

### ASX ANNOUNCEMENT

### 11<sup>th</sup> October 2011

## Energy Metals Limited ABN 63 111 306 533

For further information contact:

## Weidong Xiang Managing Director

Phone: +61 8 9322 6904 Fax: +61 8 9321 5240

#### Website:

www.energymetals.net

#### Email:

#### enquiry@energymetals.net

#### **Registered Office:**

Ground Floor 10 Kings Park Road West Perth WA 6005

PO Box 1323 West Perth WA 6872



# BIGRLYI JOINT VENTURE EXPLORATION AND DEVELOPMENT UPDATE

#### HIGHLIGHTS

- 27m @ 0.21% eU<sub>3</sub>O<sub>8</sub> from 47.8m in BRC11045 inc
   6.9m @ 0.39% eU<sub>3</sub>O<sub>8</sub> from 49.15m, and
   4.35m @ 0.62% eU<sub>3</sub>O<sub>8</sub> from 61.85m
- 15.2m @ 0.32% eU<sub>3</sub>O<sub>8</sub> from 49m in BRC11077 inc
   6.65m @ 0.70% eU<sub>3</sub>O<sub>8</sub> from 54.8m
- 13.55m @ 0.26% eU<sub>3</sub>O<sub>8</sub> from 121.1m in BRC11047 inc
   12.45m @ 0.28% eU<sub>3</sub>O<sub>8</sub> from 121.6m
- 8.15m @ 0.34% eU<sub>3</sub>O<sub>8</sub> from 79.25m in BRC11049 inc
   3.7m @ 0.73% eU<sub>3</sub>O<sub>8</sub> from 83.3m
- 5.65m @ 0.50% eU<sub>3</sub>O<sub>8</sub> from 136m in BRC11081 inc
   5.1m @ 0.55% eU<sub>3</sub>O<sub>8</sub> from 136.2m

Energy Metals Limited (ASX: EME) is pleased to release the results from recent exploration and infill resource drilling activities within the Bigrlyi Joint Venture (BJV), located in the Northern Territory. Partners in the BJV are Energy Metals (53.3% and manager), Paladin Energy (41.7%) and Southern Cross Exploration (5.0%).

Recent exploration activities within the BJV have included more detailed mapping to identify untested sections of the prospective horizon, and infill and extensional RC and Diamond drilling. All work has been designed to increase the resource base by targeting down plunge, up dip and along strike extensions of the mineralisation.

The geological controls on the higher grade and thicker portions of the mineralisation have been reinterpreted resulting in a slightly different geological model. This new model has driven the recent exploration drilling, especially at the Anomaly 4 deposit.



Recent drilling has included testing of up dip and down dip extensions of the mineralisation predicted by the new model (especially in close proximity to the potential underground development identified in the pre-feasibility study completed earlier this year), as well as infill drilling to increase the confidence in the Resource Estimate.

This drilling has resulted in several extensions of the mineralisation at depth and in close proximity to the current optimised pit shells, which is expected to have a positive impact on the economics of the project.

Significant (>100ppm  $eU_3O_8$ ) gamma probe intersections have been returned from most holes in this programme with some of the better intersections highlighted previously in this announcement. Importantly most of these holes are either close to, or within, the current optimised Anomaly 4 Open Pit resource.

Figure 1 shows the location of the Anomaly 4 deposit, which was the focus of the recent drilling.

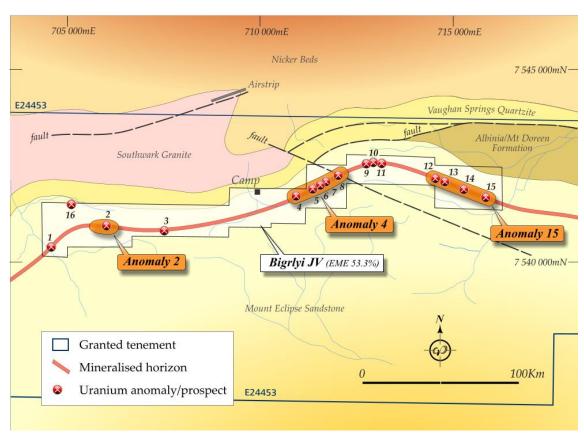


Figure 1 - Bigrlyi Joint Venture plan showing the main resource areas and historic anomalies.



