



**GROUP ANNUAL REPORT  
EL24453, EL24463 & EL24533**

**GR070-09\_2012\_GA**

**NGALIA REGIONAL PROJECT**

**PERIOD ENDING 6 FEBRUARY, 2012**

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Mapsheet: Mount Doreen

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## ABSTRACT

Exploration Licenses EL24453, 24463 and 24533 are part of the Ngalia Regional Project, a uranium exploration project which immediately surrounds Energy Metals Ltd's (EME's) Bigrlyi Uranium Project (ERL's 46 to 55 inclusive) located 390 kilometres (by road) northwest of Alice Springs. The Ngalia Regional Project is 100% owned by Energy Metals Limited and the Bigrlyi Project is a Joint Venture between Energy Metals Limited (EME) with 53.3% (operator), Valhalla Uranium (a subsidiary of Paladin Resources Ltd) with 41.7% and Southern Cross Exploration NL with 5%.

Exploration work undertaken on these licences in the period 06 February 2011 to 06 February 2012 involved an expenditure of over \$2M and included the following programs:

- a) exploration drilling at Camel Flat Prospect (EL24453) consisting of 77 RC holes for a total of 11,500m and 3 diamond tails on RC precollars for a total of 305m of core;
- b) exploration drilling at Anomaly-15 East Prospect (EL24453) consisting of 48 RC holes for a total of 6,490m;
- c) geochemical assay of over 500 drill spoil and core samples from the above drill programs for uranium and vanadium (EL24453);
- d) for the Walbiri deposit (EL24463), a compilation of historical data and conversion of the data to digital formats was undertaken;
- e) for exploration areas along strike southwest of the Bigrlyi Project (EL24453, EL24533), a reinterpretation of ground radiometric surveys was undertaken;
- f) negotiations and heritage surveys involving traditional owners and the CLC to gain access to prospective ground for exploration continued (EL24453, EL24463);
- g) EME participated in the CSIRO-JSU Ngalia Basin mineral systems study including on-site workshop and data review (EL24453, EL24463, EL24533).

## INTRODUCTION

Energy Metals Ltd's Ngalia Regional project comprises eleven 100% owned exploration licences and licence applications (total area 3,050 km<sup>2</sup>) located in the Ngalia Basin, between 180 and 350 km northwest of Alice Springs in the Northern Territory (Figures 1 & 2). The Ngalia Regional project occurs in proximity to the advanced Bigrlyi uranium project which is a joint venture between Energy Metals Ltd (53.3%), Paladin Energy Ltd (41.7%) and Southern Cross Exploration (5%). This report refers to exploration activities conducted on three adjacent granted licences in the Ngalia Regional Project area: EL24533 "Vaughan Springs": located west of the Bigrlyi deposit; EL24453 "Bigrlyi Surrounds": surrounding the Bigrlyi deposit and extending to the southeast to include a number of historical prospects including Dingo's Rest, Camel Flat, Emu Caves and Coonega; and EL24463 "Walbiri": located east of Bigrlyi including the historical Walbiri deposit. Tenement details are provided in Table 1.

Table 1. Tenement Details

TITLE NO.	HOLDER	STATUS	SIZE (BLOCKS)	GRANT DATE	EXPIRY DATE	EXPENDITURE COMMITMENT
EL24533	ENERGY METALS LTD 100%	GRANTED	68	6/02/2006	5/02/2012	\$65,000
EL24453	ENERGY METALS LTD 100%	GRANTED	169	6/02/2006	5/02/2012	\$250,000
EL24463	ENERGY METALS LTD 100%	GRANTED	81	6/02/2006	5/02/2012	\$40,000

In recent years, Energy Metals Ltd (EME) has committed significant financial resources to uranium exploration on ELs 24533, 24453 and 24463 with the aim of expanding the resource base of the Bigrlyi uranium deposit and therefore improving the overall economic viability of the Bigrlyi Project. During the 2011 to 2012 reporting period, total expenditure on ELs 24533, 24453 and 24463 amounted to approximately \$2.05M, well in excess of EME's expenditure covenant. A large proportion of the expenditure was directed toward drilling programs at EME's Camel Flat and Anomaly-15 East prospects in order to locate new resources. It should be noted that about two-thirds of the land areas of ELs 24533 and 24463, and about 20% of the land area of EL24453 contain significant Aboriginal heritage zones where ground disturbing activities are not permitted and where access is restricted. Access issues have limited the ability of EME to fully explore these tenements in past years, however, it is anticipated that recent negotiations with the Central Land Council and traditional owners will allow access to certain underexplored areas in 2012.

