Eclipse Uranium Project
EL 24808.

Annual Report for the Year Ending 9th August 2009
Summary.

This report details the exploration activities carried out over EL24808, part of Cauldron Energy Ltd (Cauldron) Eclipse Project in the Northern Territory, during the period 10th August 2008 to 9th August 2009. This work included research, data base compilation, and geological and geophysical interpretation.

During the reporting period Scimitar Resources Limited undertook a friendly takeover/merger with Jackson Minerals Limited, which was completed in early July 2009. Following the completion of the merger Scimitar has changed the company name to Cauldron Energy Ltd.

Cauldron is targeting sandstone hosted uranium mineralisation within the Mount Eclipse Sandstone, similar to the adjacent Bigrlyi uranium deposit, held by Energy Metals Ltd.
1.0 Introduction.

Cauldron’s licence EL24808 covers 86 km² 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 U₃O₈ and 43.7 million pounds of V₂O₅ at a cut off grade of 500ppm U₃O₈.

This report details the exploration activities carried out over EL24808 during the period 10 August 2008 to 9th August 2009. This work included research, data base compilation, and geological and geophysical interpretation.

2.0 Location, Access and Tenure.

EL24808 forms part of Scimitar’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) (Fig 2.), 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.

<table>
<thead>
<tr>
<th>Licence</th>
<th>Holder</th>
<th>Date Granted</th>
<th>Expiry Date</th>
<th>Area km²</th>
<th>Minimum Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL 24808</td>
<td>Cauldron Energy Ltd 100%</td>
<td>10/08/2006</td>
<td>09/08/2012</td>
<td>86</td>
<td>$35,000</td>
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</tbody>
</table>

Figure 1. Eclipse Project Location Plan.
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 et al 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)
4.0 Project Geology.

EL24808 covers an area of 168 km² 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 Djambara 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 EL24808.

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 Bigryli, 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 EL24808) 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)

Office based studies conducted by Scimitar during the first year of tenure 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. The company also completed a Radiation Management Plan, Environmental Management Plan and a Field Procedures Manual for the Eclipse Project, including EL24808.

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.

<table>
<thead>
<tr>
<th>Hole ID</th>
<th>Type</th>
<th>Hole Depth (m)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN06</td>
<td>PERC</td>
<td>284.0</td>
<td>Maximum 200 cps at 148m</td>
</tr>
<tr>
<td>DIN10</td>
<td>DD</td>
<td>386.2</td>
<td>Maximum 1450 cps at 295.3-305.8m</td>
</tr>
<tr>
<td>DIN11</td>
<td>DD</td>
<td>456.2</td>
<td>Maximum 800 cps at 378.5 - 378.9m</td>
</tr>
<tr>
<td>DIN12</td>
<td>DD</td>
<td>392.2</td>
<td>Maximum 3750 cps at 311.5-312.9m</td>
</tr>
<tr>
<td>DIN14</td>
<td>DD</td>
<td>614.2</td>
<td>Maximum 1700 cps 567.3 - 568.3m</td>
</tr>
<tr>
<td>DIN15</td>
<td>DD</td>
<td>491.6</td>
<td>Maximum 450 cps at 384.9 &amp; 404.5m</td>
</tr>
<tr>
<td>DIN17</td>
<td>DD</td>
<td>619.0</td>
<td>Maximum 3450 cps 550.4 - 551.0m</td>
</tr>
</tbody>
</table>
5.2 Bigrlyi Uranium Deposit

The Bigrlyi Deposit (Energy Metals Ltd 53.3%) is located 4km to the north east of Scimitar’s EL24808. In March of 2008, Energy Metals announced Indicated and Inferred Resources totalling 23.4 million pounds (lbs) of U₃O₈ and 43.7 million pounds of V₂O₅ at a cut off grade of 500ppm U₃O₈. (Table 3)

Table 3. Bigrlyi – Indicated and Inferred Resources at 500ppm U₃O₈ cut-off

<table>
<thead>
<tr>
<th>Resource Category</th>
<th>Tonnes</th>
<th>U₃O₈ (ppm)</th>
<th>V₂O₅ (ppm)</th>
<th>U₃O₈ (t)</th>
<th>V₂O₅ (t)</th>
<th>U₃O₈ (Mlb)</th>
<th>V₂O₅ (Mlb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>2,330,600</td>
<td>1,739</td>
<td>2,429</td>
<td>4,053</td>
<td>5,660</td>
<td>8.94</td>
<td>12.48</td>
</tr>
<tr>
<td>Inferred</td>
<td>5,230,990</td>
<td>1,250</td>
<td>2,705</td>
<td>6,537</td>
<td>14,149</td>
<td>14.41</td>
<td>31.19</td>
</tr>
</tbody>
</table>

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.

Figure 4. Historic Drill Collar Locations.
Radiometric anomalies associated with the Bigrlyi Deposit can be seen on Figure 4. 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 5. Radiometric Uranium over SRTM

6.0 Work Completed.

During the reporting period Cauldron Energy Limited undertook further interpretation of the data collected from the Company’s airborne Radiometric/Magnetic survey. The program, conducted by GPX Airborne, comprised 2,015 line km on 100m line spacings with 1000m tie spacings,

The results of the radiometric imagery indicates the presence of surficial uranium enrichment in the northern parts of the licence, which fades out and disappears to the south where the licence is covered by transported cover sediments, including sand dunes (Fig. 6). The magnetic imagery in this southern area is also subdued, in comparison to the northern part of the licence, where there is evidence of folding and faulting of the basin sediments, whilst the southern part appears to be significantly less deformed and flat lying. (Fig. 7)

Interpretation of the magnetic imagery indicates that there is an area of strongly deformed sediments in the northern and central parts of the licence associated with a major east-west trending thrust fault and a number of smaller fault splays. This area is of particular interest for the future exploration of the licence as the faulting may
provide the potential for fluid pathways or structural barriers that may localise uranium mineralisation within the target Eclipse Sandstone. As a further result, the faulting may have brought deeper sections of the Eclipse Sandstone closer to the surface and it is likely that these units will be found in a more upright attitude, similar to the Bigryli deposit, located on the basin margin to the north of the licence.

The north-eastern boundary of the licence appears to coincide with a moderately well defined structural break, which trends to the northwest and forms a boundary between the deformed, generally northwest trending sediments within EL24808 and the strong ridge of southwest trending hills that form the continuation of the Bigryli outcrop (Fig. 5 & 7).

Figure 6.  EL 24808 Uranium Count Image
Figure 7. Airborne Magnetics - Reduced to Pole 1st vertical derivative

Talk about the JSU better target on ground field exploration programs, including mapping, soil and rock chip sampling, and ground based geophysical surveys targeting uranium mineralisation within the Eclipse Sandstone.

The company has completed a Radiation Management Plan, Environmental Management Plan and a Field Procedures Manual for the Eclipse Project, including EL24808.
During the year the company has also become 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 is expected to commence in October and continue for 18 months with individual components delivered as they are completed.

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 will investigate this promising target area further, with exploration including office studies and the basin modelling components of the JSU Ngalia Basin Project associated with non-ground disturbing field work. The field work will comprise mapping, sampling and ground based geophysical surveys, including radiometrics.

It is expected that field exploration programs to be carried out in the coming year will identify uranium targets that are suitable for follow up drilling programs. Assuming success of the initial non-ground disturbing exploration works, Cauldron will complete a Mining Management Plan for EL24808 and undertake a preliminary drilling program at the earliest possible date, with respect to approvals and heritage clearances.
References.


