



ABN 63 111 306 533

## QUARTERLY REPORT TO SHAREHOLDERS

for the three months  
ended 31 March 2011.

### ASX Code - EME

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



## HIGHLIGHTS

- \* Uranium Export Permit granted 8<sup>th</sup> March 2011, enabling Energy Metals to purchase Australian uranium for resale to China
- \* Technical aspects of the Pre Feasibility Study completed late in the Quarter, currently being peer reviewed
- \* Exploration recommenced at Bigryli and the Ngalia projects

## FINANCIAL

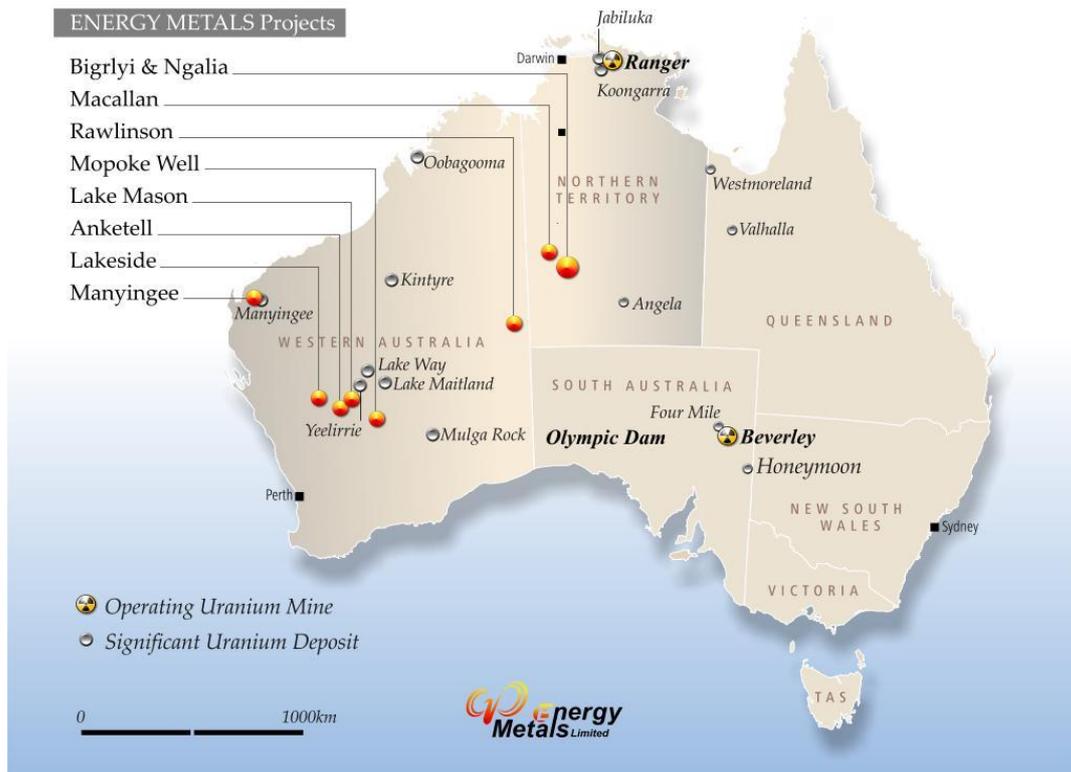
- \* Energy Metals had approximately \$29.3M in cash and 153.8M shares on issue at 31 March 2011.

A handwritten signature in black ink, appearing to read '向伟东' (Xiang Weidong).

**Weidong Xiang**  
Managing Director  
29th April 2011

## **INTRODUCTION**

Energy Metals is a dedicated uranium explorer with nine projects located in the Northern Territory (NT) and Western Australia covering over 4,000 km<sup>2</sup>. 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 Project**

Australia has significant uranium endowment with the continent containing approximately 36% of the world's low cost uranium resources. With the changing political and public sentiment to uranium mining in Australia and nuclear power playing an increasing role in reducing global carbon emissions Energy Metals is well placed to take advantage of the favourable outlook for the metal.

