



ABN 63 111 306 533

## QUARTERLY REPORT TO SHAREHOLDERS

for the three months  
ended 30<sup>th</sup> June 2011.

### ASX Code - EME

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



## HIGHLIGHTS

- \* Uranium Permit to Possess granted, enabling Energy Metals to possess uranium within Australia.
- \* Technical aspects of the Pre Feasibility Study completed
- \* Resource update for Bigrlyi, >64% of the resource is classified as Indicated.
- \* Significant intersections at Anomaly 15 East on 100% EME tenement
- \* Exploration recommenced at Bigrlyi

## FINANCIAL

- \* Energy Metals had approximately \$28.2M in cash and 153.8M shares on issue at 30<sup>th</sup> June 2011.

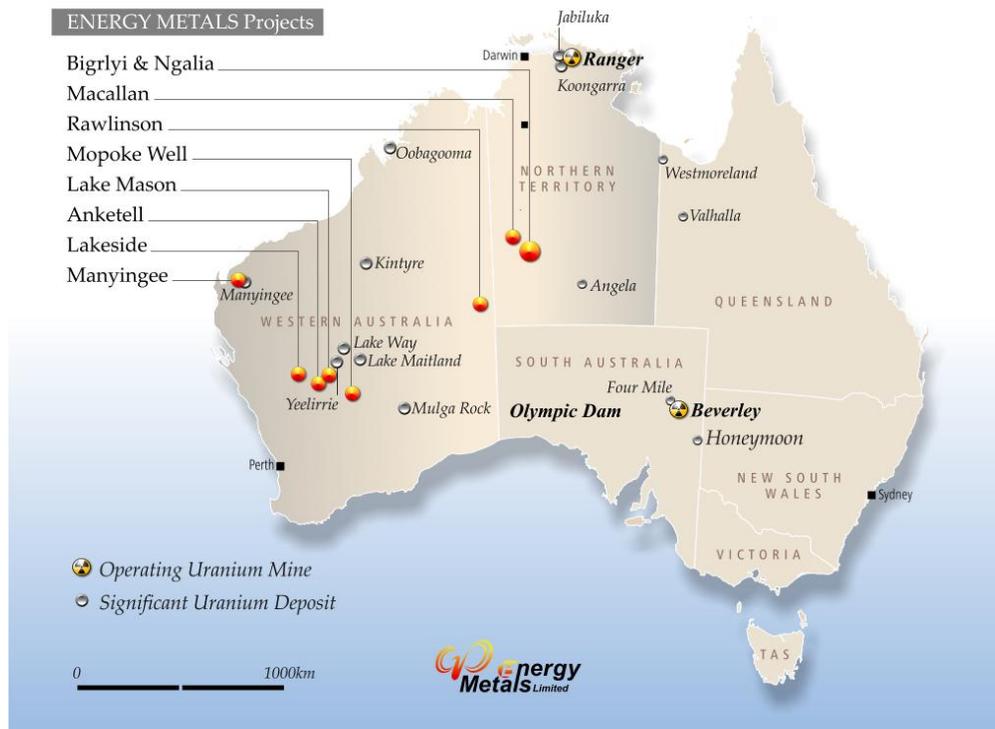
**Weidong Xiang**  
**Managing Director**  
**29<sup>th</sup> July 2011**



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**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 18,620 MWe of capacity currently under construction across various locations around China.