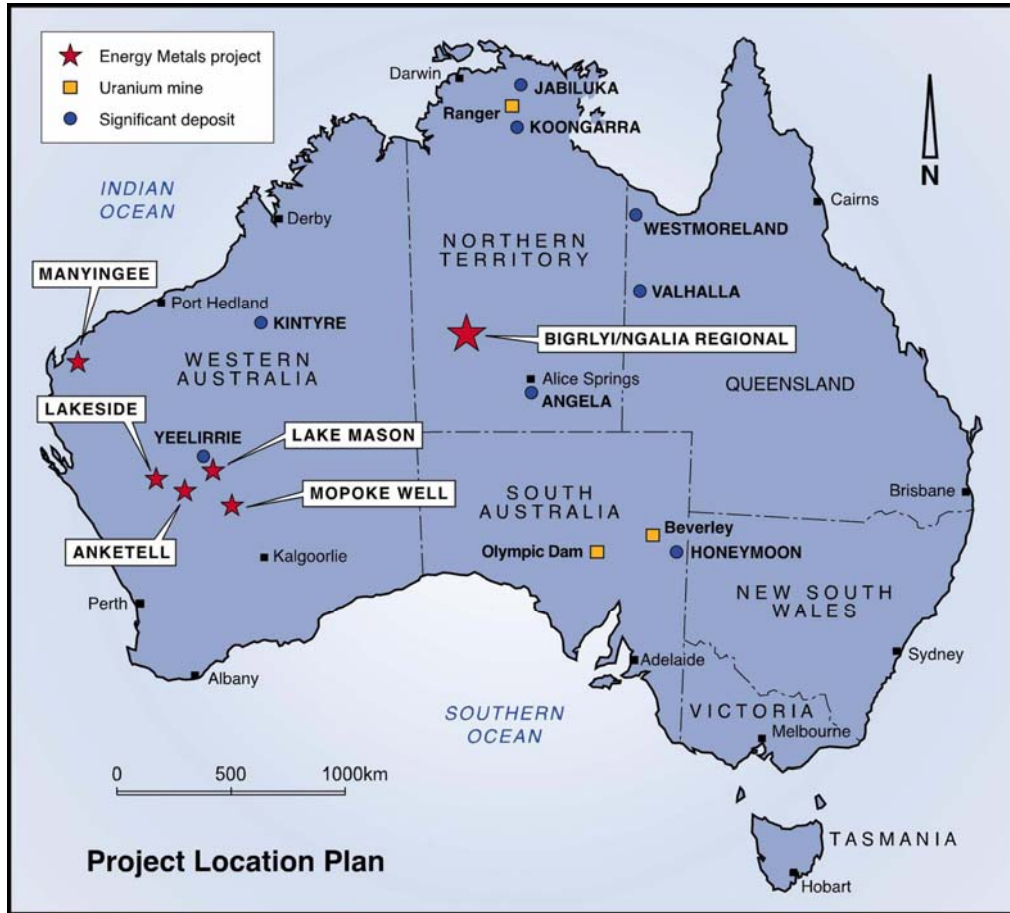


Figure 1: Location of the Bigrlyi/Ngalia Regional Projects (NT).

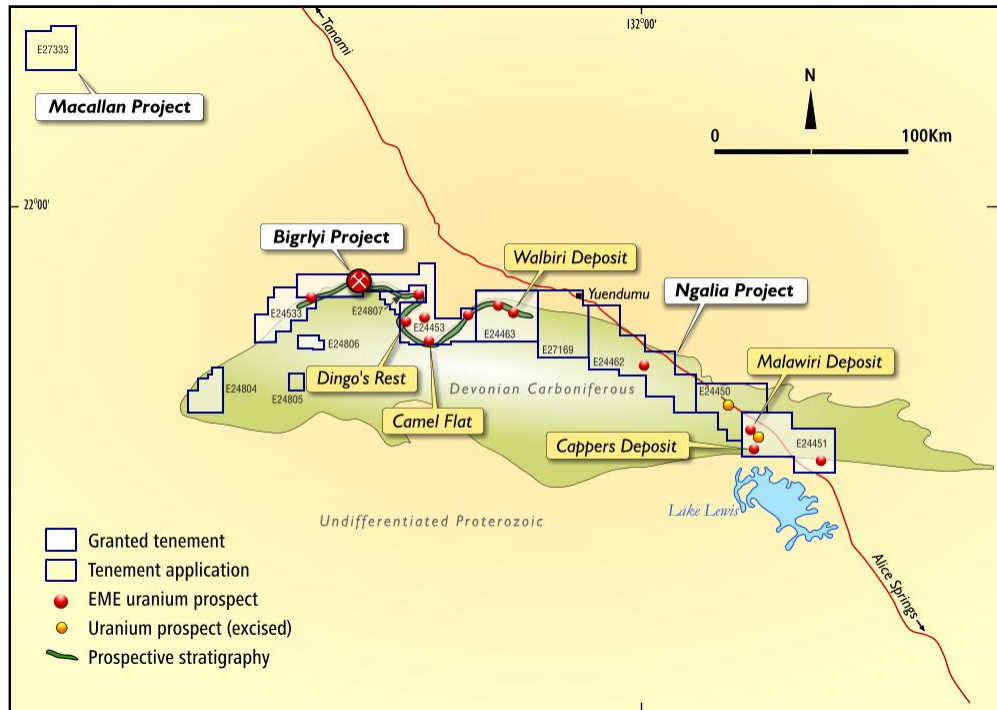


Figure 2: Granted tenements and tenement applications in the Ngalia Regional Project Area (NT) in relation to the Ngalia Basin extent (green area).

## **PREVIOUS EXPLORATION**

### **Ngalia Regional and Bigrlyi Project**

Uranium exploration in the Ngalia Basin commenced in August 1971 on Authority to Prospect 2677 and later on EL 605 until its expiry in October 1977. The exploration was managed by Central Pacific Minerals NL (CPM) on behalf of various joint venture partners including Magellan Petroleum Australia Ltd, Agip Nucleare Pty Ltd, Urangesellschaft mBH & Co. and the Atomic Energy Commission.

Following sandstone-hosted uranium discoveries at Dingo's Rest South and Walbiri Prospects in 1971, the Bigrlyi Prospect was found in 1973. In 1974 radiometric surveying, mapping and trenching located uranium mineralisation at a number of anomalies (labeled Anomaly 1 to 15) that now comprise the Bigrlyi Project. These anomalies occur intermittently over an 11.5 km strike length hosted in the Carboniferous Mt Eclipse Sandstone and located south of prominent strike ridge formed by the Proterozoic Vaughan Springs Quartzite.

From 1974 to 1976, over 250 holes were drilled to test the Bigrlyi uranium anomalies which occur as steeply dipping lenses in Mt Eclipse sandstone near the contact of reduced and oxidised zones. In 1977 a further 104 holes were drilled in the Bigrlyi Project. After expiry of EL605 exploration continued on EL2710 in 1981; a further 43 holes were drilled predominantly to increase the level of certainty of the uranium resource which at this time were indicted to exceed 2,000 tonnes of U<sub>3</sub>O<sub>8</sub>.

In 1979, Afmeco Pty. Ltd. carried out a drilling program of 8 percussion holes (2,504m) and 9 diamond core holes (4,153m) at the Dingo's Rest North and Dingo's Rest South uranium prospects. The best assay result was 1,760ppm U and 1,130 ppm V recorded in hole DIN12 from 312.8m to 313.4m depth.

In 1997, Rio Tinto carried out an airborne radiometric and magnetic survey that covered the northern flank of the Ngalia Basin and extended over the Arunta Inlier to the north. The area covered the Bigrlyi Project and the Dingo's Rest Prospects. Fifteen anomalies were identified and six were followed up by ground investigations. The most significant uranium anomalies were hosted in fault zones in granitic basement east of the Patmungala Syncline and returned a maximum assay of 3,950 ppm uranium.