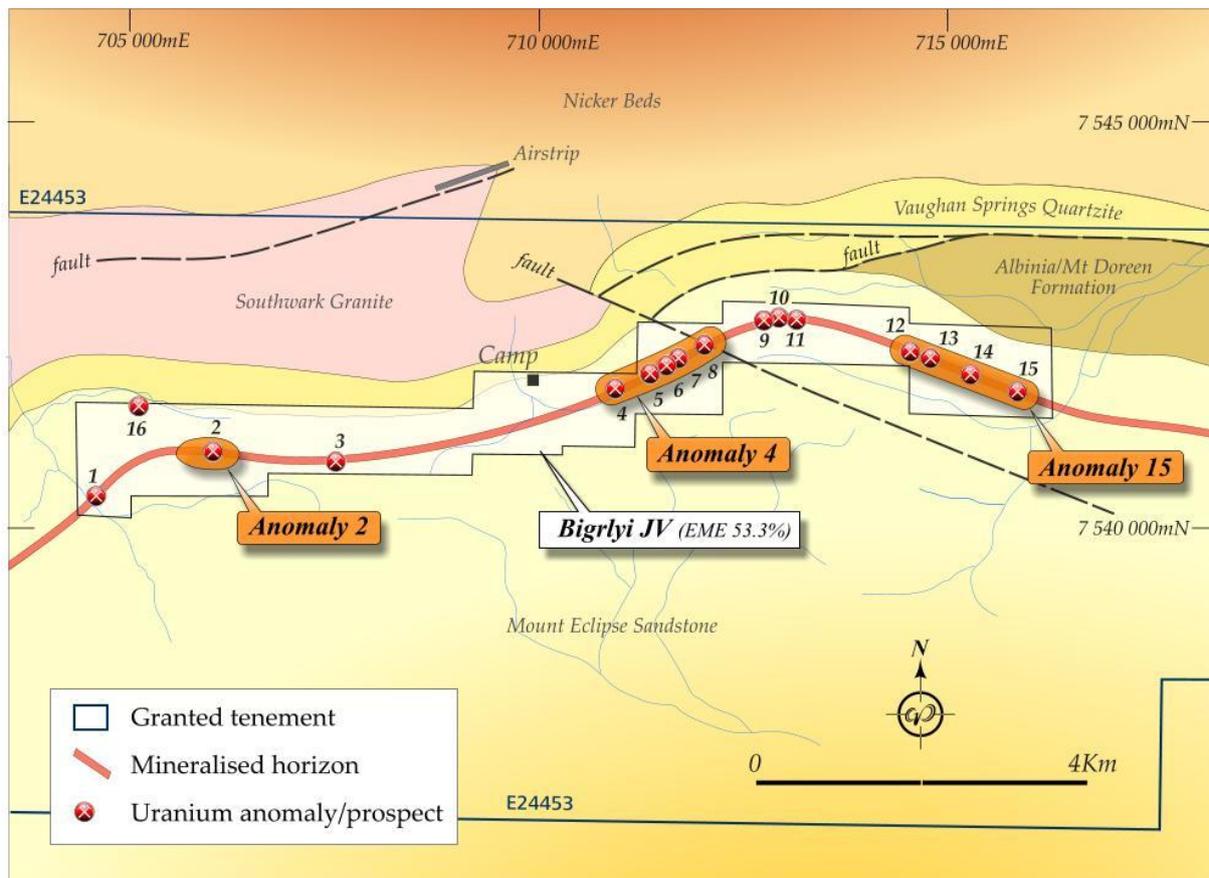
Furthermore Energy Metals' largest shareholder (with 60.6% of issued capital) is China Uranium Development Co., Limited, a wholly owned subsidiary of major Chinese utility China Guangdong Nuclear Power Holding Company (CGNPC). CGNPC currently has five operating nuclear power stations with existing generation capacity of 5,000 MWe and with more than 20,000 Mwe of capacity currently under construction across various locations around China. CGNPC is one of only two companies authorised by the Chinese government to import and export uranium.

