FINAL REPORT EL24806

MESA SOUTH

PERIOD 16 April, 2007 to 15 April, 2015

Target Commodities: Uranium, Vanadium

Report No:

Author: Stuart Kerr

Date: June 2015

250K Map-Sheet: Mt Doreen (SF52-12)

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SUMMARY

Exploration License EL24806 was part of the Ngalia Regional Project which immediately surrounds the Bigrlyi 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. EL24806, originally 9 graticular blocks, is located southwest of the Bigrlyi resource area and was granted on 16 April 2007 for an initial period of six years; the tenement was subject to a partial surrender in 2011, and the reduced area was subsequently renewed in 2013 and 2014.

Exploration work over the life of the tenure targeted "Bigrlyi"-style sandstone hosted uranium deposits hosted in the Carboniferous Mount Eclipse Sandstone. Initial exploration work was limited to an airborne radiometric survey over EL24806, a section of a much larger geophysical survey flown over all Ngalia Project tenure in 2007. Further work was significantly impacted by several heritage sites identified by a CLC ground clearance survey in 2009, which limited any ground disturbing exploration activities to the western part of the tenement.

Ground radiometric surveys and drilling programs were planned but not implemented due to priorities on other tenements, budgetary constraints, and heritage site limitations resulting in partial relinquishment of the tenement (approximately 30% to 6 graticular blocks) in 2011.

A field reconnaissance survey to investigate subtle radiometric anomalies was carried out in 2013; no significant anomalism was encountered within outcrops of Mount Eclipse Sandstone. The potential for discovery of significant uranium mineralisation within the tenement was considered to be low, and following an internal review, EL24806 was relinquished at the end of the reporting period on 15th April 2015.

INTRODUCTION

The Ngalia Regional project comprises eleven 100% owned exploration licences (total area 2,840 km²) located in the Ngalia Basin, between 180 and 350 km northwest of Alice Springs in the Northern Territory (Figure 1 & 2). Eight of these tenements are contiguous and enclose the Bigrlyi project as well as containing a number of uranium occurrences including the Malawiri prospect (EME ≈ 52%) and the Walbiri prospect (EME ≈ 42%). The remaining 3 ELs, including EL24806 cover discrete uranium anomalies located southwest of the Bigrlyi deposits.

Table 1: *Tenement Details for the Mesa South Project*

Tenement	Grant Date	Surrender Date	Area
EL24806	16-April-2007	15-April-2015	6 Blocks

LOCATION AND ACCESS

EL24806 is located 390 kilometres northwest of Alice Springs in the Northern Territory (Figure 2) on the Mt Doreen (SF52-12) 1:250,000 geological map sheet. The tenement is bound by latitudes 23°22' - 23°26' S and longitudes 130°53' - 131°57' E. Access to the area is via the sealed Stuart Highway for approximately 20km heading northwest of Alice Springs, then by 265km northwest along the partially sealed Tanami Highway and turning west, 35km north of Yuendumu township along the access road to Vaughan Springs Homestead. From here the tenement is accessed via old station tracks.

