ACN 102 912 783

Eclipse Uranium Project

EL 24808.

Annual Report for the Year Ending 9th August 2009

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Date: 2nd September 2009

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Summary.

This report details the exploration activities carried out over EL 24808, part of Cauldron Energy Ltd (Cauldron) Eclipse Project in the Northern Territory, during the period 10th August 2009 to 9th August 2010.

During the reporting period the company continued to be involved in the Joint Systems Uranium (JSU) Ngalia Basin Project. A ground gravity survey has also commenced within the Eclipse Uranium Project, including EL 24808 and data produced will be included into the Ngalia Basin JSU Project.

Cauldron is targeting sandstone hosted uranium mineralisation within the Mount Eclipse Sandstone, similar to the adjacent Bigrlyi uranium deposit, held by Energy Metals Ltd. Over the coming year a reconnaissance drilling program will be undertaken to test targets identified through the interpretation of geophysical surveys completed during the last two years.

1.0 Introduction.

Cauldron's licence EL 24808 covers 86 km^2 in the north west of the Ngalia Basin which is prospective for sandstone-hosted uranium mineralisation. The licence lies 4km south of Energy Metals Ltd's Bigrlyi uranium/vanadium deposit. In March of 2008, Energy Metals announced Indicated and Inferred Resources totalling 23.4 million pounds (lbs) of U_3O_8 and 43.7 million pounds of V_2O_5 at a cut off grade of 500ppm U_3O_8.

This report details the exploration activities carried out over EL 24808 during the period 10 August 2008 to 9th August 2009. This work included research, data base compilation, geological and geophysical interpretation, target generation and the commencement of a ground gravity survey.

2.0 Location, Access and Tenure.

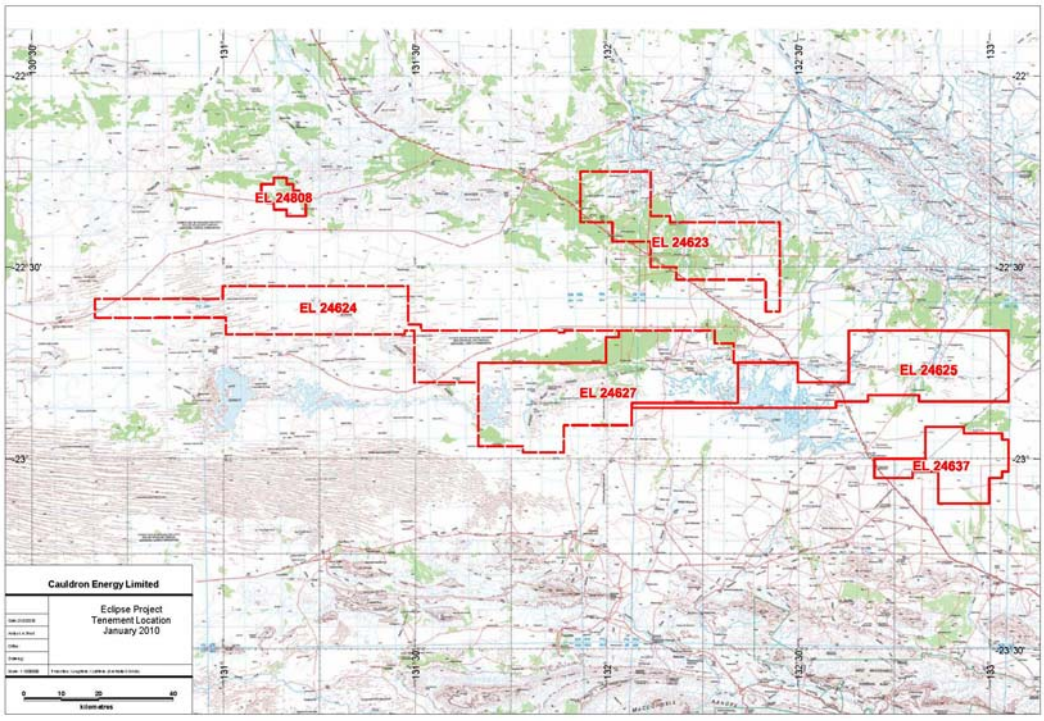
EL 24808 forms part of Cauldron's Eclipse Uranium Project and is located 270 km northwest of Alice Springs in the north western part of the Ngalia Basin. (Fig. 1)

Following compulsory third year partial surrender in July 2009 (26 sub-blocks), the exploration licence now covers 86 km² on the Mount Doreen SF 52-12 1:250,000 map sheet, centred on 722000 E / 7529000 N (GDA94 ZONE 52).