This unique relationship with CGNPC 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 (EME 53.3%)**

The Bigrlyi Project comprises 10 granted exploration retention licenses located approximately 350 km northwest of Alice Springs. The project, which is a joint venture with Paladin Energy subsidiary Northern Territory Uranium Pty Ltd (41.7%) and Southern Cross Exploration (5.0%), has been subject to significant exploration activity since discovery in 1983, including over 850 drillholes, metallurgical testwork and mining studies.



**Figure 2 – Bigrlyi Joint Venture Simplified Geology**

The Bigrlyi Project is characterised by relatively high uranium grades (with vanadium credits) and excellent metallurgical recoveries. Historical base case acid leach tests recorded extraction rates of 98% uranium and 59% vanadium.

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)

### **Activities (March 2011 Quarter)**

The 2010 drilling programs which commenced in July 2010 were completed by the end of the December quarter, before the onset of seasonal summer rains. Field activities were intended to recommence late in the March Quarter but due to late heavy rainfall, the

commencement of the 2011 field activities was delayed. Subsequent to the end of the March Quarter field activities have now commenced.

Activities during the March Quarter included metallurgical optimisation and a bulk leach testing the optimal conditions, geotechnical evaluation of the ground conditions in the mineralised areas, studies into potential water sources for the possible development, mining studies, including a combination of Open Pit and Underground mine development, a possible process flow sheet, based on the initial metallurgy, initial engineering and cost estimates for capital and operating costs.

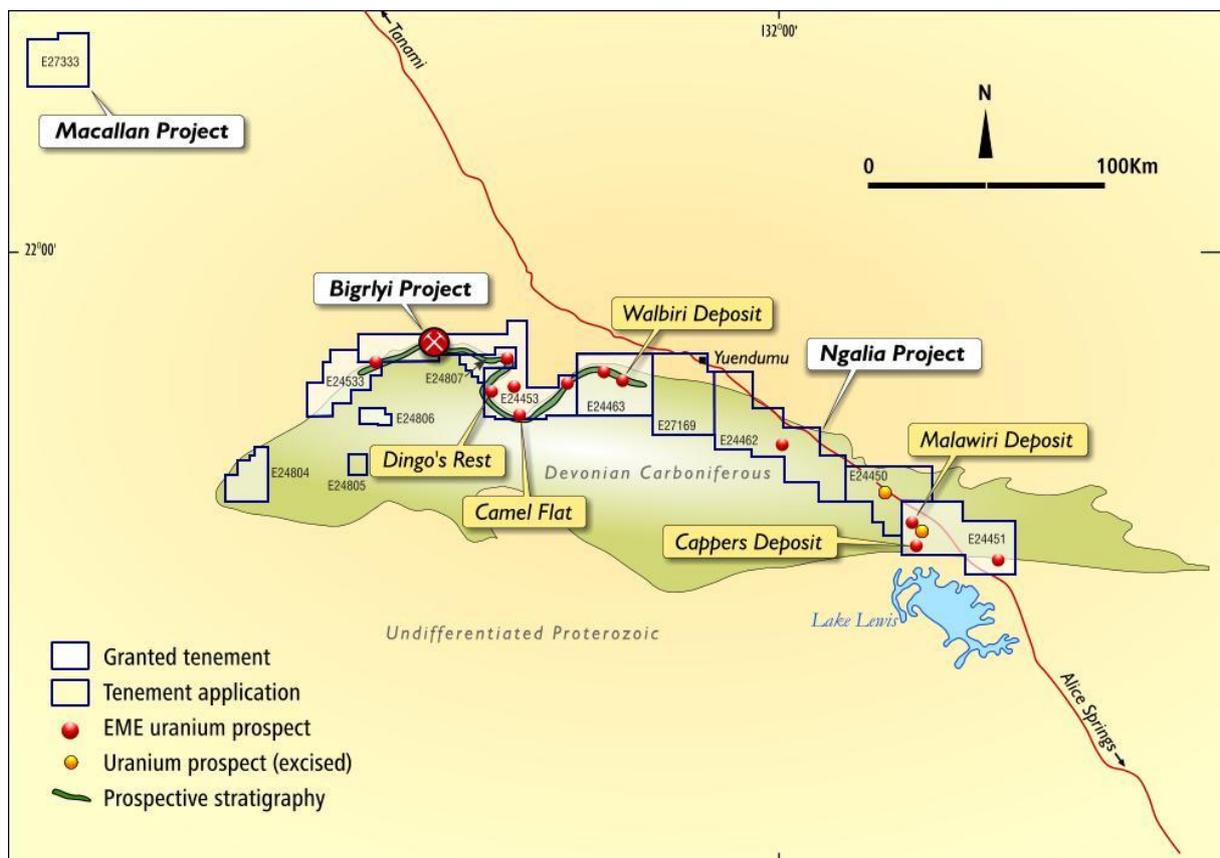
Reports into the environmental studies undertaken during 2010 have been received, these included air quality monitoring, initial flora and fauna surveys and desktop soil, ground water and surface water evaluation. All of these are initial baseline studies and investigation into the Pre Feasibility Study (PFS). The preliminary findings of these studies have been positive with no major environmental impediments to development identified to date.