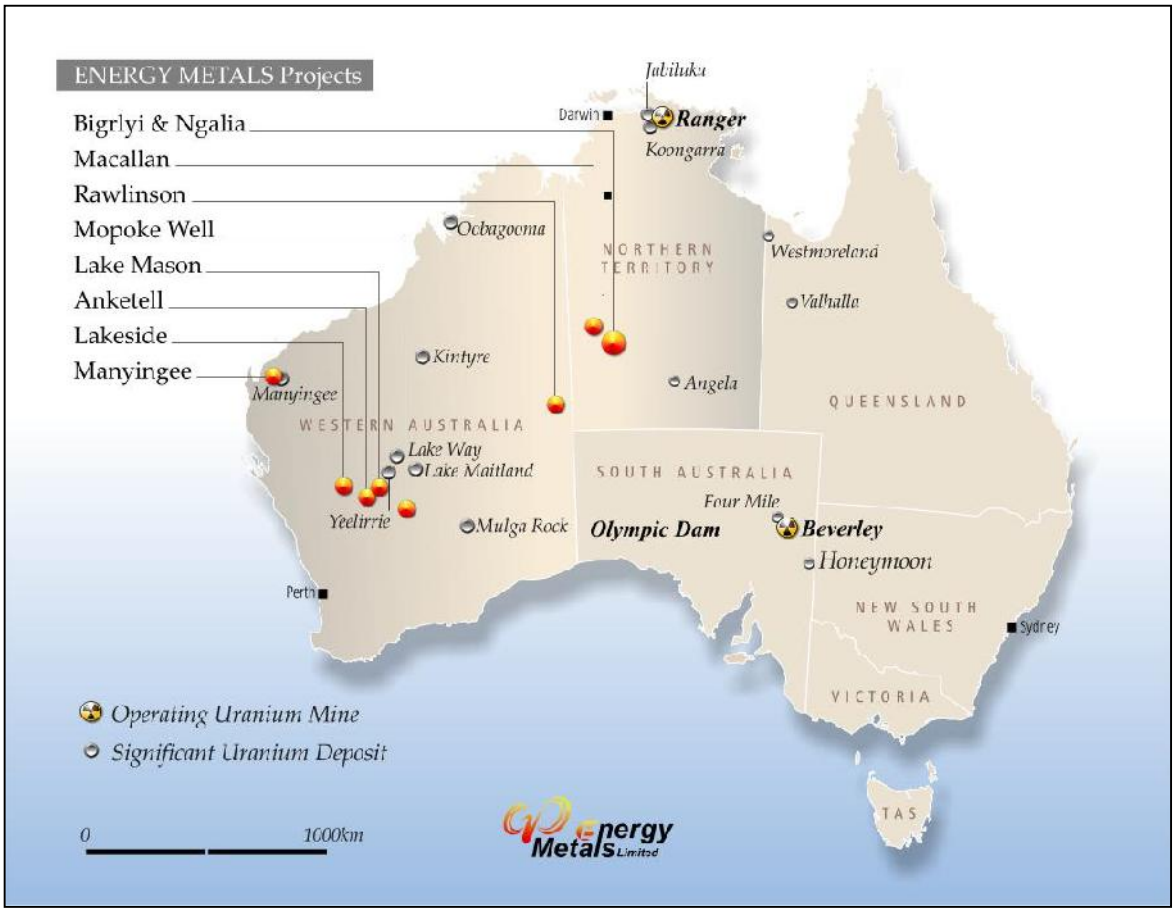

Figure 1: *Location of the Bigrlyi/Ngalia Regional Projects (NT).*

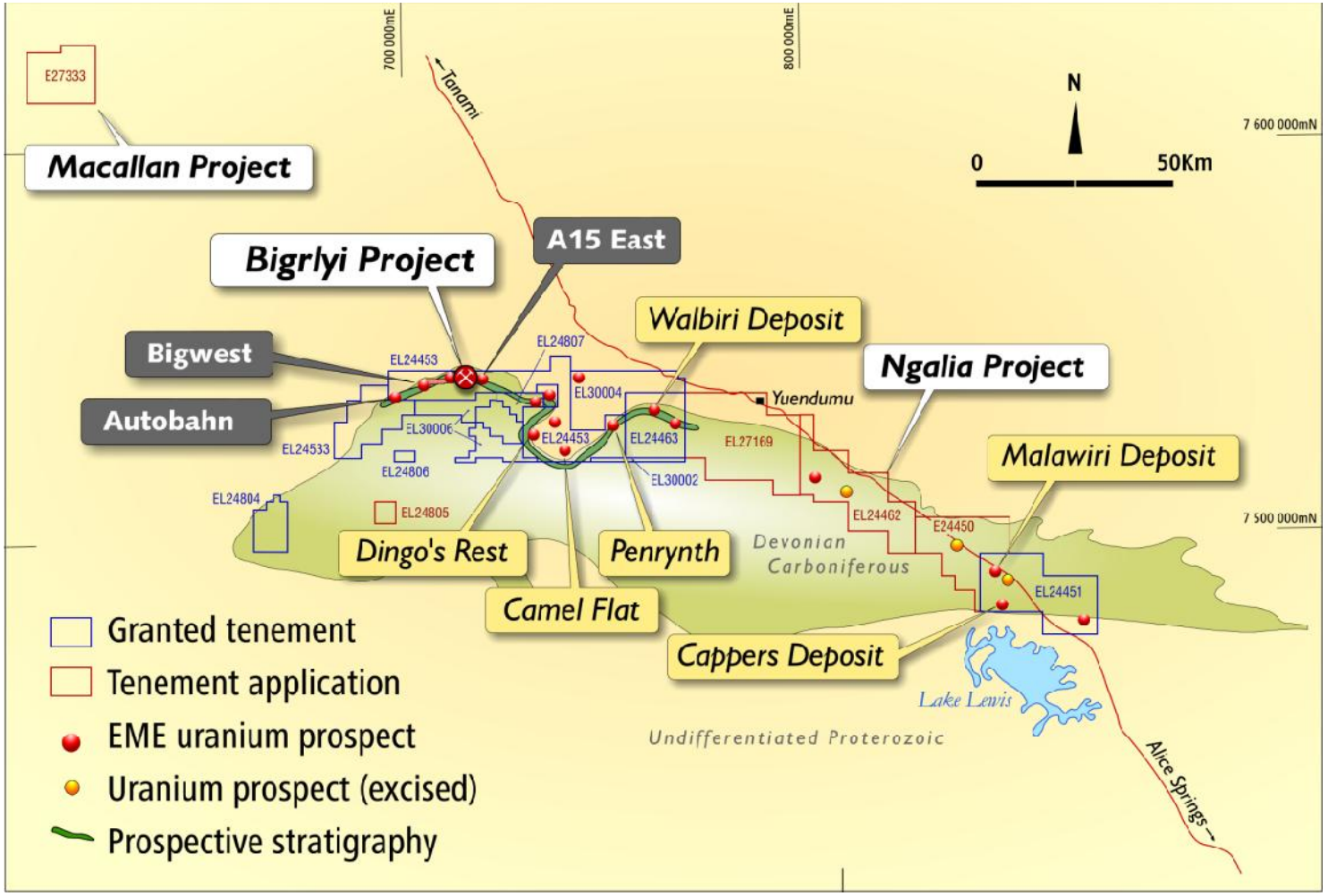

Figure 2: *EME Tenements of the Bigrlyi/Ngalia Regional Projects (NT) - Ngalia Basin is shaded in olive green, granted tenements outlined in blue and tenement applications outlined in red. Uranium deposits and prospects are labelled.*

REGIONAL GEOLOGY

The Mesa South project area is situated along the north-western margin of the Ngalia Basin with older basement rocks of the Arunta Block to the north. The Arunta Block contains the Southwark Granite and Carrington Suites, considered to be the source of uranium within the Mount Doreen area (Young et al. 1995).

The Ngalia Basin contains sediments up to 6,000m thick ranging in age from NeoProterozoic to Palaeozoic and preserved in an elongate structure that is remnant of a much more extensive, polyphase intracratonic basin.

The NeoProterozoic Vaughan Springs Quartzite is the oldest unit in the Ngalia Basin and mostly forms ridges along the northern and southern margins and contains the Treuer Member, a less-resistant interbedded siltstone and sandstone. The Vaughan Springs Quartzite unconformably overlies the Arunta Inlier basement and is overlain conformably by carbonate units of the Albinia Formation, which in turn is overlain by the Naburula Formation, the Mount Stuart Formation and the Rinkabeena Shale. These are unconformably overlain by glacial deposits of the Mount Doreen Formation which in turn is overlain by the Yuendumu Sandstone, Walbiri Dolomite, Bloodwood Formation, Djagamara Formation and Kerridy Sandstone. Unconformably overlying these formations is the Carboniferous Mount Eclipse Sandstone. The Mount Eclipse Sandstone crops out widely in the Ngalia Basin, has a maximum thickness of more than 3,000m and hosts the majority of the sandstone-uranium mineralisation. It is a medium to coarse-grained feldspathic sandstone, commonly with carbonate cement. Conglomerate, arkose, calcareous sandstone and shale are present as lenses. The rocks are dominantly red (oxidised), although restricted zones of light to dark grey (reduced) sandstone are present.