Table 1. Eclipse Project Tenement Details.

Licence	Holder	Date Granted	Expiry Date	Area km²	Minimum Expenditure
EL 24808	Cauldron Energy Ltd 100%	10/08/2006	09/08/2012	86	$35,000

Figure 1. Eclipse Project Location Plan.



3.0 Regional Geology.

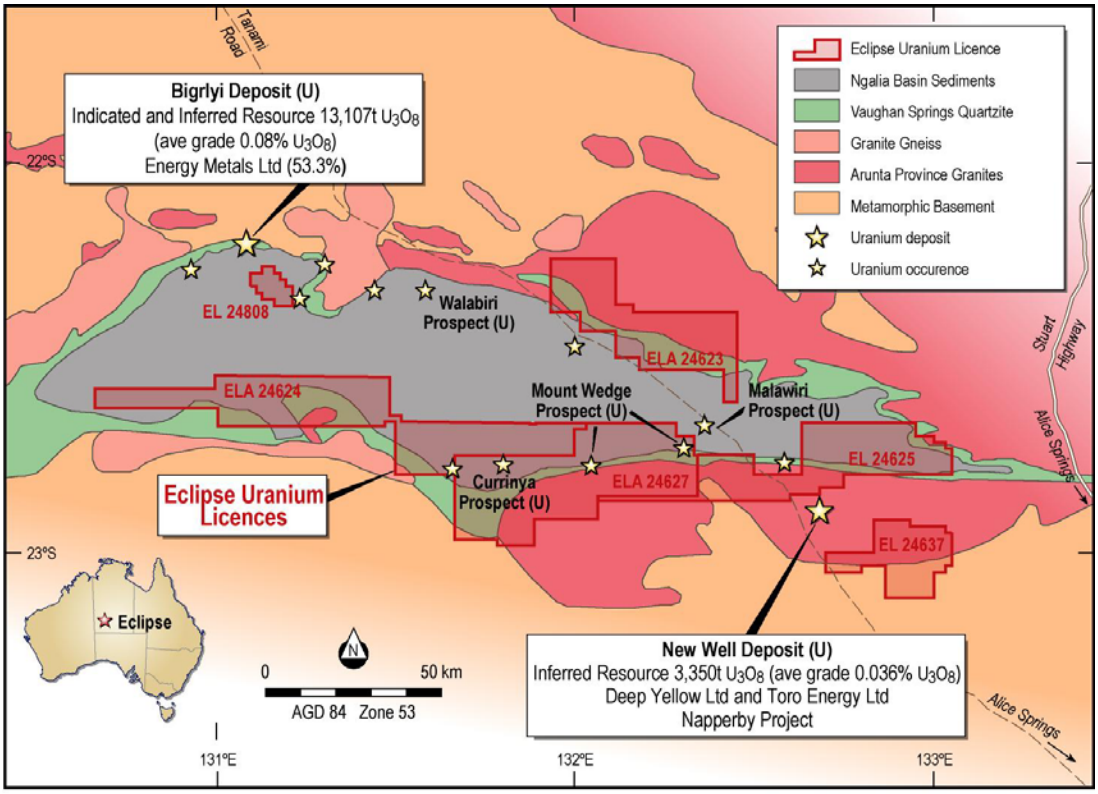
The Eclipse project covers parts of the Ngalia Basin and parts of the surrounding Arunta Block. The Ngalia Basin is a large 300 km long by 70 km wide east west trending intra-cratonic basin, which contains up to 5000 metres of late Proterozoic to Carboniferous aged fluvial and marine sediments. These sediments were derived from the surrounding uranium enriched early to mid Proterozoic granites and metamorphic rocks of the Arunta Block. (Figure. 2)