The technical aspects of the PFS were completed late in the March Quarter with the PFS report currently being peer reviewed. Once this peer review has been completed and the technical aspects of the PFS are confirmed then the results of the PFS will be released.

Several targets that require further exploration have been identified as a part of the PFS mining studies, drill testing these targets is expected to commence in the June Quarter.

## Ngalia Regional (EME 100%)

The Ngalia Regional project comprises eleven 100% owned exploration licenses (total area 2,840 km<sup>2</sup>) located in the Ngalia Basin, between 180 and 350 km northwest of Alice Springs in the Northern Territory. Eight of these tenements are contiguous and enclose the Bigrlyi project as well as containing a number of uranium occurrences including the historic Walbiri and Malawiri deposits and the Cappers deposit (Inferred Mineral Resource of 2,720 tonnes U<sub>3</sub>O<sub>8</sub> at a grade of 167ppm at 100ppm cut-off). The remaining 3 tenements are located southwest of the Bigrlyi deposits and cover discrete uranium anomalies with no evidence of previous exploration.



**Figure 3 - Ngalia Regional Project showing uranium deposits & occurrences.**

Seven of the 11 Ngalia Regional Exploration Licences have been granted. The remaining four applications (EL's 24450, 24462, 24805 and 27169) are located on Aboriginal Freehold land and the consent of the Traditional Owners is required before the tenements can be granted. Energy Metals has been negotiating with the Traditional Owners through the Central Land Council (CLC) and is confident that the Company will eventually gain access to these areas.

Mid July 2010 Energy Metals announced that the first diamond hole (CFD1001) drilled by the Company at the Camel Flat prospect had intersected Bigrlyi style mineralisation masked by shallow sand cover. Initial anomalous downhole probe values from CFD1001 were subsequently confirmed by chemical assay, returning an intercept of 27m @ 2,708ppm U<sub>3</sub>O<sub>8</sub> & 755ppm V<sub>2</sub>O<sub>5</sub> from 93.0m, including 5.0m @ 13,269ppm (1.33%) U<sub>3</sub>O<sub>8</sub> & 2,944ppm V<sub>2</sub>O<sub>5</sub>.