Energy Metals assumed management of the Bigrlyi Project in May 2005 following the purchase of a 53.3% interest in the project. In 2006 the Ngalia Regional tenements EL24453, 24463 and 24533 were granted and regional geological and geophysical datasets were compiled from historical data.

### **Camel Flat Prospect**

CPM prospected the Camel Flat area in 1973/74 and discovered minor fault-related carnotite mineralization at "Carnotite Hill" in the western part of the prospect. In 1977, AGIP acquired the ground and undertook mapping, ground radiometric surveying and reconnaissance drilling programs. Uranium-favourable stratigraphic units were recognised in the basal part of the Mt Eclipse Sandstone near the contact with Mt Doreen Formation.

Follow-up drilling in 1979-80 defined a 3km long mineralised zone with high-grade intercepts found in holes CF55P (2.8m @ 2,841ppm eU<sub>3</sub>O<sub>8</sub> from 167.5m) and CF58P (0.8m @ 1,186ppm eU<sub>3</sub>O<sub>8</sub> from 124.7m).

In 2008 EME drilled five vertical reverse circulation (RC) holes for a total of 852m to confirm the historical high-grade intercepts and provide geological information on the setting of mineralisation. The holes were drilled to a maximum depth of 190m and downhole gamma probing confirmed the historical anomaly, recording a best intercept of 2.5m @ 2,564 ppm eU<sub>3</sub>O<sub>8</sub> from hole CF0803. A number of anomalous e U<sub>3</sub>O<sub>8</sub> intercepts were confirmed by geochemical analysis (Table 2).

**Table 2: Geochemical RC Drill intercepts**

Hole No.	From	To	U <sub>3</sub> O <sub>8</sub> intercept
CF0801	148	149	1m @ 186 ppm U <sub>3</sub> O <sub>8</sub> and 160 ppm V <sub>2</sub> O <sub>5</sub>
CF0802	88	90	2m @ 204 ppm U <sub>3</sub> O <sub>8</sub> and 175 ppm V <sub>2</sub> O <sub>5</sub>
CF0803	58	61	3m @ 1136 ppm U <sub>3</sub> O <sub>8</sub> and 2000 ppm V <sub>2</sub> O <sub>5</sub>

In 2009 an aircore drill program was under taken at the Bigryli West prospect (EL24453 & 24533) and the Davis Gap prospect (EL24453). The drilling was designed to test the bedrock beneath transported Quaternary cover along the potential mineralised extensions from Bigryli and provide geological information on the hidden bedrock.

A total of 163 holes for 1591m were completed by a light tractor mounted aircore rig. All holes were drilled to the Mt Eclipse sandstone basement with 'bottom of the hole' geochemical sampling to provide an indication for future RC/diamond drill testing.

In the 2010 season a drill program comprised of 2 diamond holes and 17 RC holes (including 3 abandoned holes due to excessive water) was under taken at the Camel Flat prospect (Fig. 3). The first diamond drillhole (CFD1001) was designed to test intercepts from the historical drillhole 55P, as well as provide further geological data on the prospect. Downhole gamma probe returned an intercept of 27m @ 4058 ppm eU<sub>3</sub>O<sub>8</sub> from 93.5m and geochemical assaying confirmed these initial high grade probe results, with an intercept of 5m @ 1.33% U<sub>3</sub>O<sub>8</sub> & 0.29% V<sub>2</sub>O<sub>5</sub> from 93m. The second diamond drillhole was designed to confirm the dip and stike of the mineralization and the following 17 RC holes to test the extension of the mineralization.

**Table 3: Chemical Assay Results from 2010 Drilling at Camel Flat**

Hole	Easting	Northing	Azi (mag)	Dip	From (m)	Intercept (m)	U <sub>3</sub> O <sub>8</sub> (ppm)	V <sub>2</sub> O <sub>5</sub> (ppm)
CFD1001	736,589	7,522,351	030	-75	93.0	27.0	2,708	755
				incl.	93.0	5.0	13,269	2,944
CFD1002	736,652	7,722,431	212	-60	137.0	4.0	2,091	203
CFRC1001	736,610	7,522,410	176	-60	85.0	4.0	311	241
CFRC1002	736,550	7,522,410	176	-60	NSR			
CFRC1003	736,550	7,522,460	176	-60	NSR			
CFRC1004	736,660	7,522,410	176	-60	84.0	1.0	379	161
				and	94.0	2.0	1,232	232
CFRC1005	736,660	7,522,460	176	-60	149.0	2.0	988	1,009
CFRC1006	736,710	7,522,410	176	-60	63	4	865	100

CFRC1007	736,710	7,522,460	176	-60	109	12	1,117	69
CFRC1009	736,610	7,522,385	176	-60	65	2	590	365
					70	1	1005	550
CFRC1010	736,660	7,522,385	176	-60	31	1	554	40
					64		797	300
CFRC1014	736,710	7,522,385	176	-60	45	1	700	220
CFRC1016	736,760	7,522,410	176	-60	66	1	384	110