The Ngalia Basin developed around 900mya and comprises a succession of basal late Proterozoic continental and possibly marine sediments overlain by continental fluvioglacial sediments. Later sedimentation during the Cambrian and Ordovician resulted in epicontinental sediments including carbonates. Uplift during the Alice Springs Orogeny resulted in the deposition of Devonian to Carboniferous fluvial sediments. Subsequent deformation of the basin has resulted in folding and faulting, with major thrust faults, strong folding and over turning of lithology along the northern margin of the basin. Deformation in the south is less intense with only gentle folding along the southern margin. (Freeman etal 1990)

The Arunta Block is composed of metamorphic basement lithology's, which have been intruded by later granites. Three areas are recognised within the Arunta Block, The northern, central and southern provinces. The Ngalia basin sits between the northern and central provinces. Formation of the Arunta Craton is divided into three stages. The earliest phase (2000mya) comprises mafic, felsic and aluminous granulite and calc-silicate rocks of the Strangways Metamorphic Complex, which comprises most of the Central Province. The second phase of formation is dominant in the northern and southern provinces and comprises aluminous and silicious sediments with a few mafic flows and sills. The third phase is less extensive and is found as ortho-quartzite outliers scattered around the northern and southern provinces. (Shaw 1990)

The Arunta Block underwent deformation and metamorphism during the Proterozoic, including the intrusion of granites, some of which are highly uraniferous, particularly those from around 1750mya. During the late Devonian and early Carboniferous the Arunta Block was extensively disrupted by thrust faulting, particularly along the boundary between the northern and central provinces. (Shaw 1990)

Figure 2. Eclipse Project Geology and Tenements.



This illustration has been prepared for inclusion in this prospectus. April 2010

4.0 Project Geology.

EL 24808 covers an area of 86 km^2 in the north-west part of the Ngalia basin. The basin sediments are predominantly comprised of arenaceous continental and marine sediments of Pre-Cainozoic age. Surrounding and underlying pre-Upper Proterozoic rocks include gneiss, granite and quartzite. These crystalline and metamorphic rocks are considered to be the source of the sediment and the uranium.

In the project area the Vaughan Springs Quartzite is the oldest unit and unconformably overlies basement rocks. This is overlain by the Mount Doreen Formation comprising silicified dolomite, conglomerate and coarse sandstone, which is turn overlain by the Djagamara Formation and the Kerridy Sandstone. The youngest unit in the succession is the Mount Eclipse Sandstone which hosts the uranium mineralisation in the area. The Mount Eclipse Sandstone is largely a medium to coarse grained felspathic sandstone with common carbonate. Lenses of conglomerate, arkose, dolomitic sandstone and shale are present. The sequence is interpreted to have formed in a braided, fluvial environment and has since been disturbed by broad scale folding and faulting. (Fidler et al, 1990)

5.0 Previous Exploration.

Limited historical exploration has been completed within the area covered by EL 24808.

During 1970, uraniferous haematite-quartz veins were discovered, by Central Pacific Minerals NL, at Rankins Reward on the northern margin of the Ngalia Basin. This initiated interest in the area and exploration was carried out targeting sandstone-hosted uranium deposits in the sedimentary rocks of the basin. Remote sensing, geophysical and geochemical surveys and drilling were conducted in the basin over the next ten years. During 1970-73 carnotite was discovered in outcropping Mount Eclipse Sandstone at several localities along the northern Ngalia Basin. Three small uranium deposits were delineated by drilling at Bigrlyi, Walbiri and Minerva/Malawiri. (Lally and Bajwah, 2006)

Two percussion holes were drilled by AGIP Australia P/L (AGIP) during 1978 at Camel Flat North (on EL 24808) with depths of 100m and 130m. These targeted the boundary of the white and red facies of the Mount Eclipse Sandstone and encountered minor radiometric anomalies. (Anon, 1978)