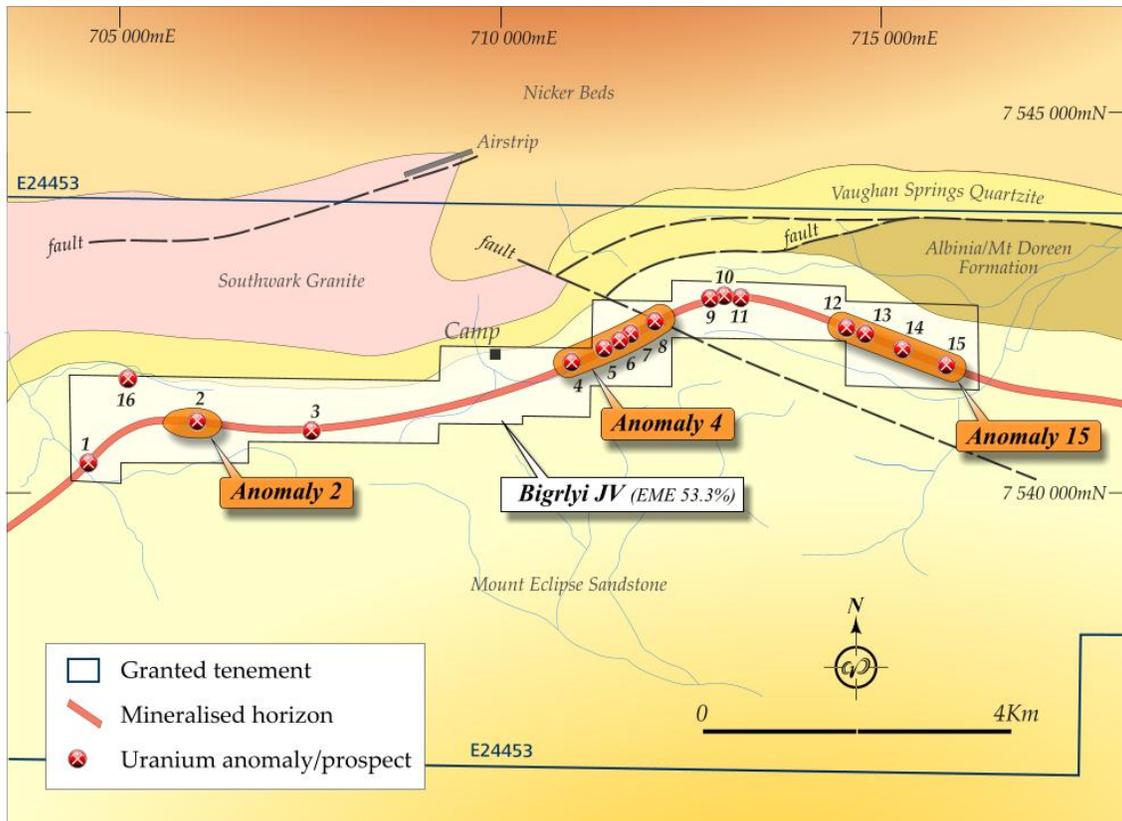
CGNPC is one of only two companies authorised by the Chinese government to import and export uranium.

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**



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The Bigirlyi 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 (June 2011 Quarter)**

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 with drilling in the region commencing in April while drilling at the Bigirlyi Joint Venture (BJV) commenced in July.

Results of the Pre Feasibility Study (PFS) were released 17th June 2011 and confirmed that mining the Anomaly 4, Anomaly 15 and Anomaly 2 deposits using a combination of open pit and underground mining and processing ore through a relatively simple acid leach circuit could provide positive cash flow of around \$120M over a mine life of approximately 8 years.

The PFS has shown the following;

- Excellent metallurgical recoveries (>95%)
- Reasonable acid consumption (60kg/t)
- Excellent geotechnical conditions that could allow overall pit wall angles (excluding ramps) to be steeper than 55° (the PFS used 45°)
- Good underground conditions that could enable large open stopes and therefore lower mining costs than those used in the PFS
- Process and potable water located only 20km SE of the project
- In pit tailings storage allowing a lower environmental footprint
- Initial baseline studies identified no environmental impediments to development
- Capital Costs of \$165M for the processing plant and associated infrastructure, \$16M for tailings storage and \$89M for mining (including pre production and sustaining capital)
- Processing operating costs average \$93/t of ore processed
- Mining costs average \$67/t of ore mined
- Total cash flow of \$121M from a total revenue base of \$979M (based on a US\$80/lb U<sub>3</sub>O<sub>8</sub>)
- A mine life of approximately 8 years, producing around 10Mlb U<sub>3</sub>O<sub>8</sub> over the life of the project.



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One key finding was that a substantial increase in the resource base that underpins the project, especially if those resources are amenable to open pit mining, is essential to improve project economics

The mineralization within the BJV is open at depth and down plunge below all main mineralised zones. Drilling designed to target high grade depth extensions, together with additional open pit material, commenced subsequent to the end of the June quarter.

In May 2011 independent consultants Hellman & Schofield Pty Ltd (“H&S”) commenced Mineral Resource estimates for the Bigryli deposits, an update of their July 2010 estimate. The Mineral Resource, completed in June 2011 (ASX announcement 28<sup>th</sup> June 2011), includes the results of all drilling up until the commencement of the 2011 field season. The Mineral Resources were estimated at various cut-off grades using the Multiple Indicator Kriging (MIK) method to estimate uranium resources and Ordinary Kriging (OK) to estimate vanadium resources.