Significant intersections are detailed in Table 1 with drill hole collar information detailed in Table 2. All intersections are down hole widths with the true thickness estimated to be between 70 and 80% of the down hole thickness.

Samples from the anomalous intervals have been dispatched for chemical analysis to confirm the Uranium values returned from gamma probe estimates and to determine the Vanadium content of the holes.

RC and Diamond drill rigs are currently conducting drilling activities within the BJV, targeting extensions of the known mineralisation and resources, drilling infill holes aiming to upgrade the resource and obtain bulk samples for further metallurgical testwork and domain modelling within the current optimised pit shells.

Drilling is expected to continue with two drill rigs on site for the remainder of the year



Table 1 Significant Intersections from the recent RC and Diamond drilling within the Bigrlyi Joint Venture, dominantly at Anomaly 4

| Hole Number  | From   | То      | Interval | eU₃O <sub>8</sub> |  |
|--------------|--------|---------|----------|-------------------|--|
| Tible Number | (m)    | (m) (m) |          | (ppm)             |  |
| BRC11044     | 201.45 | 208.50  | 7.05     | 803               |  |
| And          | 233.35 | 234.50  | 1.15     | 200               |  |
| BRC11045     | 47.80  | 74.80   | 27.00    | 2,111             |  |
| Inc          | 49.15  | 56.05   | 6.90     | 3,953             |  |
| Inc          | 61.85  | 66.20   | 4.35     | 6,257             |  |
| And          | 220.95 | 224.35  | 3.40     | 143               |  |
| And          | 237.20 | 242.10  | 4.90     | 108               |  |
| BRC11046     | 100.41 | 106.21  | 5.80     | 231               |  |
| And          | 110.91 | 112.31  | 1.40     | 525               |  |
| And          | 140.21 | 142.01  | 1.80     | 164               |  |
| And          | 196.31 | 197.36  | 1.05     | 166               |  |
| BRC11047     | 99.45  | 100.70  | 1.25     | 337               |  |
| And          | 121.10 | 134.65  | 13.55    | 2,603             |  |
| Inc          | 121.60 | 134.05  | 12.45    | 2,814             |  |
| BRC11048     | 15.89  | 18.44   | 2.55     | 252               |  |
| And          | 137.74 | 140.24  | 2.50     | 3,939             |  |
| Inc          | 137.99 | 139.99  | 2.00     | 4,861             |  |
| BRC11049     | 60.10  | 65.75   | 5.65     | 499               |  |
| Inc          | 60.75  | 63.45   | 2.70     | 829               |  |
| And          | 79.25  | 87.40   | 8.15     | 3,444             |  |
| inc          | 83.30  | 87.00   | 3.70     | 7,317             |  |
| And          | 109.45 | 111.70  | 2.25     | 459               |  |
| and          | 215.85 | 218.35  | 2.50     | 385               |  |
| BRC11050     | 130.45 | 134.50  | 4.05     | 242               |  |
| And          | 168.45 | 174.50  | 6.05     | 930               |  |
| Inc          | 171.45 | 173.65  | 2.20     | 1,111             |  |
| And          | 184.40 | 186.50  | 2.10     | 1,049             |  |
| Inc          | 184.70 | 185.95  | 1.25     | 1,597             |  |
| BRC11052     | 94.75  | 95.90   | 1.15     | 107               |  |
| And          | 98.55  | 104.40  | 5.85     | 2,824             |  |
| Inc          | 98.80  | 102.65  | 3.85     | 4,243             |  |
| And          | 108.05 | 109.60  | 1.55     | 140               |  |
| And          | 132.30 | 137.90  | 5.60     | 586               |  |
| Inc          | 132.85 | 137.90  | 5.05     | 624               |  |
| BRC11053     | 58.85  | 60.70   | 1.85     | 680               |  |
| And          | 223.60 | 226.10  | 2.50     | 136               |  |
| And          | 52.75  | 54.60   | 1.85     | 106               |  |
| And          | 76.00  | 77.95   | 1.95     | 482               |  |
| BRC11056     | 124.45 | 130.35  | 5.90     | 171               |  |
| BRC11057     | 126.12 | 133.27  | 7.15     | 243               |  |
| And          | 143.77 | 148.57  | 4.80     | 284               |  |
| BRC11058     | 86.30  | 87.75   | 1.45     | 146               |  |
| BRC11059     | 11.60  | 13.05   | 1.45     | 454               |  |
| And          | 30.90  | 32.25   | 1.35     | 128               |  |