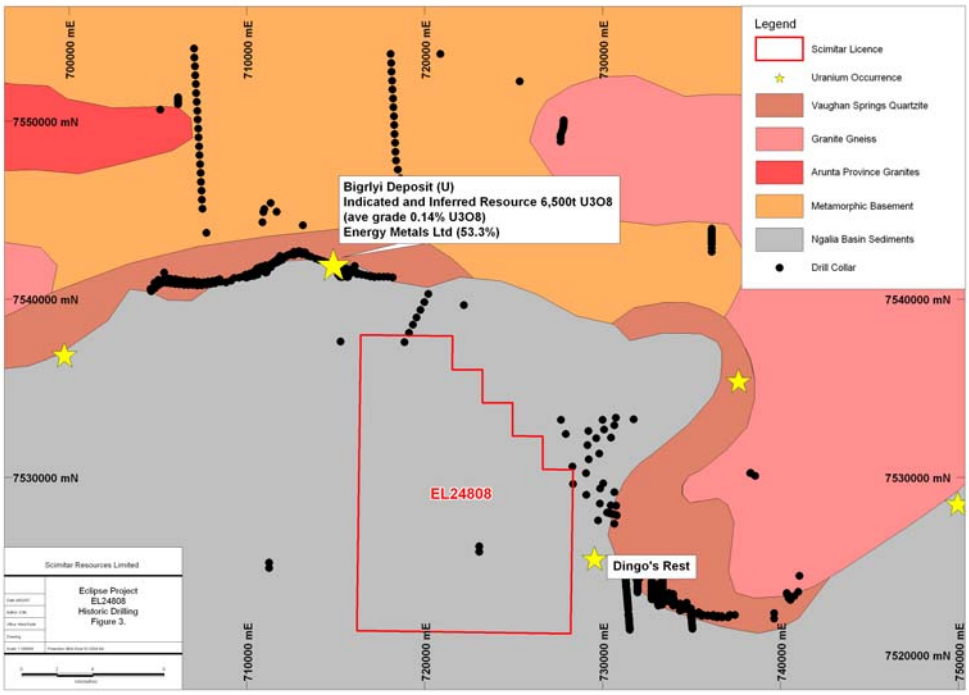
During the first year of tenure Cauldron completed office based studies of the project area which included acquisition of historical reports and associated data and collation of historical data from old hardcopy reports. Much of this data required geo-referencing from hard copy maps and will require follow up ground truthing. A summary plan of historical drilling near to the Eclipse Project is presented in Figure 3. The company also completed a Radiation Management Plan, Environmental Management Plan and a Field Procedures Manual for the Eclipse Project, including EL 24808.

Cauldron commissioned a airborne Radiometric/Magnetic survey in 2008. The program, conducted by GPX Airborne, comprised 2,015 line km on 100m line spacing's with 1000m tie spacing's, that formed part of a larger survey totalling about 30,000 line km.

Interpretation of the airborne radiometric and magnetic data, in 2008 and 2009, shows the presence of surficial Uranium enrichment in the northern parts of the survey area which fade to the south as transported cover sediments dominate (Fig. 4). Interpretation of the magnetic imagery (Fig. 5) indicates an area of strongly deformed sediments in the northern and central parts of the survey area associated with a major east-west trending thrust fault and a number of smaller fault splays.

On this basis it is considered that there is an area of significant structural and geological features in the south eastern part of the licence which could provide a locus for uranium mineralisation.

Figure 3. Eclipse Project Historical Drilling.



5.1 Dingo's Rest

During 1979, Afmeco Mining and Exploration Pty Ltd completed a total of 17 drill holes at the adjacent Dingo Rest Prospect to the east of EL24808. Eight percussion holes (2504.1m) and nine diamond holes (4135.1m) were drilled between Dingo's Rest North and Dingo's Rest South. Drilling targeted uranium mineralisation hosted within the Mount Eclipse Sandstone. A number of significant intersections were recorded associated with contact zones of discrete oxidation and reduced zones containing organic material and pyrite in the lower Mount Eclipse Sandstone. (French et al, 1979)

Mineralisation at both Dingo Rest North and Dingo Rest South is secondary and is hosted by medium to coarse grained arkosic Mount Eclipse Sandstone. Carnotite occurs as disseminations, fracture fillings, coatings on sand grains and 5cm diameter accretions. (Lally and Bajwah, 2006)

Table 2. Significant Intersections from the Dingo's Rest Prospect.