Seismic data indicates that the basin is an asymmetrical synclinal structure which preserves a much thicker succession on the northern margin marked by northerly dipping thrusts (Waite Creek and Yuendumu Thrusts) and high angle reverse faults. The current basin configuration results from effects of the 300-400Ma Alice Springs Orogeny, which exhumed the basement which subsequently became the provenance for the Carboniferous Mt Eclipse Sandstone (Edgoose, 2006).

LOCAL GEOLOGY

Most of the tenement area is covered by an aeolian sand plain. Mesa South consists of three ridges of Mt Eclipse sandstone outcropping over a strike length of 3km with shallow dipping beds to the south. Colluvial deposits and alluvial outwash deposits surround the sandstone outcrops.

HISTORICAL WORK (NGALIA BASIN & ARUNTA INLIER)

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. This 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 GmBH & Co. and the Atomic Energy Commission.

Sandstone-hosted uranium was initially discovered at the Walbiri and Dingo's Rest South prospects in 1971, followed in 1973 by the Bigrlyi project area. In 1974, radiometric surveying, mapping and trenching identified uranium mineralisation at a series of anomalies along the Bigrlyi Trend, now known as Anomalies 1 to 15 and comprise the Bigrlyi Project. These anomalies occur intermittently over an 11.5 km strike length, and are hosted by the Carboniferous Mt Eclipse Sandstone, south of prominent strike ridges formed by the Proterozoic Vaughan Springs Quartzite. Mineralisation occurs as steeply dipping lenses near or at the boundaries of reduced and oxidised zones within Mt Eclipse sandstone. From 1974 to 1976, over 250 holes were drilled to test the Bigrlyi uranium anomalies, followed by a further 104 holes in 1977. In 1981, an additional 43 holes were drilled on EL2710, the successor of EL605, increasing the level of certainty of the global uranium resource then considered to exceed 2,000 tonnes of U_3O_8.

Elsewhere, 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 in 1979. The best assay result was 1,760ppm U and 1,130 ppm V from 312.8m to 313.4m (DIN12).

In 1997, Rio Tinto carried out an airborne radiometric and magnetic survey that covered the northern flank of the Ngalia Basin and part of the Arunta Inlier, to the north, including 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 rock, including a best result of 3,950 ppm uranium from east of the Patmungala Syncline.

Energy Metals assumed management of the Bigrlyi Project in May 2005 following the purchase of a 53.3% interest in the project. The Ngalia Regional tenements EL24453, 24463, 24533, 24451 and 24807 were granted in 2006 with EL24806 granted in 2007. Since acquiring the Projects, EME has advanced the Bigrlyi and Ngalia Projects combined resources to greater than 10,000 tonnes U_3O_8.

EME EXPLORATION WORK DURING LIFE OF TENURE (16 April 2007 to 15 April 2015)

EL24806 (9 graticular blocks located southwest of the Bigrlyi Resource area) was granted on 16 April 2007 for an initial period of six years; following a partial surrender in 2011, the tenement was renewed until its surrender at the end of the reporting period 15th April 2015.

Geophysical Survey

An airborne geophysical survey measuring radiometrics, magnetics and topography was conducted over Energy Metals Bigrlyi and Ngalia Regional tenements in September 2007 by GPX Airborne. A total of 14,932 line kilometres was flown. The data was reprocessed by Southern Geoscience Consultants, where the new data was meshed with previous company survey data.

On EL24806 weak uranium anomalies, associated with outcrop and subcrop of Mt Eclipse Sandstone over an area of approx. 2.5km x 1km, were identified (Figure 3). The overall radiometric characteristics of the anomalous zone resemble 'Unit A' of the Mt Eclipse Sandstone as discussed by Fidler et al (1990).

Heritage Clearances

A site clearance program undertaken by the CLC and involving the traditional owners was completed in April 2009. Within the tenement most of the areas of outcrop have sites identified by the CLC as being significant heritage sites; these sites are covered by a large zone (covering over two-thirds of the tenement) where ground disturbing works are not permitted (Figure 5). No heritage surveys by the AAPA have been conducted. A search of the current heritage register shows no sites within the tenement.

Drilling Programme Planning

A plan for proposed reconnaissance drilling including planned access tracks was prepared but never carried out due to the high risk profile and budget constraints. In the planning departmental guidelines, CLC clearance restrictions and pastoralist's access requests were all considered. Lower risk, higher priority targets within other parts of the Ngalia Project took priority over the life of tenure.