| Hole     | From   | То     | Interval | eU₃O <sub>8</sub> |
|----------|--------|--------|----------|-------------------|
| Number   | (m)    | (m)    | (m)      | (ppm)             |
| BRC11063 | 235.00 | 236.15 | 1.15     | 332               |
| And      | 241.15 | 245.40 | 4.25     | 1,020             |
| Inc      | 241.85 | 243.85 | 2.00     | 2,067             |
| And      | 310.50 | 311.50 | 1.00     | 676               |
| BRC11064 | 83.10  | 86.25  | 3.15     | 202               |
| BRC11066 | 245.45 | 246.45 | 1.00     | 249               |
| BRC11069 | 78.80  | 80.00  | 1.20     | 195               |
| BRC11070 | 85.20  | 88.00  | 2.80     | 717               |
| Inc      | 85.70  | 87.45  | 1.75     | 975               |
| BRC11071 | 106.89 | 110.34 | 3.45     | 567               |
| Inc      | 107.84 | 109.29 | 1.45     | 1,128             |
| BRC11076 | 9.28   | 11.23  | 1.95     | 186               |
| And      | 114.03 | 115.03 | 1.00     | 272               |
| And      | 160.93 | 162.08 | 1.15     | 299               |
| And      | 174.33 | 180.73 | 6.40     | 853               |
| Inc      | 176.93 | 179.83 | 2.90     | 1,542             |
| And      | 218.68 | 223.63 | 4.95     | 1,029             |
| Inc      | 219.13 | 222.23 | 3.10     | 1,498             |
| BRC11077 | 37.50  | 38.50  | 1.00     | 635               |
| And      | 49.00  | 64.20  | 15.20    | 3,199             |
| Inc      | 54.80  | 61.45  | 6.65     | 6,995             |
| And      | 75.20  | 77.95  | 2.75     | 125               |
|          |        | 138.05 |          | 969               |
| And      | 132.15 |        | 5.90     |                   |
| Inc      | 133.65 | 134.70 | 1.05     | 4,972             |
| And      | 214.85 | 218.15 | 3.30     | 405               |
| And      | 223.80 | 226.50 | 2.70     | 1,724             |
| Inc      | 224.65 | 226.15 | 1.50     | 2,940             |
| BRC11079 | 51.94  | 53.29  | 1.35     | 279               |
| BRC11080 | 98.25  | 101.45 | 3.20     | 1,453             |
| Inc      | 99.45  | 101.20 | 1.75     | 2,496             |
| BRC11081 | 93.35  | 95.20  | 1.85     | 270               |
| And      | 136.00 | 141.65 | 5.65     | 4,955             |
| Inc      | 136.20 | 141.30 | 5.10     | 5,465             |
| BRC11082 | 8.85   | 9.95   | 1.10     | 133               |
| BRC11083 | 118.50 | 120.00 | 1.50     | 210               |
| BRC11085 | 113.15 | 114.15 | 1.00     | 428               |
| And      | 116.85 | 121.15 | 4.30     | 1,112             |
| Inc      | 118.55 | 120.75 | 2.20     | 2,059             |
| BRD11065 | 315.30 | 330.50 | 15.20    | 913               |
| Inc      | 317.50 | 325.80 | 8.30     | 1,539             |
| BRD11068 | 197.00 | 198.35 | 1.35     | 365               |
| B07141   | 170.74 | 175.29 | 4.55     | 144               |
| And      | 199.34 | 203.19 | 3.85     | 173               |
| And      | 215.24 | 216.39 | 1.15     | 464               |
| B08006   | 97.80  | 102.45 | 4.65     | 113               |
| And      | 184.80 | 191.95 | 7.15     | 1,287             |
| Inc      | 188.90 | 191.50 | 2.60     | 3,249             |
| And      | 196.35 | 197.85 | 1.50     | 396               |
| B10034   | 121.50 | 123.95 | 2.45     | 401               |
| Inc      | 122.25 | 123.50 | 1.25     | 535               |
| And      | 192.55 | 196.35 | 3.80     | 131               |
|          |        |        |          | hased on the De-c |