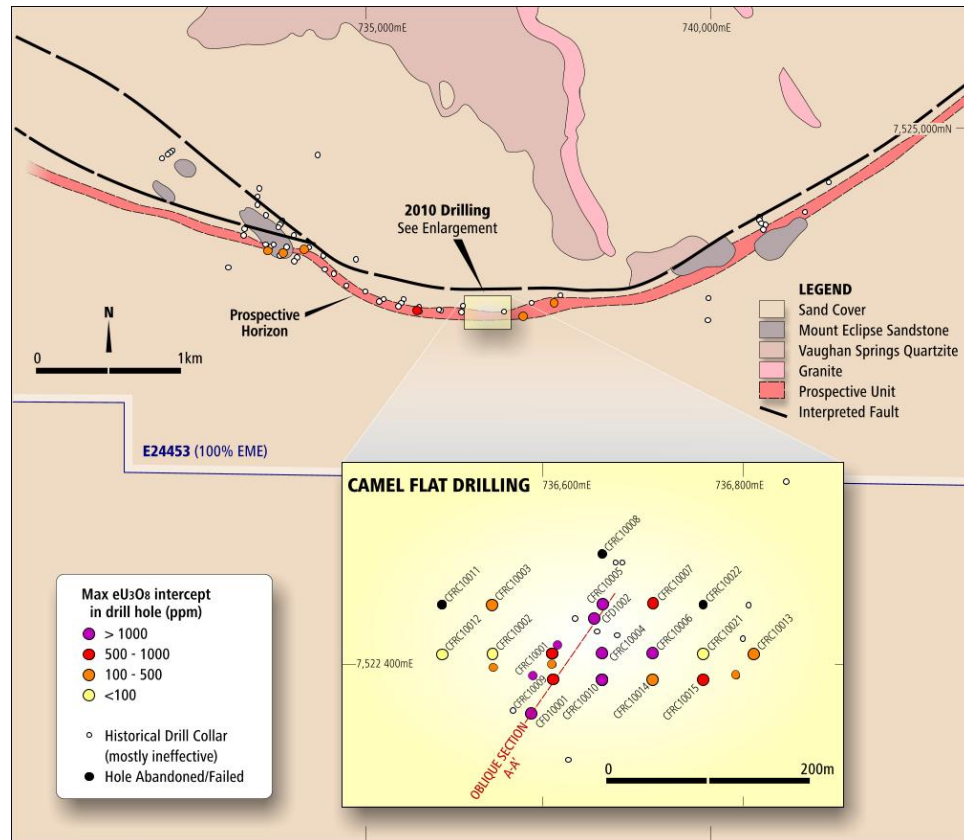


Figure 3: Simplified plan of the Camel Flat Prospect showing prospective horizon interpreted from regional magnetic data and historical drilling, with 2010 Energy Metals drilling in enlargement

### Anomaly 15 East Prospect

Past exploration indicates that uranium prospective horizons of the Mt Eclipse Sandstone extend to the east of Bigrlyi Anomaly-15 (Bigrlyi Joint Venture ground) into EL24453 (100% EME ground). However, only sporadic exploration and reconnaissance drilling has been undertaken along strike to the east of the main Bigrlyi deposits; this area is termed the Anomaly-15 East Prospect (A15E). In this area outcrop of Mt Eclipse Sandstone consists of vertically/sub-vertically dipping beds (~80 degrees dip to the south) comprising scattered low sandstone hills having weak radiometric response; the outcrop is interspersed with large areas concealed by thin alluvial and/or colluvial cover.

The area was mapped by Central Pacific Minerals (CPM) at a 1:5000 scale in 1976, and the uranium prospective unit C was found to occur mostly under sand cover. A total of 10



holes were drilled at the time with the most significant intercept being 0.8m @ 1000ppm U<sub>3</sub>O<sub>8</sub> from 29.9m in BPH203 (Table 4)

In 2006, Energy Metals drilled 4 RC holes (total 250m) and 4 NQ2 diamond holes (total 344.1m) to test shallow targets along strike from Anomaly-15 based on CPM's historical exploration work. Weakly anomalous uranium intervals were intersected in some of drill holes, in other holes gamma logging was not possible due to hole collapse (Table 5)

Table 4. Summary of CPM's drilling results in 1976

Hole ID	Depth	Best Probe Intercepts in eU <sub>3</sub> O <sub>8</sub>	Comment
BPH196	28	N/A	Abandoned
BPH197	43	0.9m @ 396ppm from 39.9m	low grade
BPH198	43	N/A	
BPH199	32	N/A	
BPH200	37	0.9m @ 215ppm from 20.2m	low grade
BPH201	20	N/A	Abandoned
BPH202	74	N/A	
BPH203	42	0.8m @ 1000ppm from 29.9m	medium grade
BPH204	35	N/A	Abandoned
BPH205	50	0.8m @ 595ppm from 22.9m and 0.5m @ 463ppm from 27.3m	not probed due to hole conditions

Table 5. Summary of 2006 Energy Metals' drilling Results

Hole ID	Hole Type	Depth	Probe type	Best Probe Intercepts in eU <sub>3</sub> O <sub>8</sub>	Comment
B06034	RC	4	N/A	N/A	Abandoned
B06035	RC	90	open	1.30m @ 191ppm from 63.20m	low grade
B06036	DD	68.8	open	1.45m @ 397ppm from 50.70m	low grade
B06037	DD	76.3	open	0.55m @ 239ppm from 62.10m	low grade
B06039	DD	88.2	open	N/A	not probed due to hole conditions
B06040	DD	110.8	open	1.55m @ 306ppm from 89.60m, 1.40m @ 125ppm from 95.70m	low grade zones
B06045	RC	78	N/A	N/A	not probed due to hole conditions
B06046	RC	78	N/A	N/A	not probed due to hole conditions

## Walbiri Prospect

The Walbiri Prospect is located 55km ESE of the Bigryli Project on EL24463. It is one of the three main Mt Eclipse Sandstone hosted uranium deposits in the Ngalia basin (the others being Bigryli and Minerva) and has a historical uranium resource of between 600

and 1,500 tonnes  $U_3O_8$  (Saucier, 1981). Walbiri is the only deposit hosted in shallowly dipping beds (10-15 degrees) and appears to be structurally and stratigraphically simple. Outcropping carnotite was found by CPM in 1971 along a strike length of 3 km in the Walbiri Hills. By 1973, drilling had established mineralization in reduced sandstone over a strike length of 12km. About 55 holes were drilled between 1972 and 1975. Drill depths to mineralization ranged from surface to 225m at about 1km down dip. The mineralization consists of scattered high-grade pods within an extensive low-grade blanket; the best intercepts being: 2m @ 2,600ppm  $U_3O_8$  from 141m in NGDD18, 2.7m @ 1,380ppm  $U_3O_8$  from 72.5m in NGDD11, 1m @ 7,900ppm  $U_3O_8$  from 172m in WPD15, 3.7m @ 1,440ppm  $U_3O_8$  from 188m in WPH07. Due to Aboriginal heritage issues, Energy Metals has been unable to get ground access to this deposit.

### Big West and Thrust Prospects

The potential for extensions to the mineralized horizons to the west of Bigrlyi beneath transported cover was investigated by ground radiometric surveys at the Big West and Thrust prospects in 2008.