Energy Metals is highly encouraged by 2010 drilling intercepts from Camel Flat, which compare very favourably with early drilling results from Bigryli. Furthermore the Company considers the potential for finding more uranium along strike from Camel Flat to be excellent, especially as historic drilling to test under the widespread sand cover appears to have been ineffective. Follow-up drilling designed to outline shallow mineralisation potentially exploitable by open pit mining is currently being planned.

### Activities (March 2011 Quarter)

Several targets have been identified in the 100% Energy Metals tenements including the extensions to the Camel Flat mineralisation identified and drilled in 2010 (figure 4) and extensions to the Bigryli mineralised trend to the east of the Bigryli Joint Venture tenements.

No exploration activities were conducted within the Ngalia Regional project during the March Quarter due to heavy rainfall in March. Subsequent to the end of the quarter access to the exploration camp has been possible and exploration has commenced. Testing of these targets will continue in the June Quarter.

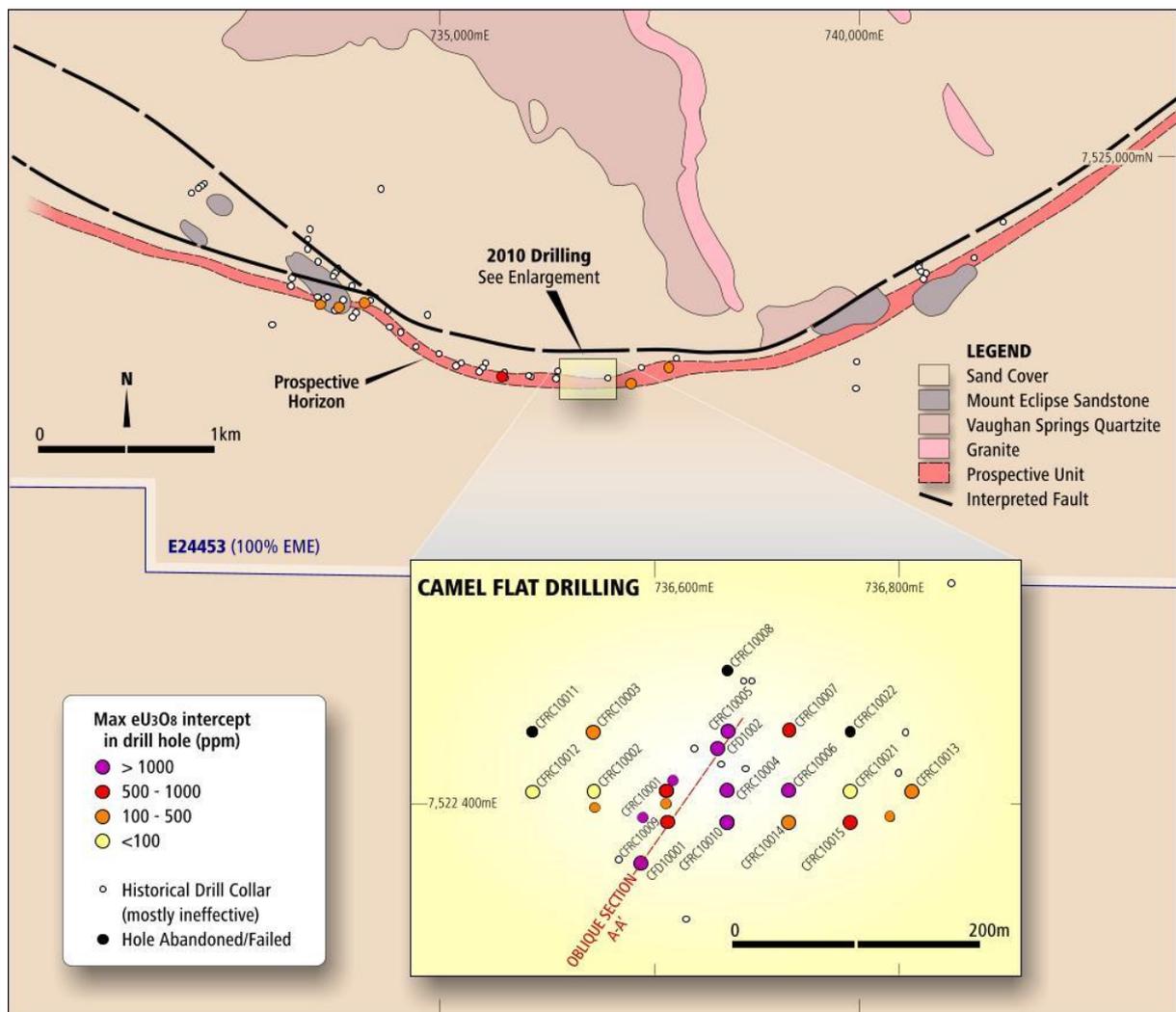
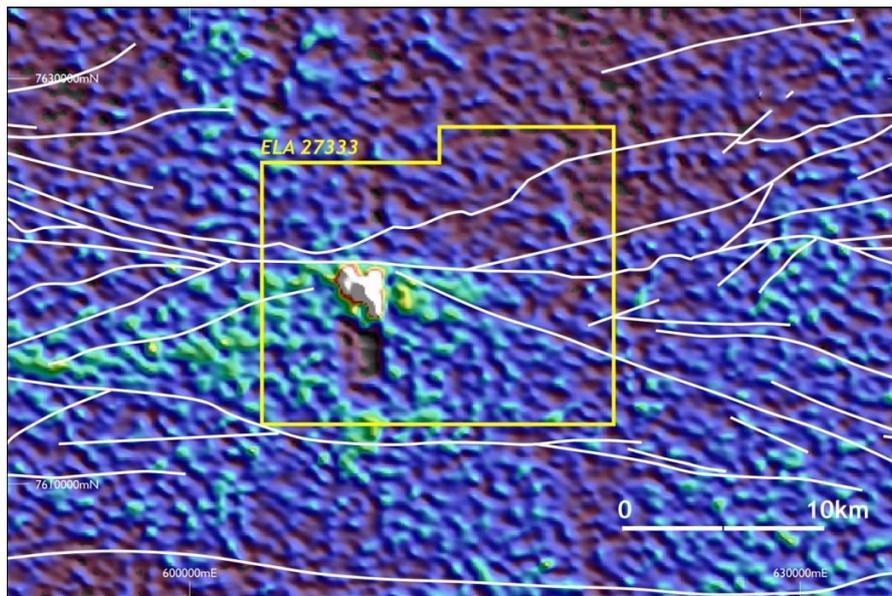