Note Intersections calculated on a  $100ppm \, eU_3O_8$  cut off, minimum thickness of 1m and 3m maximum internal dilution based on the De-convolved  $eU_3O_8$  probe results. The inc. intersections are based on a  $500ppm \, eU_3O_8$  cut off, minimum thickness of 1m and 3m maximum internal dilution based De-convolved  $eU_3O_8$  probe results. The **Bold** intersections are where the grade (in ppm  $eU_3O_8$ ) \* thickness (m) is >1000. The true thickness of the intersections are estimated to be between 70% and 80% of the down hole width, based on outcrop and geological interpretation.



Table 2: Collar coordinates for the recent drilling within the Bigrlyi Joint Venture

| Hole                        |         |           | Depth        |            |            |
|-----------------------------|---------|-----------|--------------|------------|------------|
| Number                      | Easting | Northing  | (m)          | Dip        | Azimuth    |
| B07081                      | 710,210 | 7,541,285 | 351          | -60        | 338        |
| B07141                      | 711,094 | 7,541,716 | 303          | -60        | 338        |
| B07142                      | 711,158 | 7,541,894 | 315          | -57        | 158        |
| B08006                      | 711,599 | 7,542,012 | 235          | -60        | 324        |
| B10034                      | 710,900 | 7,541,740 | 230          | -90        | 000        |
| BRC11043                    | 710,835 | 7,541,645 | 251          | -60        | 335        |
| BRC11044                    | 710,845 | 7,541,620 | 271          | -60        | 335        |
| BRC11045                    | 711,495 | 7,541,900 | 247          | -60        | 330        |
| BRC11046                    | 711,555 | 7,541,915 | 253          | -60        | 330        |
| BRC11047                    | 711,590 | 7,541,950 | 283          | -60        | 330        |
| BRC11048                    | 711,695 | 7,542,090 | 281          | -60        | 330        |
| BRC11049                    | 711,750 | 7,542,085 | 223          | -60        | 330        |
| BRC11050                    | 711,880 | 7,542,380 | 211          | -60        | 150        |
| BRC11052                    | 710,840 | 7,541,800 | 146          | -60        | 150        |
| BRC11053                    | 710,715 | 7,541,800 | 301          | -63        | 150        |
| BRC11054                    | 710,690 | 7,541,845 | 270          | -60        | 150        |
| BRC11055                    | 710,630 | 7,541,495 | 120          | -60        | 325        |
| BRC11056                    | 710,680 | 7,541,480 | 200          | -60        | 325        |
| BRC11057                    | 710,620 | 7,541,460 | 193          | -60        | 325        |
| BRC11058                    | 710,575 | 7,541,445 | 169          | -60        | 325        |
| BRC11059                    | 710,520 | 7,541,440 | 49           | -60        | 325        |
| BRC11060                    | 710,565 | 7,541,385 | 253          | -60        | 325        |
| BRC11062                    | 710,985 | 7,541,710 | 249          | -61        | 330        |
| BRC11063                    | 710,950 | 7,541,900 | 319          | -60        | 150        |
| BRC11064                    | 710,685 | 7,541,800 | 301          | -60        | 150        |
| BRC11066                    | 711,240 | 7,541,615 | 307          | -63        | 330        |
| BRC11069                    | 711,035 | 7,541,740 | 181          | -60        | 330        |
| BRC11070                    | 711,235 | 7,541,905 | 289          | -60        | 150        |
| BRC11071                    | 710,335 | 7,541,355 | 205          | -60        | 334        |
| BRC11072                    | 710,272 | 7,541,355 | 221          | -60        | 334        |
| BRC11073                    | 710,355 | 7,541,375 | 133          | -60        | 334        |
| BRC11074                    | 710,390 | 7,541,355 | 210          | -60        | 334        |
| BRC11075                    | 710,495 | 7,541,400 | 181          | -60        | 325        |
| BRC11076                    | 710,220 | 7,541,260 | 301          | -60        | 334        |
| BRC11077                    | 710,900 | 7,541,740 | 91           | -60        | 330        |
| BRC11078                    | 711,153 | 7,541,930 | 247          | -60        | 159        |
| BRC11079                    | 711,620 | 7,542,095 | 97           | -60        | 330        |
| BRC11073                    | 711,465 | 7,541,845 | 151          | -60        | 330        |
| BRC11080                    | 711,463 | 7,542,254 | 176          | -67        | 155        |
| BRC11081                    | 711,803 | 7,542,234 | 121          | -59        | 330        |
|                             | 710,633 | 7,541,820 | 175          | -60        | 150        |
| BRC11083                    |         | 7,541,820 |              |            |            |
| BRC11085                    | 715,588 | 7,541,744 | 175<br>470.5 | -62        | 190        |
| BRD11042<br>BRD11065        | 710,960 | 7,541,500 | 470.5<br>366 | -60<br>-60 | 338<br>330 |
| DIAT COORDINATES DETERMINED | 711,030 |           |              |            |            |