Hole ID	Type	Hole Depth (m)	Results
DIN06	PERC	284.00	Maximum 200 cps at 148m
DIN10	DD	386.20	Maximum 1450 cps at 295.3-305.8m
DIN11	DD	456.20	Maximum 800 cps at 378.5 - 378.9m
DIN12	DD	392.20	Maximum 3750 cps at 311.5- 312.9m.
DIN14	DD	614.20	Maximum 1700 cps 567.3 - 568.3m.
DIN15	DD	491.60	Maximum 450 cps at 384.9 & 404.5m.
DIN17	DD	619.00	Maximum 3450 cps 550.4 - 551.0m.

5.2 Bigrlyi Uranium Deposit

The Bigrlyi Deposit (Energy Metals Ltd 53.3%) is located 4km to the north east of Cauldron's EL24808. In March of 2008, Energy Metals announced Indicated and Inferred Resources totalling 23.4 million pounds (lbs) of U_3O_8 and 43.7 million pounds of V_2O_5 at a cut off grade of 500ppm U_3O_8. (Table 3)

Table 3. Bigrlyi – Indicated and Inferred Resources at 500ppm U_3O_8 cut-off

Resource Category	Tonnes	U_3O_8 (ppm)	V_2O_5 (ppm)	U_3O_8 (t)	V_2O_5 (t)	U_3O_8 (Mlb)	V_2O_5 (Mlb)
Indicated	2,330,600	1,739	2,429	4,053	5,660	8.94	12.48
Inferred	5,230,990	1,250	2,705	6,537	14,149	14.41	31.19

Uranium mineralisation was first discovered at Bigrlyi during ground radiometric traversing by Central Pacific Minerals NL, in 1973. Sixteen radiometric anomalies were defined over a strike length of 11km and were related to carnotite mineralisation at or near surface. Carnotite generally occurs in the weathered zone to depths of about 25m. Primary mineralisation consists of uraninite and montroseite hosted mostly by the lower part of the Devonian to Carboniferous Mount Eclipse Sandstone. (Lally and Bajwah, 2006)

Fidler et al (1990) divided the Mount Eclipse Sandstone at Bigrlyi into 8 informal subdivisions (Units A to H). Most mineralisation is hosted by the basal part of Unit C, which contains common to abundant carbonaceous material and pyrite. Less significant mineralisation is present in unit B above and unit D below.

Radiometric anomalies associated with the Bigrlyi Deposit can be seen on Figure 6. An elongate and curved zone of anomalism similar in expression to that of the Bigrlyi Deposit can be seen extending towards the north-west portion of EL24808.