Figure 4 - Simplified plan of the Camel Flat prospect showing prospective horizon interpreted from regional magnetic data and historical drilling, with 2010 Energy Metals drilling in enlargement

## Macallan (EME 100%)

The Macallan project (ELA27333) is located 460km northwest of Alice Springs and 140km from Bigrlyi. Newmont Australia's Callie Gold Mine is located a further 140km to the north. The tenement covers a strong 3km long bullseye radiometric anomaly which may indicate the presence of shallow structurally controlled uranium mineralisation.



*Macallan Project radiometric image showing interpreted regional faults (white lines).*

The application is progressing through the provisions of the Aboriginal Land Rights Act. A meeting with the traditional owners has been delayed until the middle of 2011 due to conflict among several of the traditional owners who live in Yuendumu.

## WESTERN AUSTRALIA

### Lake Mason (EME 100%)

This project comprises one granted exploration licence (E 57/590) with an area of 64km<sup>2</sup> centred 25km NNE of Sandstone and 80km SW of the Yeelirrie deposit. Previous exploration by BP Minerals in the 1970's discovered shallow carnotite mineralisation in valley calcretes associated with the Lake Mason drainage system. In June 2008 Energy Metals announced an initial Inferred Mineral Resource at Lake Mason of 1,343 tonnes (3Mlb) U<sub>3</sub>O<sub>8</sub> at a grade of 170ppm (100ppm cut-off).