Partial Relinquishment

A partial relinquishment of E24806 was completed in the 2011 – 2012 tenement year; EL24806 was reduced by approximately 30% or 6 sub-blocks (Figure 3).

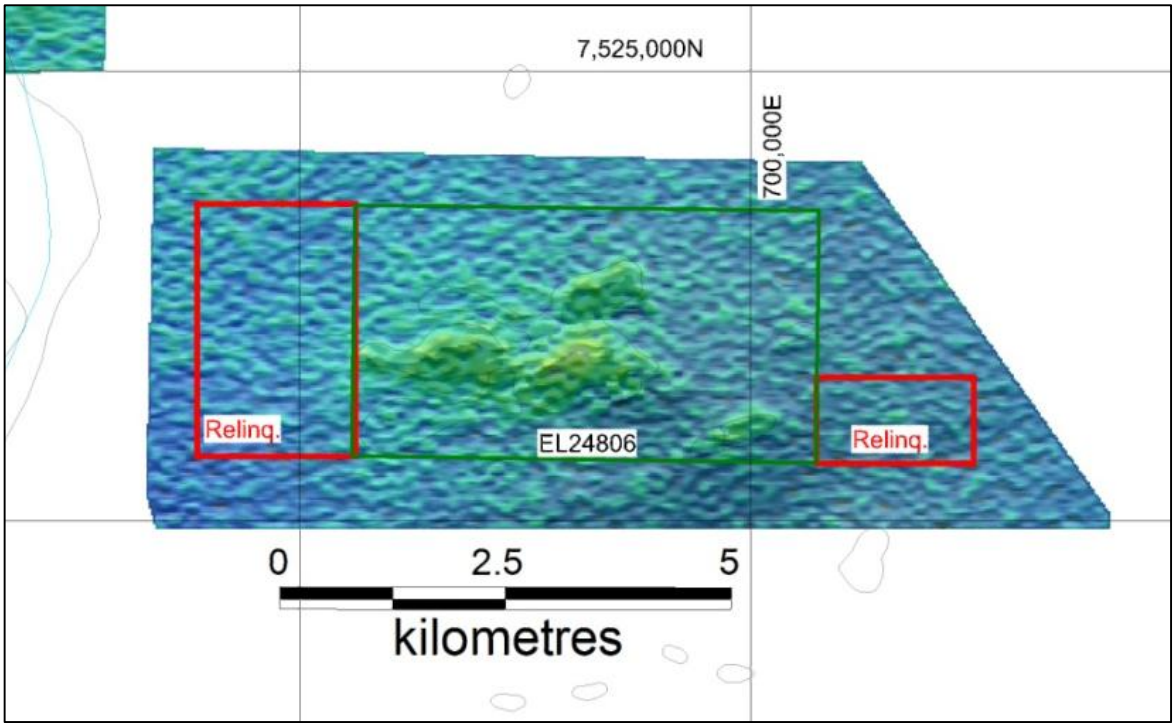

Figure 3: *Uranium channel radiometrics draped on a DTM image. Relinquished areas shown in red.*

Field Reconnaissance

A site visit to tenement EL24806 ("Mesa South") was undertaken in July 2013. The purpose of the visit was to field-check radiometric anomalies and features identified from the 2007 aerial survey.

No uranium anomalies were identified during the field program. The radiometric features associated with outcrop were found to all be subtle and generally not significantly above local background; Niton portable XRF analyses indicated many of the features were Th rather than U-related. The Mt Eclipse sandstone, which forms prominent ridges, tends to be moderately weathered, coarse grained and pebbly, bleached and limonitic rather than hematitic but no apparent redox boundaries were noted. The radiometric signature is uniformly low. The beds dip shallowly (about 10 degrees) to the south-south-east (Figure 4). Radiometric features occurring in the adjacent sand-plain regolith were found to be of no significance.

The tenement was assessed as having low uranium potential and was recommended for surrender.