### Airborne Geophysical Surveys

The major EME program in 2007 involved an airborne geophysical survey measuring radiometrics, magnetics and topography. In September 2007, GPX Airborne commenced a fixed wing airborne magnetic and radiometric survey over the Ngalia Regional tenements. A total of 14,932 line-km was flown. The data was reprocessed by Southern Geoscience Consultants, where the new data was meshed with previous flight lines from the 1997 Rio Tinto survey.

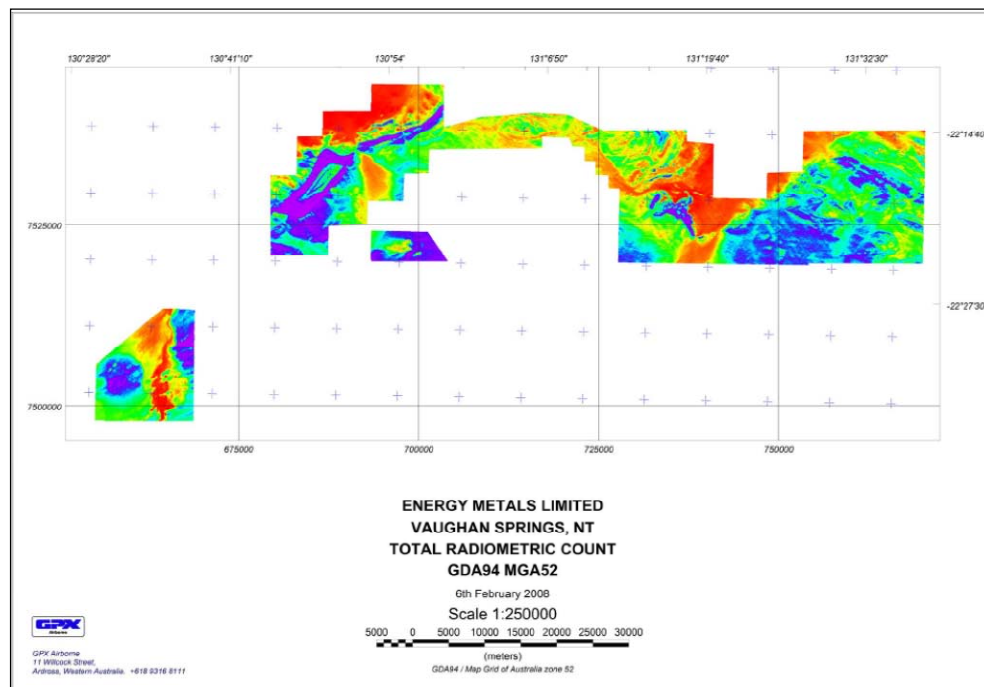


Figure 4: Radiometric Total Count Image

## **High Resolution Satellite Imagery**

Quickbird High Resolution satellite imagery was obtained for a larger portion of EL24453 and EL24533. This was to generate exploration maps/targets for step out drilling from the Bigryli deposit into 100% Energy Metals tenements. The imagery was also used for regional reconnaissance exploration activities.

## **Research**

The CSIRO-JSU Ngalia Basin mineral systems study, a uranium mineral systems analysis of the Ngalia Basin by the CSIRO in collaboration with the NTGS, Energy Metals Ltd, Thundelarra Ltd and Cauldron Energy Ltd was begun in 2010 with completion due by mid-2011. As part of the program, the compilation and interpretation of all the existing data across the Ngalia basin including: seismic; gravity, magnetics, EM & radiometrics; drill hole data; petrophysics; mapping, surface sampling, available airborne & satellite-borne data and any existing 3D geological interpretations was undertaken by CSIRO.

## **WORK COMPLETED: 6 February 2011 to 5 February 2012**

### **Digital Aerial Photography Acquisition**

A digital aerial photographic survey over large parts of the Ngalia Regional Project area (including A15 East, Camel Flat and Walbiri Prospects) was undertaken by Fugro Spatial Solutions Pty Ltd in July 2011 at a pixel resolution of 10cm. A survey crew accurately located control points in the area in August 2011. Although all primary data acquisition is complete, the final data products (including GIS format aerial photographic imagery and DEMs) are yet to be processed. It is anticipated that final processing of relevant scenes will take place in 2012 in order of project and budget priority.

### **Anomaly 15 East Prospect Drilling Program**

A program of exploration drilling to test the mineralization potential of the uranium prospective "unit C" horizon in the Mt Eclipse sandstone east of the BJV and to follow-up uranium intercepts in historical drilling was initiated in April 2011. The prospective trend has been poorly tested by historical drilling with most of the historical holes targeting anomalies identified from outcrop or weathered bedrock. The drilling targeted the prospective horizon over a strike length of 4,500m with a series of reconnaissance holes spaced at a nominal 200m interval with holes aimed to test the interpreted position of the "unit C" horizon in fresh rock (see Fig. 4 below).

Forty-eight RC holes were drilled during the reporting period for a total of 6,490m. In summary there were:

- 46 inclined RC holes for exploration purposes totaling 6,356m
- 2 vertical RC waterbore test holes totaling 134m

Waterbore test hole B11042 yielded a water flow of approximately 1.5 litres/second (65mm over invert of V-notch) over a 6 hour period with a steady-state flow. The other waterbore test hole B11041 did not yield a significant flow.

The digital data for all of the 2011 drilling, including collar information, down-hole surveys, and geological logs are provided in Appendix 1.

### **Camel Flat Prospect Drilling Program**

Drilling at the Camel Flat Prospect in 2010 intersected significant high-grade mineralisation in the basal Mt Eclipse sandstone concealed under several metres of transported sand. A program of follow-up exploration drilling, focussed on delineating the stratigraphic position of mineralization along 5km of prospective strike-length, was begun in May 2011.

A total of 77 holes were drilled during the reporting period; they included RC holes and RC precollars with diamond tails. RC drilling totaled 11,500m and diamond drilling totaled 305m during the reporting period. In summary there were:

- 72 RC holes for exploration purposes totaling 11,172m
- 3 RC pre-collars to diamond core holes for a total of 239m
- 3 NQ diamond core tails for exploration purposes totaling 305m
- 2 vertical RC waterbore test holes totaling 89m

The waterbore test holes did not yield any significant water flows. Oriented core from the diamond tails indicated that the Mt Eclipse beds are overturned with steep northerly dips.

The digital data for all of the 2011 drilling, including collar information, down-hole surveys, and geological logs are provided in Appendix 1.