Figure 4. EL 24808 Uranium Total Count Image

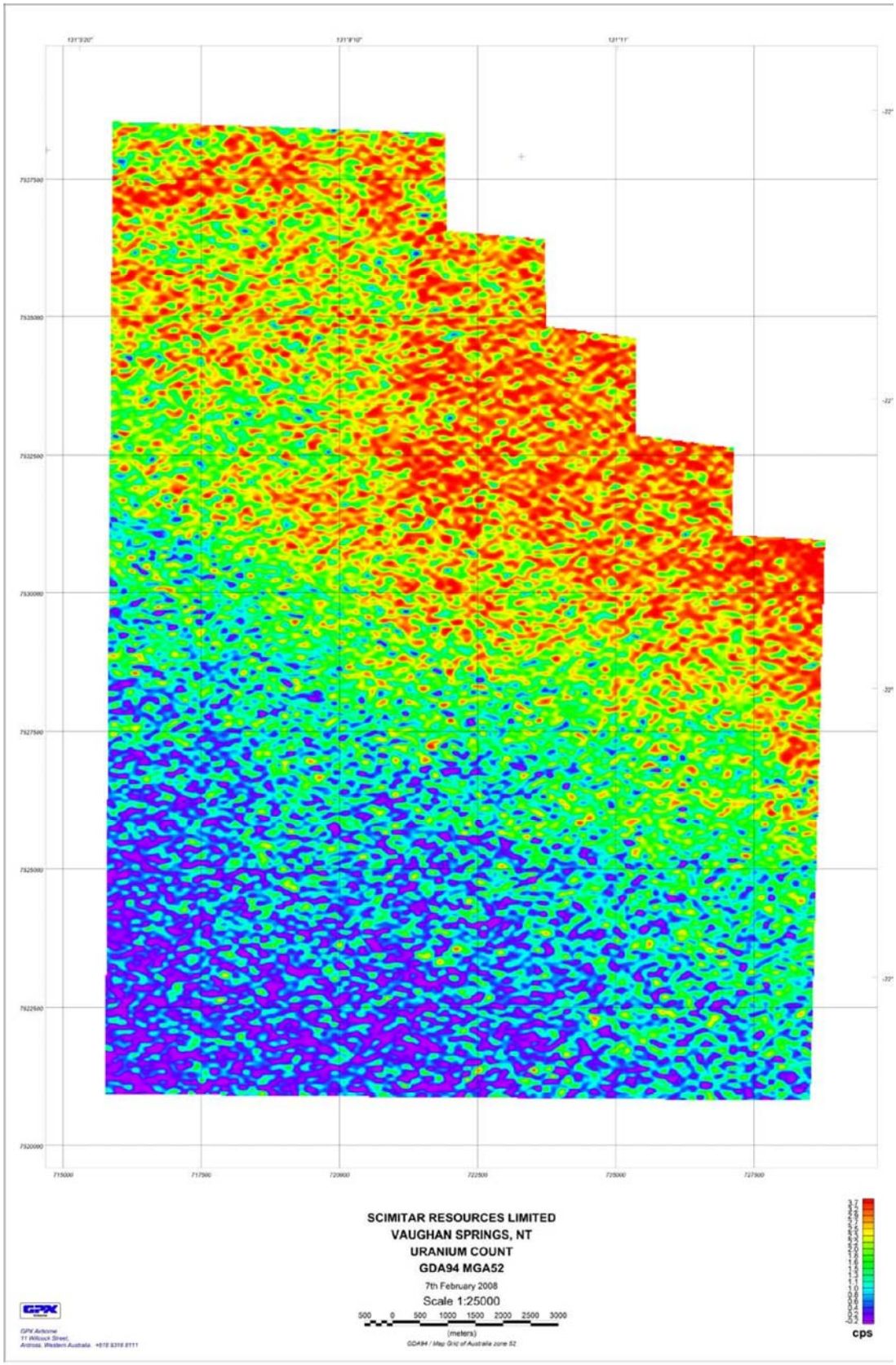


Figure 5. Airborne Magnetics - Reduced to Pole 1st vertical derivative

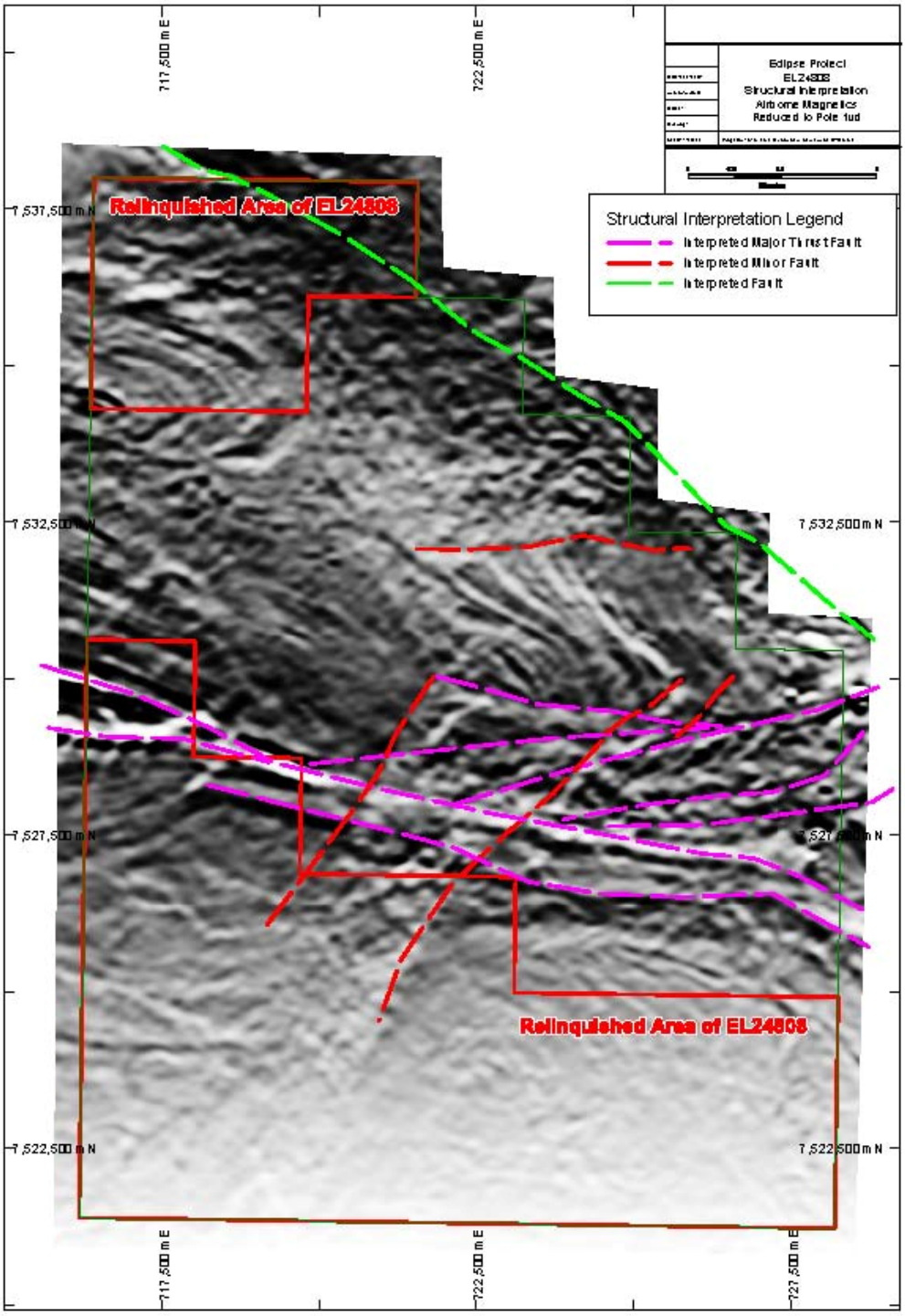
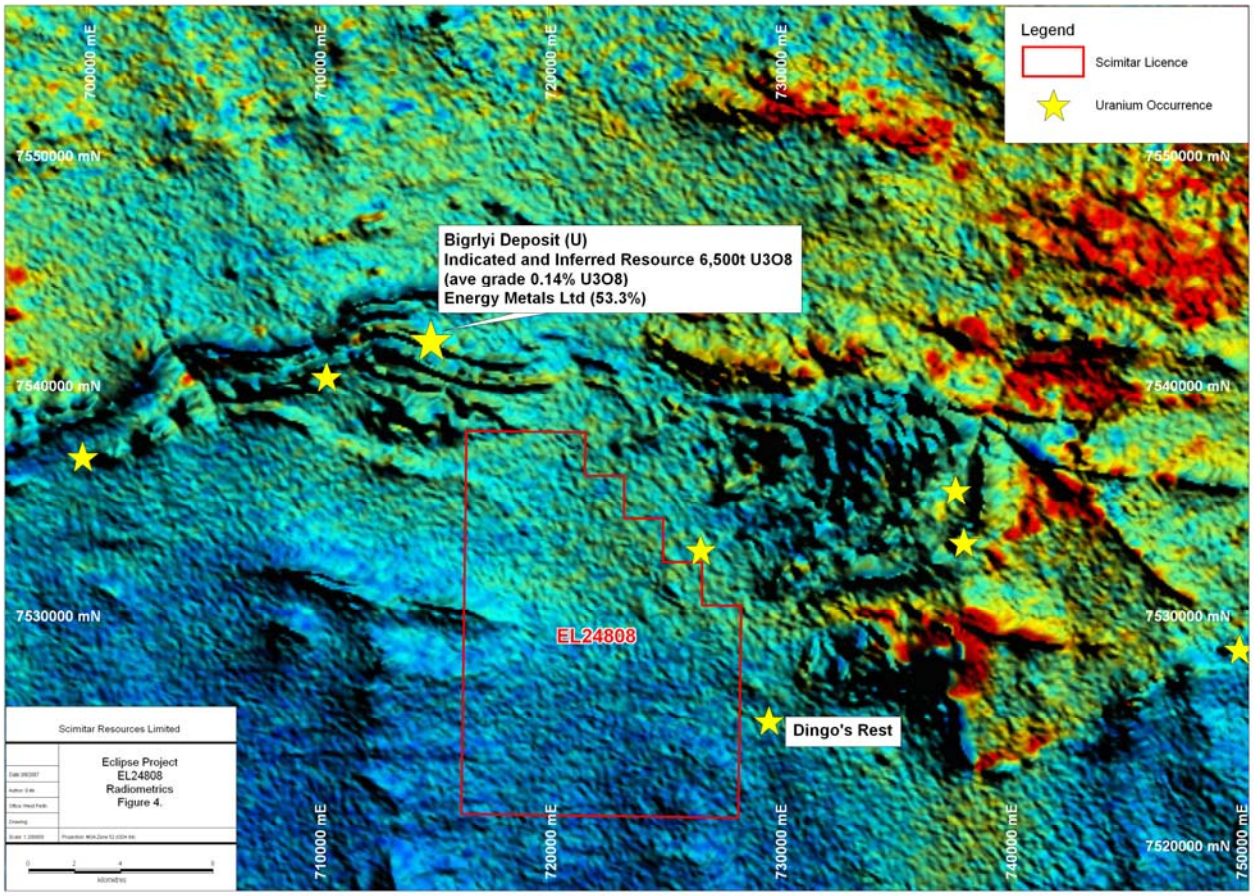