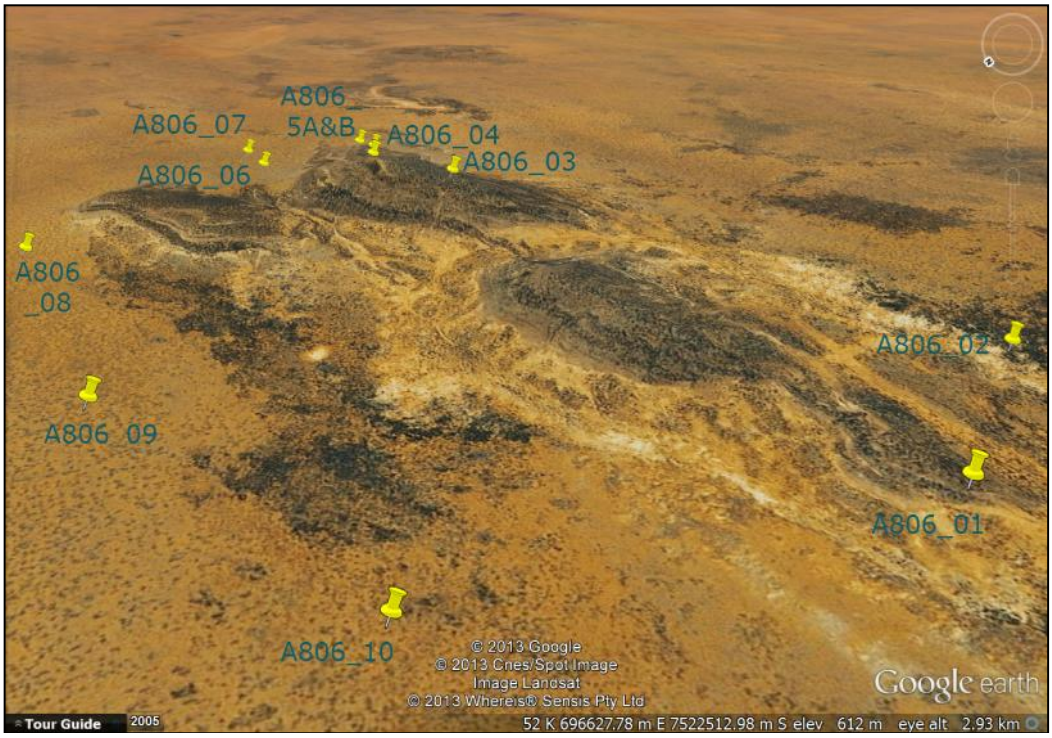

Figure 4: *Google Earth View from northwest to southeast over the Mesa South hills, anomalies are shown as yellow pins and labelled.*