At a cut-off grade of 500ppm U<sub>3</sub>O<sub>8</sub> the Bigryli Mineral Resource totals 21.1 million pounds (Mlb) of U<sub>3</sub>O<sub>8</sub> and 19.7 Mlb of V<sub>2</sub>O<sub>5</sub>, with 66% of the contained uranium metal (or 6,400t U<sub>3</sub>O<sub>8</sub>) now reporting to the Indicated Resource category, compared with 60% in the July 2010 MIK resource estimate.

**Bigryli Mineral Resource estimate at a 500ppm U3O8 cut off**

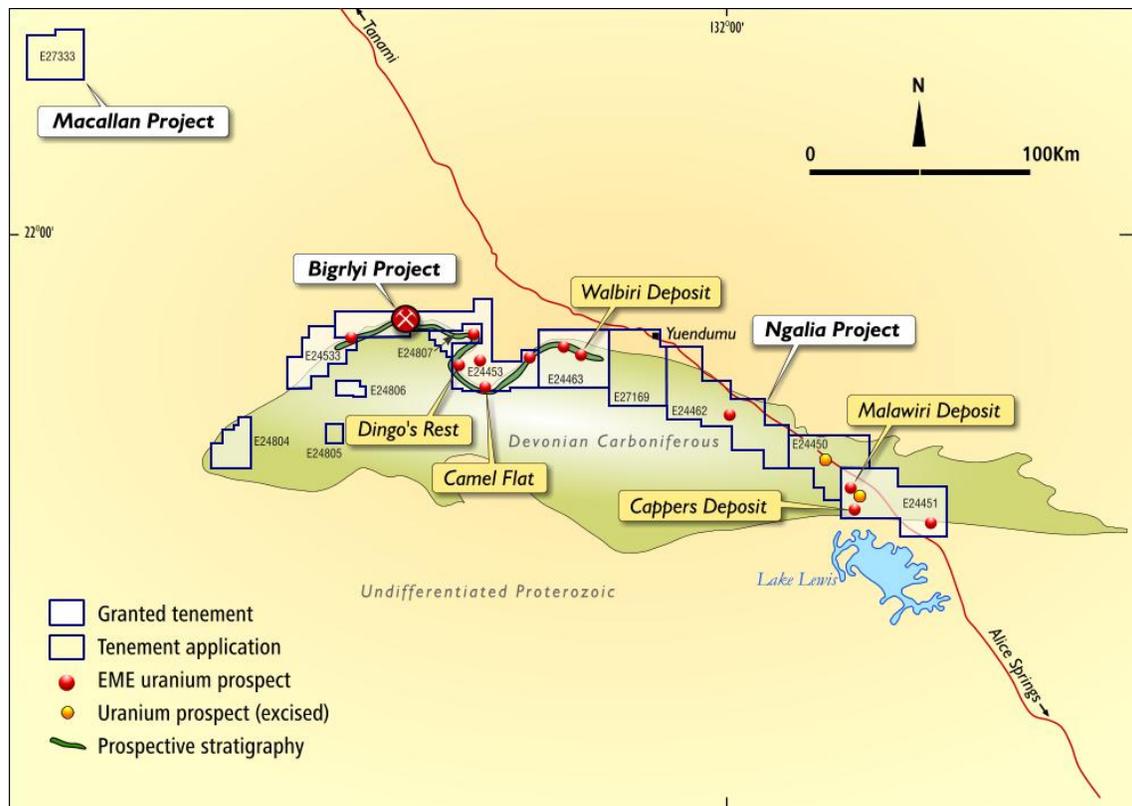
Resource Category	Tonnes (Millions)	U <sub>3</sub> O <sub>8</sub> (ppm)	V <sub>2</sub> O <sub>5</sub> (ppm)	U <sub>3</sub> O <sub>8</sub> (t)	V <sub>2</sub> O <sub>5</sub> (t)	U <sub>3</sub> O <sub>8</sub> (Mlb)	V <sub>2</sub> O <sub>5</sub> (Mlb)
Indicated	4.7	1,366	1,303	6,400	6,100	14.0	13.4
Inferred	2.8	1,144	1,022	3,200	2,900	7.1	6.3
<b>Total</b>	<b>7.5</b>	<b>1,283</b>	<b>1,197</b>	<b>9,600</b>	<b>8,900</b>	<b>21.1</b>	<b>19.7</b>

Tonnes are metric (2204.62 pounds); figures may not total due to rounding.