### **Surveying**

Most drillhole collars from the 2011 season were accurately surveyed by licenced surveyors BBS Surveys (Alice Springs) in December 2011 and have been listed in Appendix 1. However, access to parts of the Camel Flat and A15 East Prospects were not possible in December 2011 due to difficult ground conditions; it is intended that these holes will be surveyed later in 2012 and these results will be reported in the 2012 Annual Report.

## **GEOPHYSICS**

### **Downhole Gamma Probe Survey**

Downhole in-rod and in some cases open-hole gamma probing was carried out on all RC and diamond holes. Rod attenuation factors have been previously determined and probes used for this work were calibrated at the SA Department of Water (Science, Monitoring and Information Section) Glenside, South Australia. The gamma probe data was processed by consultant geophysicist David Wilson of 3D Exploration Pty Ltd to produce down-hole  $e U_3O_8$  values.

Due to a gamma probe malfunction in May 2011, some downhole gamma data was of insufficient quality to be processed, however, drill spoils from the affected holes were

checked by scintillometer and any anomalous intervals selected for chemical assay. Intercepts with  $e\text{U}_3\text{O}_8 > 100\text{ppm}$  were checked by chemical assay of drill spoil samples.

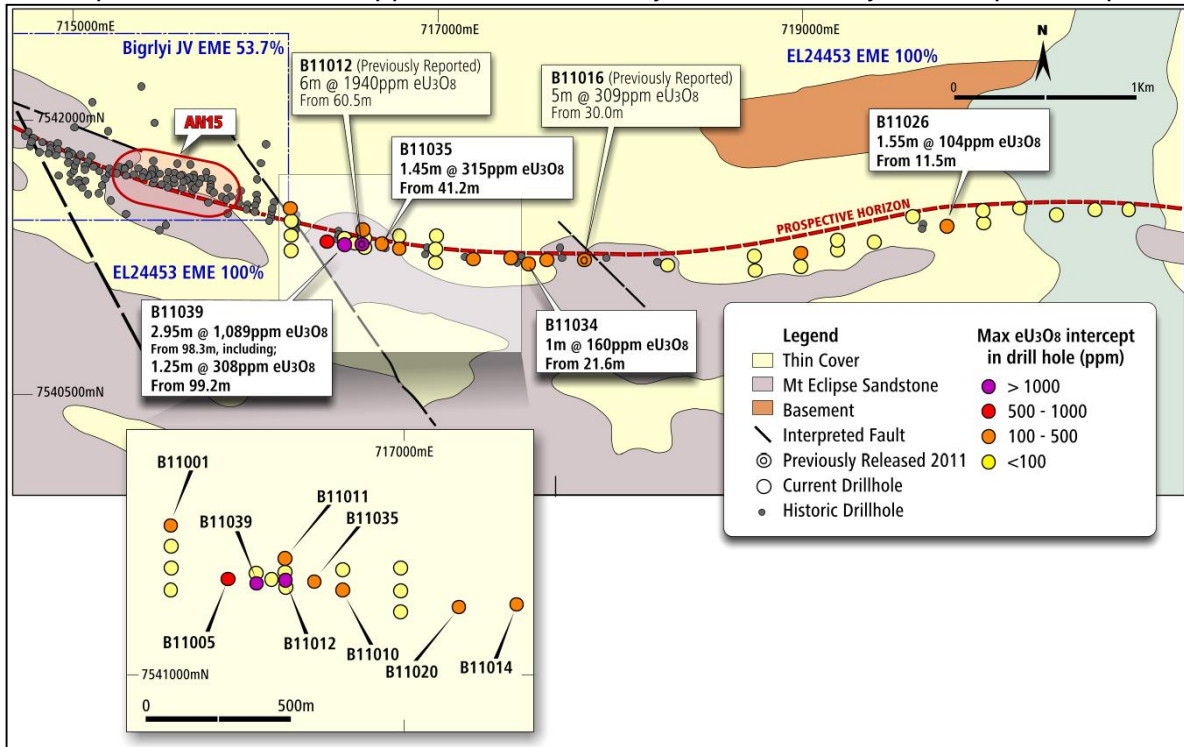


Figure 5. Drill hole plan of the Anomaly 15 East Prospect showing significant  $e\text{U}_3\text{O}_8$  intercepts of the 2011 program; historical holes shown as grey circles.