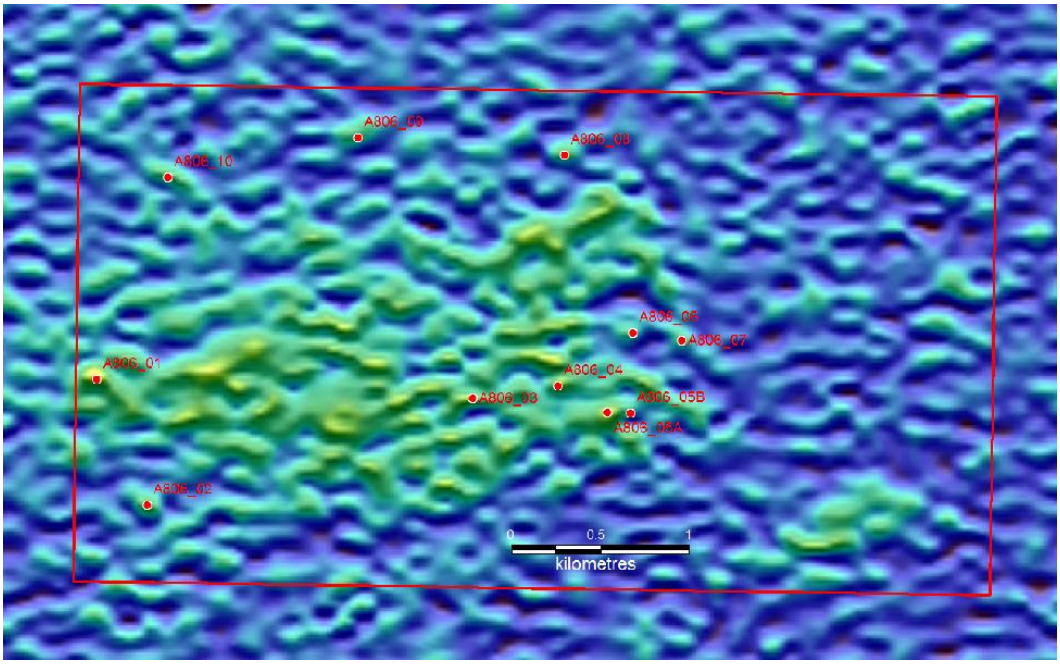

Figure 5: *Uranium channel radiometrics with tenement outlined in red, anomalies visited and assessed for uranium potential shown as red dots.*

Table 2: *Anomaly Locations & Descriptions.*

Anomaly ID	MGA_E	MGA_N	Anomaly Type	Max RadEye cps	Site Description
A806_01	695711	7521854	Sandstone (Th)	47	Medium to coarse grained bleached pebbly sandstone with ferruginous capping; anomaly associated with outcropping sandstone and with clay-rich regolith; Niton indicates low level Th ~20ppm, U bdl
A806_02	695993	7521146	Regolith	32	anomaly occurs in clay-rich outwash probably mostly derived from nearby sandstone outcrop (medium to coarse grained limonitic sandstone with common mud pellets but low 18 cps background reading)
A806_03	697820	7521745	Sandstone	29	anomaly not significantly above background; site is on top of hill plateau consisting of medium grained bleached sandstone with ferruginous or silicretised rind; beds dip shallowly to SSE.
A806_04	698301	7521815	Sandstone	35	anomaly only slightly above background; located on the side of a ridge in outcropping medium to very coarse grained limonitic/ferruginous sandstone with occasional pebbles & ferruginous rind.
A806_05A	698578	7521666	Sandstone (Th)	30	anomaly only slightly above background; located on weathered, ferruginous pebbly very coarse grained sandstone outcrop. Walking between Anoms 04 and 05 similar anomalies up to 40 cps found.
A806_05B	698708	7521665	Micaceous Sandstone and Ferruginous Cap (Th)	75	readings up to 75cps were located in a small breakaway enroute to anomaly-07; the highest readings were associated with white, fine grained micaceous sandstone, with adjacent coarse sandstone containing imprints of fossil wood, and with Fe-Mn oxide rinds; Niton measurements indicate Th levels up to 26ppm, U below-detection.
A806_06	698721	7522112	Regolith	23	regolith anomaly not significantly above background; occurs in clayey sand on a mulga-spinifex sand-plain, no outcrop nearby.
A806_07	698994	7522072	Regolith	21	regolith anomaly not significantly above background; occurs in clayey sand on a mulga-spinifex sand-plain, no outcrop nearby.
A806_08	698335	7523112	Regolith?		not visited but Google earth imagery indicates regolith site of low interest
A806_09	697176	7523206	Regolith?		not visited but Google earth imagery indicates regolith site of low interest
A806_10	696112	7522984	Regolith	24	regolith anomaly not significantly above background; occurs in clayey sand on a mulga-spinifex sand-plain, no outcrop nearby.

CONCLUSIONS

Despite the global downturn in uranium and poor market conditions, Energy Metals remains committed to the discovery of satellite ore bodies to the main Bigrlyi deposit, within its wholly owned Ngalia regional tenements. Such ore bodies would complement and improve the economics of planned production from the Anomaly 4, 15 and 2 deposits within the Bigrlyi Joint Venture area (ELR's 46-55).

Exploration work carried out by EME over 8 years of tenure indicates that EL24806 has low potential for hosting significant uranium mineralisation and following an internal review was considered non-prospective for hosting significant "Bigrlyi"-style uranium mineralisation. Subsequently the tenement was surrendered at the end of the reporting period 15th April 2015.

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DIGITAL DATA APPENDIX

All digital data relating to previous geophysical surveys has been submitted to the DME; see Appendix 1 from *Burn, N., 2008: Annual Report ERL's 46-55. Period Ending 17th November 2008.*