, 2008, 2010 and 2012. A JORC (2012) mineral resource estimate was release to the ASX on 3<sup>rd</sup> June 2014.

There was no activity during the period.

### **Anketell (EME 100%)**

The Anketell project is located 50km west of Sandstone on retention licence R58/2 and comprises surficial calcrete-style mineralisation discovered by Western Mining (WMC) in 1972. Following completion of aircore drilling programs, an initial JORC (2004) mineral resource estimate was released to the ASX on 21 July 2009.

There was no activity during the period.

### **Lake Mason (EME 100%)**

The Lake Mason project is located 25km north of Sandstone on retention licence R57/2 and comprises shallow carnotite mineralisation hosted in calcrete and calcareous sediments associated with the Lake Mason drainage system. A JORC (2004) mineral resource estimate was released to the ASX on 17<sup>th</sup> December 2010.

There was no activity during the period.

### **CORPORATE**

Energy Metals remains in a strong financial position with approximately \$19.35 million in cash and bank deposits at the end of the quarter, forming a solid resource for ongoing exploration and project development.



**Table 1: 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%	-
EL24453	Ngalia Regional	Mt Doreen	100%	-
EL24463	Ngalia Regional	Mt Doreen	100%	-
EL31636	Ngalia Regional	Mt Doreen	100%	-
EL24807	Ngalia Regional	Mt Doreen	100%	-
EL31098	Ngalia Regional	Napperby	100%	-
ELR46	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR47	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR48	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR49	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR50	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR51	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR52	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR53	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR54	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR55	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR41	Malawiri Joint Venture	Napperby	52.1%	-
ELR45	Walbiri Joint Venture	Mt Doreen	41.9%	-
EL30002	Ngalia Regional	Mt Doreen	100%	-
EL30004	Ngalia Regional	Mt Doreen	100%	-
EL30006	Ngalia Regional	Mt Doreen	100%	-
ELA27169	Ngalia Regional	Yuendumu	100%	-
EL30144	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELR31319	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
ELA24462	Ngalia Regional	Yuendumu	100%	-
ELA24450	Ngalia Regional	Yuendumu	100%	-
ELA27333	Macallan	Tanami	100%	-
MCSA318-328	Bigrlyi Joint Venture	Yuendumu	53.3%	-
MLNA1952	Bigrlyi Joint Venture	Yuendumu	53.3%	-
EL30689	Bigrlyi Joint Venture	Mt Doreen	53.3%	-
<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.*

*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.*