Figure 6. Radiometric Uranium over SRTM



6.0 Work Completed.

The Company continues to be involved in the Joint Systems Uranium (JSU) Ngalia Basin Project being conducted by the CSIRO. The project, a collaboration between, CSIRO, the NT and SA governments and fellow uranium explorers Thundellara and Energy Metals aims to identify the geological, structural, mineralogical, alteration and fluid flow characteristics of uranium mineralisation within the Ngalia basin. The project will be funded by all parties and is expected to provide a robust understanding and framework that will drive future uranium exploration and mineralisation discoveries in the area. This project commenced in October 2009 and the anticipated timeframe was 18 months with individual components delivered as they are completed. Due to unseasonal weather during the past six months there has been a delay on a number of these components, including Hy-logging of drill core at Bigrlyi.

During early 2010 a ground gravity survey was commenced within the Eclipse Uranium Project, including EL 24808. The survey is being completed on 1 km spacing's in conjunction with the NT Government West Arunta survey and data produced will be included into the Ngalia Basin JSU Project.

A Risk Management Plan was completed for the Eclipse Project, including EL 24808 and approval by NT Worksafe was granted in April 2010.

7.0 Conclusions and Recommendations.

Interpretation of the airborne radiometric and magnetic data indicates that there is an area of significant structural and geological features in the south eastern part of the licence which could provide a locus for uranium mineralisation.

Activities proposed for the coming year include ongoing review and interpretation of geophysical and geological data and the ongoing development of a project database. Non-ground disturbing field work comprising mapping and sampling will be used to in conjunction with this data.

Cauldron is currently preparing a Mining Management Plan (MMP) which details a preliminary reconnaissance drilling program, comprising approximately 400 metres of Reverse Circulation (RC) drilling, to test targets in EL 24808 which have been generated. Following submission of the MMP Cauldron intends to complete the drilling program at the earliest possible date, with respect to approvals and heritage clearances.

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