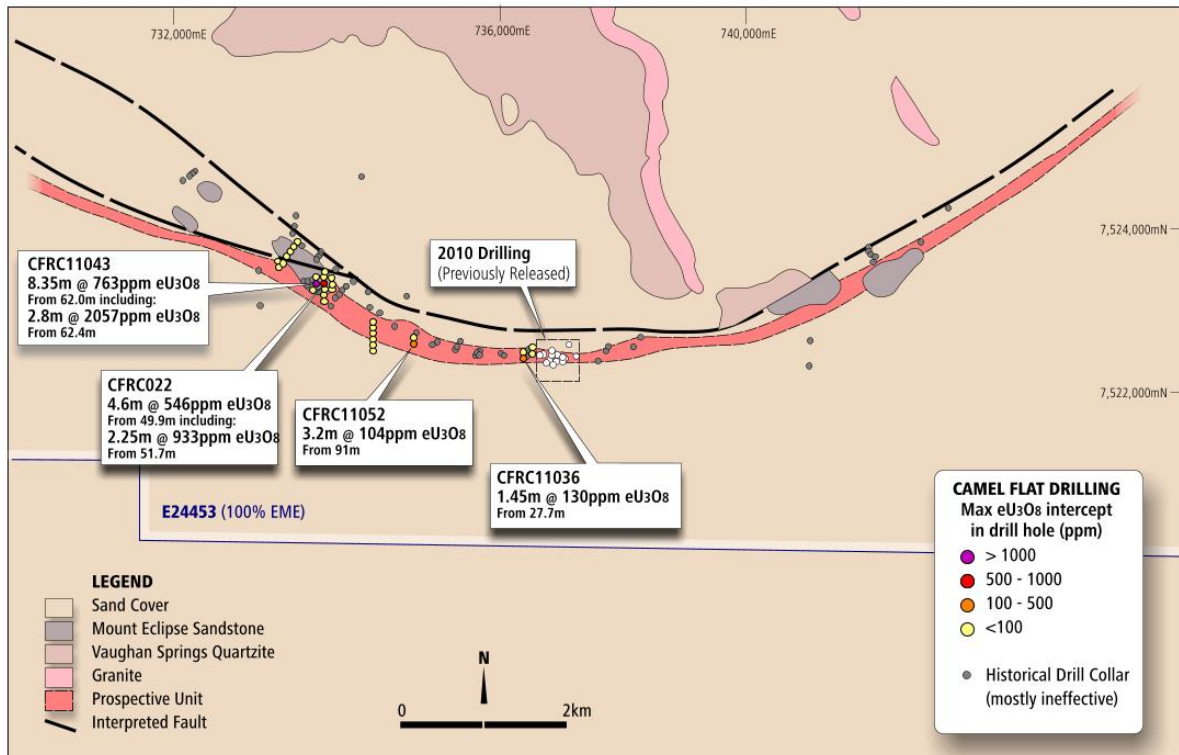


Figure 6. Drill hole plan of the Camel Flat Prospect showing significant  $e\text{U}_3\text{O}_8$  intercepts of the 2011 program; historical holes shown as grey circles.

At Anomaly 15 East Prospect, significant (>100ppm e  $U_3O_8$ ) gamma probe intersections were returned from several holes (see Fig. 5), and include: 6m @ 1,940ppm e  $U_3O_8$  from 60.5m in B11012; 2.95m @ 1,089ppm e  $U_3O_8$  from 98.35m in B11039 (including 1.25m at 2,308ppm e  $U_3O_8$  from 99.2m) and 1.45m @ 315ppm e  $U_3O_8$  from 41.15m in B11035.

At the Camel Flat Prospect reconnaissance drilling has identified a second zone having significant grades and thicknesses approximately 2.8km to the west of the 2010 drilling area, see Fig. 6). Better gamma probe intersections include: 8.35m at 763ppm e $U_3O_8$  from 62m in CFRC11043, including 2.8m @ 2,057ppm e $U_3O_8$  from 62.4m. CFRC11022 intersected 4.6m @ 546ppm e $U_3O_8$  from 49.88m, including 2.25m at 933ppm e $U_3O_8$  from 51.68m.

Digital down-hole gamma probe data for the 2011 reporting period are provided in Appendix 1.

### Ground Radiometric Survey: Bigrlyi West & Thrust Prospects

Previously reported measurements from the 2008 ground scintillometer surveys over the Thrust and Big West prospects to the west of Bigrlyi were re-gridded (Figure 7) and reinterpreted to assist with exploration targeting for the 2012 season. The images show evidence for an extension of uranium prospective units 1 to 2 km southwest of the Bigrlyi project area on EL24453. Radiometric anomalies in the Thrust prospect appear to be related to granite basement outcrop and subcrop but these will require ground confirmation.

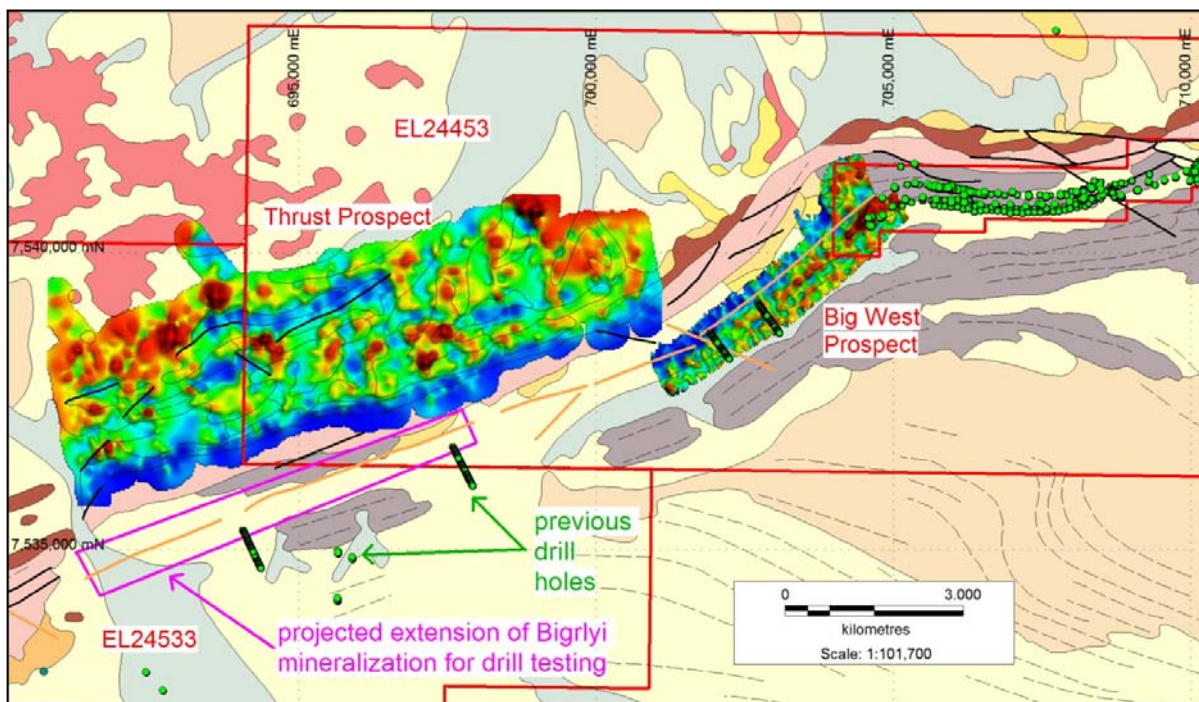


Figure 7. Reprocessed total count radiometric grids for the Thrust and Big West prospects west of Bigrlyi on EL24453 and EL24533. Green dots = previous drill holes. Region in pink outlines projected extension of Bigrlyi mineralization to the southwest.

## GEOCHEMICAL ASSAY

### Routine Uranium and Vanadium Assay

Mineralised RC drill spoils and diamond core half-samples were submitted to ALS Laboratory Brisbane for geochemical analysis of uranium and vanadium principally by the XRF pressed-powder method. Highly mineralised samples containing >1% U and >0.1% V were analysed by the four-acid digestion/ICP-OES method. Mineralised RC metre intervals and diamond half-metre intervals were selected on the basis of gamma log 100ppm e U<sub>3</sub>O<sub>8</sub> cut-off values. Generally the interval selected for assay was 5m above and below the mineralized contact.