An infill aircore drill program to increase the level of confidence of this resource was completed in the March 2010 quarter, with 180 vertical holes (1,800m) drilled in higher grade zones. Downhole gamma logging of these holes returned anomalous uranium values from most holes with geochemical assaying confirming these anomalous intercepts.

Mid December 2010 the Company announced that the resource at Lake Mason had been increased to 9.1Mt @ 185ppm  $U_3O_8$  (at 100ppm cut-off) for 1,689 tonnes (3.7Mlb) of uranium, with 62% of the resource now reporting to the Indicated Category. Please refer to the ASX announcement made 17 December 2010 for further details.

Activities undertaken during the March Quarter were limited to rehabilitation of previous exploration activities. Further exploration work is planned to occur late in the June Quarter.

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

The Anketell project comprises two granted exploration licences (E's 58/289 & 58/292) with a total area of 165km<sup>2</sup>. The tenements contain shallow calcrete hosted mineralisation discovered by Western Mining (WMC) in 1972. The mineralisation is similar in style to the Yeelirrie deposit, also discovered by WMC in the same year and located 150km to the northeast.

Aircore drilling completed by Energy Metals between 2007 and 2009 confirmed the presence of uranium mineralisation in calcrete and calcareous clays with most traverses recording anomalous intercepts at shallow depths (typically within 10m of surface), and in July 2009 Energy Metals announced an Inferred Mineral Resource of 2,720 tonnes (6Mlb)  $U_3O_8$  at a grade of 167ppm (100ppm cut-off) at Anketell.

Anketell is located close to infrastructure, being approximately 90km east by sealed road from the mining town of Mount Magnet and 35km from the gas pipeline at Windimurra. The project is also located approximately 45km to the SW of Energy Metals' Lake Mason project (3.7Mlb resource – see above) and takes Energy Metals' total resources in the area (reportable under JORC) to 9.7Mlb  $U_3O_8$ .

Activities undertaken during the March Quarter were limited to rehabilitation of previous exploration activities. Further exploration work is planned to occur late in the June Quarter.

### **Rawlinson (EME 100%)**

The Rawlinson Project comprises four exploration licences (total area of 1,450km<sup>2</sup>) located in the Gibson Desert, approximately 950km northeast of Kalgoorlie and 60km west of the NT border (see plan below). The tenements in this project were granted on 16 November 2009.

The area is part of the Central Australia Aboriginal Reserve and due to the remote location and restricted access the geology of the area is poorly understood. However it appears that the main uranium anomalies are associated with mid Proterozoic age metasediments unconformably overlain by younger sedimentary rocks with potential for unconformity and roll-front style uranium deposits, as well as surficial uranium mineralisation. There is no evidence of previous uranium exploration in the area.

The Rawlinson project provides the Company with a low cost option to control untested outcropping uranium anomalies with the potential to represent a completely new uranium province.

Preliminary consultations with the Ngaanyatjarra Land Council have been positive with Energy Metals expecting access agreements to be finalised in 2011, allowing initial geochemical exploration programs to be undertaken later in the year.

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

The Manyingee exploration licence (E 08/1480) is located 85 km south of the port of Onslow. The tenement (total area 86 km<sup>2</sup>) surrounds the mining leases containing Paladin Energy's Manyingee resource, a stacked series of paleochannel hosted roll front uranium deposits.

A review of airborne EM data and historical exploration in the area has interpreted a number of paleochannels extending into E 08/1480 from the Paladin Manyingee deposit.

An initial heritage survey was undertaken by the Thalanjyi people following the signing of an access agreement in 2009. This survey covered a proposed aircore drill program (approximately 3,000m) designed to test for extensions to the paleochannel uranium mineralization.