Exploration with the aim of expanding the resource base to improve the economics of the project is ongoing. Further feasibility studies are continuing on the BJV tenements and to better determine the costs associated with processing of ore from the various deposits, along with ongoing baseline environmental studies.

**Ngalia Regional (EME 100%)**

The Ngalia Regional project comprises eleven 100% owned exploration licenses (total area >3,000 km<sup>2</sup>) located in the Ngalia Basin, between 180km 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.



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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  $U_3O_8$  & 755ppm  $V_2O_5$  from 93.0m, including 5.0m @ 13,269ppm (1.33%)  $U_3O_8$  & 2,944ppm  $V_2O_5$ .

Energy Metals is highly encouraged by 2010 drilling intercepts from Camel Flat, which compare very favourably with early drilling results from Bigrlyi. 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.

#### **Activities (June 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 Bigrlyi mineralised trend to the east of the Bigrlyi Joint Venture tenements (Anomaly 15 East).

Exploration activities conducted within the Ngalia Regional project during the quarter included RC and Diamond drilling within both the Camel Flat and the Anomaly 15 East prospects.

#### **Anomaly 15 East**

RC drilling (38 holes for 5,772 metres) at Anomaly 15 East during the quarter recorded encouraging initial gamma intercepts from the prospect (ASX release 4<sup>th</sup> July 2011), including 6m @ 1,940ppm  $eU_3O_8$  from 60.5m in B11012, including 1.5m at 6,980ppm  $eU_3O_8$  from 65m. Hole B11011, drilled 75m to the north of B11012, intersected multiple zones of >100ppm  $eU_3O_8$  including 7.5m at 146ppm  $eU_3O_8$  from 11m while B11016, located 1,200m to the east of B11012, returned 5m at 309ppm  $eU_3O_8$  from 30m, including 1m of 1,017ppm  $eU_3O_8$  from 33.5m.

These results are separated by over 1,200m of prospective stratigraphy with most holes between these intersections also intersecting significant mineralisation over 100ppm  $eU_3O_8$  (figure 4). Importantly the better intersections are in the same stratigraphic position as the mineralisation at Bigrlyi.

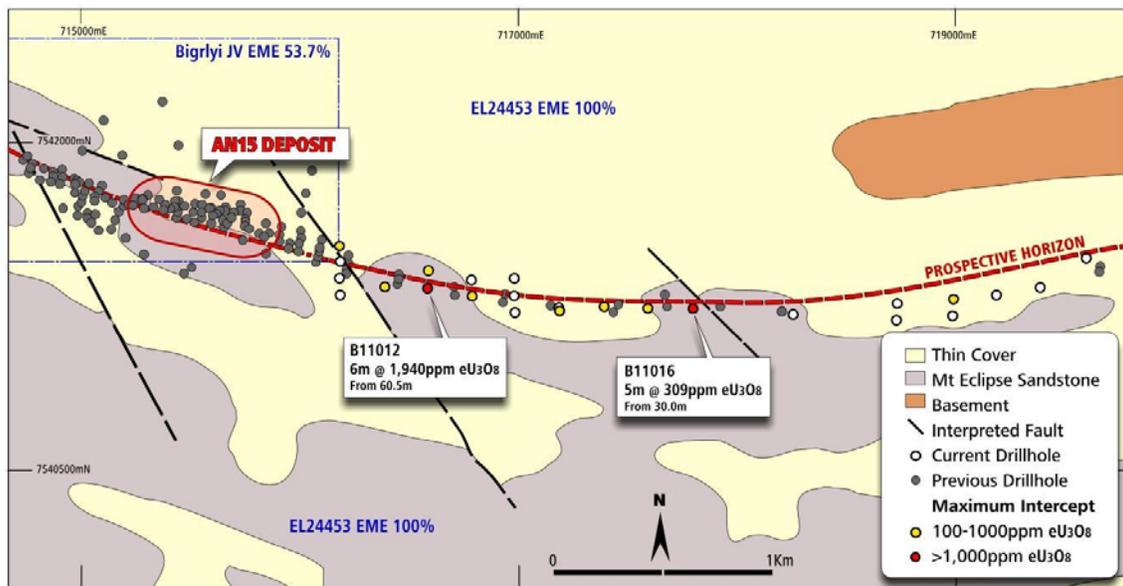
Given the broad nature of the initial RC drilling this zone of anomalous intersections requires significant drilling on a closer spacing. This drilling is ongoing with further results of both gamma probe data and confirmatory chemical assays expected in the coming weeks.