For the A15 East Prospect, 346 samples of RC drill spoils (including one internal standard for every 20 samples and one duplicate for every 20 RC samples) were submitted during the reporting period. Significant assay results are listed in Table 6. Compared to downhole e U<sub>3</sub>O<sub>8</sub> gamma probe values, U<sub>3</sub>O<sub>8</sub> assay values from A15E were found to be consistently 40 to 50% lower for reasons yet to be determined. Check geochemical assays on riffle split drill spoils from hole B11012 confirmed the previous assay results.

For the Camel Flat Prospect, 152 samples of RC drill spoils and 33 samples of drill core material (including one internal standard for every 20 samples and one duplicate for every 20 RC samples) were submitted during the reporting period. Significant assay results are listed in Table 7. Assay and gamma probe results were found to be generally in good agreement.

Table 6. Anomaly-15 East Geochemical Assays: Significant Intercepts

Hole No.	Prospect	from	to	interval(m)	U <sub>3</sub> O <sub>8</sub> (ppm)	V <sub>2</sub> O <sub>5</sub> (ppm)
B11012	A15E	56	57	1	106	60
&		61	67	6	1052	713
inc		65	67	2	2717	1070
B11016	A15E	32	36	4	291	748
inc		34	36	2	505	1090
B11034	A15E	22	23	1	143	280
B11035	A15E	42	43	1	137	540
B11038	A15E	69	70	1	211	420
B11039	A15E	99	102	3	629	450
inc		99	101	2	889	580
B11040	A15E	61	62	1	144	330

Table 7. Camel Flat Geochemical Assays: Significant Intercepts

Hole No.	Prospect	from	to	interval(m)	U <sub>3</sub> O <sub>8</sub> (ppm)	V <sub>2</sub> O <sub>5</sub> (ppm)
CFRC11014	Camel Flat	63	64	1	546	100
CFRC11022	Camel Flat	43	45	2	832	1060
&		50	55	5	582	188
inc		52	54	2	1072	200
CFRC11036	Camel Flat	26	30	4	112	71
&		35	36	1	182	60
CFRD11038	Camel Flat	116.5	117.5	1	220	360
CFRC11043	Camel Flat	46	52	6	229	277
inc		50	51	1	567	650
&		62	68	6	1189	671
inc		62	65	3	2180	1205
CFRC11052	Camel Flat	91	93	2	155	100
CFRC11053	Camel Flat	32	36	4	181	38
&		43	44	1	337	30
&		48	49	1	217	210

### Walbiri Prospect Compilation of Historical Data

Because of restrictions on access to the ground (in fact at present no on-ground access is permitted to the historical Walbiri deposit), exploration activity in the 2011 season principally involved a review of historical data and compilation of historical records including drill hole collars, assays and conversion of historical maps to a GIS format.

An aerial photographic survey, in which placement of some ground control points were permitted by traditional owners, was completed in mid-2011. Final digital photographic products will be produced in 2012 depending on which areas will be accessible to exploration. A heritage survey by the CLC and traditional owners is planned for early 2012.

### CSIRO-JSU Ngalia Basin Mineral Systems Project

The final report of this study was received in August 2011; the study included processed Hylog data from numerous drill holes in the Bigrlyi Project area. As NTGS was a co-sponsor of this project, this data (which is of a significant size) is already available to the NT Department of Resources and has not been appended to this report.

### FURTHER WORK 2012-2013

#### EL24453 – Bigrlyi Surrounds

This tenement covers a large area on which there are a number of uranium prospects that could be valuable in expanding the resource base of the Bigrlyi Project. Further test work including infill drilling is planned at the Camel Flat and Anomaly 15 East Prospects to



define uranium resources. Other prospects within the EL including Big West, Dingo's Rest North and Dingo's Rest North also have potential to add resources to the Bigrlyi Project, however, they are at an early stage of investigation or are constrained by heritage zones. It should be noted that about 15-20% of the EL is covered by restricted access zones as determined from Aboriginal heritage surveys. Energy Metals is involved with on-going access negotiations with traditional owners and the Central Land Council and expects to gain access to some of these areas in 2012.

### **EL24463 – Walbiri**

Walbiri is a Bigrlyi-style uranium deposit with inferred, non-JORC compliant historical resources of between 600 and 1500 tonnes  $U_3O_8$ . This deposit has potential to add significant resources to the Bigrlyi Project and therefore improve the economic viability of the Bigrlyi uranium project as a whole. In past years land access issues have seriously constrained exploration on this EL, with large restricted access zones covering two-thirds of the tenement including the historic Walbiri deposit. Energy Metals is currently involved in negotiations with traditional owners and the Central Land Council to gain access to key areas at Walbiri to enable exploration programs to proceed in the 2012 season.

### **EL24533 – Vaughan Springs**

Untested Bigrlyi-style uranium deposits may exist on the EL under sand and alluvial cover to the southwest along strike from Bigrlyi Joint Venture ground. In past years land access issues have seriously constrained exploration on this EL, with large restricted access zones covering about two-thirds of the tenement. In accessible areas exploration has been sporadic. A ground radiometric survey accompanied by targeted drilling programs over the projected extension of Bigrlyi mineralization (Fig. 7) is planned for future programs.

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- Pope G. J. and Fidler, R. W., 1982: Annual Report for E.L. 2710 – Wanyilpa. CPM Report No. NT 219.
- Saucier A.E., 1981: Uranium in the Ngalia Basin, Northern Territory, Australia. CPM Report No. NT 238.

## **APPENDIX**

### **Digital Data**

GR070-09\_2012\_01\_DrillCollars.txt

GR070-09\_2012\_02\_DownholeSurveys.txt

GR070-09\_2012\_03\_DownholeGammaLogs.txt

GR070-09\_2012\_04\_DownholeGeochem.txt

GR070-09\_2012\_05\_QAQCGeochem.txt

GR070-09\_2012\_05\_Lithologs.txt

GR070-09\_2012\_06\_Lithocodes.txt

GR070-09\_2012\_07\_FileListing.txt