A further site visit and meeting with the traditional owners was undertaken earlier this year and the final s18 report has been received and will be lodged to enable the Department of Indigenous Affairs (DIA) s18 application for approving site access for drilling to proceed. Access is not expected until mid 2011.

### **URANIUM EXPORT LICENCE**

On 8<sup>th</sup> March 2011 the Company announced that the Hon. Martin Ferguson, the federal Minister for Resources and Energy, had approved an application by NT Energy Pty Ltd (a wholly owned subsidiary of Energy Metals) for permission to export uranium oxide concentrate (UOC) from Australia. The export permit is for a period of ten years.

Energy Metals (through NT Energy) plans to purchase UOC from existing Australian uranium mines and potential uranium mines, subject to commercial agreements being executed and any requisite government approvals. The UOC will then be exported to China for re-sale to China Guangdong Nuclear Power Holding Co., Ltd (CGNPC) for use in CGNPC's nuclear power stations.

This presents a significant opportunity for Australia to capitalise on China's rapidly growing demand for energy whilst at the same time assisting reduce global carbon emissions. Please refer to the announcement made to ASX on 8<sup>th</sup> March 2011 for further details.

## **CORPORATE**

On the 1<sup>st</sup> of January 2011 Dr Weidong Xiang became the Managing Director of Energy Metals when Mr Lindsay Dudfield stepped down to become a Non-Executive Director. Dr Xiang has broad experience in uranium exploration and joins Energy Metals from CGNPC-Uranium Resources Co. Ltd where he was a senior executive.

Mr Huachun Luo resigned as the Technical Director on 15 February while Ms Xiaowei Zheng was appointed a Non-executive director on 23 February 2011. Ms Zheng is also a director of China Uranium Development Company Ltd, the Parent Company of Energy Metals.

The Annual General Meeting for the six months ended 31<sup>st</sup> December 2010 was held on the 19<sup>th</sup> April 2011, with all resolutions carried on a show of hands.

Information in this report relating to exploration results, data and cut off grades is based on information compiled by Mr Paul Dunbar and Mr Lindsay Dudfield. Both Mr Dunbar and Mr Dudfield are members of the AusIMM and the AIG. Mr Dunbar is a full time employee of Energy Metals and 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 he is 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 (2004)”. Mr Dunbar and Mr Dudfield both consent to the inclusion of the information in the report in the form and context in which it appears.

\* Uranium mineralisation grades through this report are annotated with a sub-prefix ‘e’ because they have been reported as uranium equivalent grades derived from down-hole gamma ray logging results and should be regarded as approximations only.

Gamma logging or “total count gamma logging” (the method used by Energy Metals) is a common method used to estimate uranium grade where the radiation contribution from thorium and potassium is very small. Sandstone and calcrete hosted deposits are usually of this type. Gamma logging does not account for energy derived from thorium and potassium (as does spectral gamma logging) and thus the result is expressed as an equivalent value or eU<sub>3</sub>O<sub>8</sub>.

The gamma radiation from potassium, uranium and thorium is dominated by gamma rays at specific energy levels. These energy levels are sufficiently well separated such that they can be measured independently of each other. They are typically measured as narrow energy bands that contain the specific energy levels. Bands are used because the measuring systems do not have the resolution to target a specific energy wavelength.

There is some scattering of higher energy gamma radiation, e.g. thorium, into lower energy radiation, e.g. uranium and potassium. This scattered radiation can be calculated from suitable calibration procedures and removed from the lower energy level measurements. This method is commonly termed spectral gamma logging.

Energy Metals uses gamma probes which are initially calibrated at the PIRSA (Primary Industry & Resources South Australia) test pits and then subjected to annual recalibration to ensure the integrity of the probe instrument. Furthermore, Energy Metals runs regular checks to validate the accuracy of probe data using calibrated test holes located on site.