**Camel Flat**

Drilling at Camel Flat during the June quarter comprised both RC and Diamond (58 holes for 8,646 metres) and was designed to define the stratigraphic position and locate extensions to the mineralisation intersected in the 2010 drilling. Diamond drilling confirmed the orientation of the stratigraphy, enabling further RC drilling to be conducted with a combination of infill and extensional drilling planned. Results (both gamma probe and chemical assays) have not yet been received.

**Regional Targets**

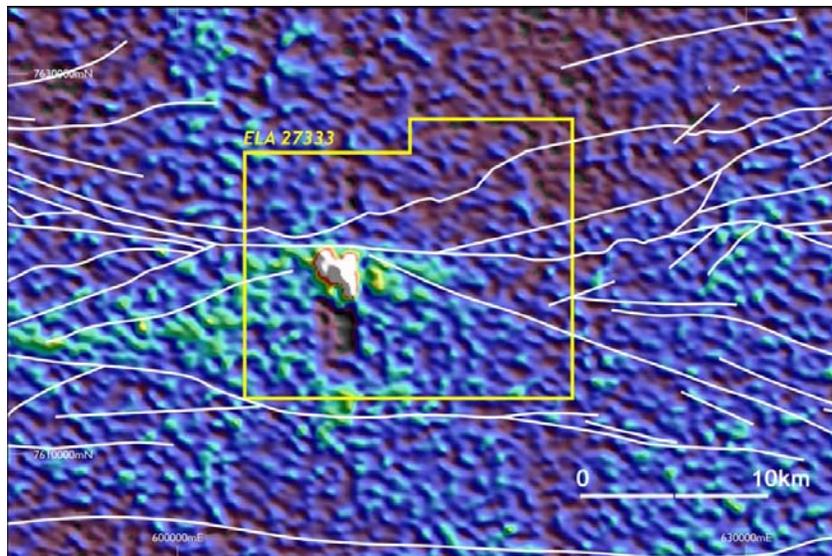
A series of high priority regional targets have been identified and access to these areas will be progressed during the coming period. One of these areas is the Walbiri prospect (figure 3) which hosts a pre JORC resource. This prospect has the potential to impact positively on the economics of the Bigrlyi project, however significant exploration is required prior to determining the full potential of the region. Access to this prospect is also dependent on the results of negotiations with the traditional owners, with these negotiations expected to commence in the September quarter.



**Figure 4 - Simplified plan of the Anomaly 15 East showing prospective horizon interpreted from geological mapping and historical drilling.**

**Macallan (EME 100%)**

The **Macallan** project (ELA27333) is located 460km northwest of Alice Springs and 140km from Bigriyi. 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 September quarter.

**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



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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 period were limited to rehabilitation of previous exploration activities and a field review of the prospectivity of the project. Further exploration work is planned to occur later in the year.

#### **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 quarter were limited to rehabilitation of previous exploration activities and a field review of the prospectivity of the project. Further exploration work is planned to occur later in the year.

#### **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.



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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.

No exploration activity occurred during the quarter.

#### **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 last year and the final s18 report has been received and will be lodged to enable the Department of Indigenous Affairs (DIA) s18 to consider the Company's application for drilling to proceed.

Access is not expected to be approved until late 2011 and no exploration activity occurred during the quarter.



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**URANIUM EXPORT LICENCE and PERMIT TO POSSESS**

During the quarter the Australian Safeguards and Non-Proliferation Office (ASNO) approved an application by NT Energy Pty Ltd (a wholly owned subsidiary of Energy Metals) for permission to possess uranium ore concentrates (UOC) for export to overseas customers (ASX release 3<sup>rd</sup> May) and follows an announcement made 8<sup>th</sup> March 2011 confirming that the Company had received permission to export UOC from Australia. The export permit is for a period of ten years.

Energy Metals (through NT Energy) has now received all necessary regulatory approvals from public authorities for its newly launched uranium export business. Energy Metals plans to purchase UOC from existing Australian uranium mines and potential uranium mines, subject to commercial agreements being executed. The UOC will then be exported for re-sale to China Guangdong Nuclear Power Holding Co., Ltd (CGNPC) for use in CGNPC's nuclear power stations.

**CORPORATE**

The 2011 Annual General Meeting of Energy Metals was held in Perth on 19<sup>th</sup> April 2011, with all resolutions carried on a show of hands.



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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 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 (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  $eU_3O_8$ .

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.