Note: All holes are RC holes with collar coordinates determined from a hand held GPS with a nominal accuracy of ± 5m and are all MGA zone 52, the depths are all down hole depth in meters. The **Bold** drill holes contain significant intersections included in Table 1.



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 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.

Information in this report relating to the determination of the gamma probe results and geophysical work is based on information compiled by Mr David Wilson. Mr Wilson is a member of the AusIMM and the AIG. Mr Wilson is a consultant to Energy Metals. He has 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 Wilson consents 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.

Total count gamma logging includes the generally small number of gamma rays emitted by background levels of thorium and potassium. These background gamma rays add the equivalent of a few parts per million to the equivalent uranium values and are relatively constant in each geological unit.

Downhole gamma logging of drill holes provides a powerful tool for uranium companies to explore for and evaluate uranium deposits. Such a method measures the natural gamma rays emitted from material surrounding a drill hole. Gamma radiation is measured from a volume surrounding the drill hole that has a radius of approximately 35cm. The gamma probe is therefore capable of sampling a much larger volume than the geological samples recovered from any normal drill hole.

Gamma ray measurements are used to estimate uranium concentrations with the commonly accepted initial assumption being that the uranium is in (secular) equilibrium with its daughter products (or radio- nuclides) which are the principal gamma ray emitters. If uranium is not in equilibrium (viz. in disequilibrium), as a result of the redistribution (depletion or enhancement) of uranium and/or its daughter products, then the true uranium concentration in the holes logged using the gamma probe will be higher or lower than those reported in the announcement.

Energy Metals is undertaking measurements to determine if disequilibrium is present and its distribution via undertaking chemical analysis of all  $eU_3O_8$  intersections. Previous chemical assays from Bigrlyi and surrounds have confirmed the gamma intersections and as such Energy Metals believes that the Uranium in the system is in equilibrium with its daughter products.

The logging programme was undertaken by Energy Metals utilising an Auslog Logging System. The gamma tools were calibrated in Adelaide at the Department of Water in calibration pits constructed under the supervision of CSIRO. Energy Metals carries out annual recalibration checks to validate the accuracy of gamma probe data. Furthermore, Energy Metals runs regular checks to validate the accuracy of probe data using calibrated test holes located on site.

The gamma ray data was converted from counts per second to eU3O8 using calibration factors obtained from measurements made at the calibration pits. The eU3O8 data was also adjusted by an attenuation factor, determined onsite, due to drill rods. These factors also take into account differences in drill hole size and water content. The eU3O8 data has been filtered (deconvolved) to more closely reproduce the true grades and thicknesses where thin narrow zones are encountered.

The various calibration factors and deconvolution parameters were calculated by David Wilson BSc MSc MAusIMM from 3D Exploration Ltd based in Perth, Western Australia.