EL 25477 “Cleo’s Regional 4 Prospect”

Annual Report

to the

Northern Territory

Department of Regional Development, Primary Industry, Fisheries and Resources

for the period

26th June 2008 to 25th June 2009

by

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MAP REFERENCE:
PINE CREEK 100K – SD5208
MOUNT EVELYN 250K – SD5305
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Summary

Exploration Licence (EL 25477) located 175 kilometres by road, southeast of Darwin and covers an area of 13.35 km² within the Pine Creek Geosyncline.

The project area is 100% owned by Atom Energy Ltd.

Uranium mineralisation was discovered to the north east of EL25477 at the Cleo’s Project in the Twin and Dam deposits in the mid 1980’s by Total Mining Australia Pty Ltd. (Total Mining). From 1984 to 1988 Total Mining carried out an extensive exploration program which delineated the Twin and Dam deposits at Cleo’s. The work by Total impacted on the area now covered by EL25477 but failed to delineate significant anomalism in this area.

In 2007, Atom Energy conducted reverse circulation drilling over the Twin and Dam deposits and established JORC compliant Inferred resource of 1.409 million tonnes at a grade of 304 ppm U₃O₈ for 430 tonnes (960,000 lbs) of contained U₃O₈ at a 100 ppm lower cut off.

A review of historic exploration data was conducted by Atom Energy followed by ground reconnaissance and field checking of geology, specifically the location of metasedimentary units on the project.

1.0 Introduction

1.1 Project Description

EL25477 is located within the Pine Creek Geosyncline and is approximately 175 kilometres southeast of Darwin. The tenement abuts Atom Energy’s Cleo’s Uranium Project, EL24549 which contains the Twin and Dam uranium deposits.

The mineral resource at the Twin and Dam deposits as at 19 March 2008 were 585 kt @ 286 U₃O₈ and 824 kt @ 316 U₃O₈ respectively for a total of 1409 kt @ 304 U₃O₈.

Atom Energy acquired EL25477 to assess the prospectivity for uranium mineralisation within metasediments of the Masson Formation in contact with the Cullen Granite.

1.2 Location and Access

EL25477 is located approximately 175 kilometres southeast of Darwin.

Access by road from Darwin is via the Stuart Highway to Pine Creek, then 30 kilometres northeast along the Kakadu Highway. The tenement may then be accessed by tracks.
2.0 Tenement Status

EL25477 was granted on 26th June 2007 for a period of 6 years. The tenement is 100% owned by Atom Energy Ltd.

3.0 Regional Geology

EL25477 lies within the Pine Creek Geosyncline, an Early Proterozoic sedimentary basin with an area in excess of 66,000 square kilometres and a rock sequence of up to 14 kilometres total thickness.

The Pine Creek Geosyncline forms part of the North Australian orogenic province and can be correlated with other Early Proterozoic sequences in Northern Australia, including the Granites-Tanami Block, Tennant Creek Inlier, Murphy Inlier, Arnhem Block and Halls Creek Inlier.

The Pine Creek Geosyncline has been subdivided into five regional entities. These are Litchfield province, Rum Jungle Region, Central Region, South Alligator River Valley and east Alligator Rivers Region. Cleo's is located within the Central region.

4.0 Local Geology

The project area is underlain by granitoids of the Cullen Batholith.

The majority of the tenement is covered by Cenozoic alluvials and wash with some areas of unconsolidated material. The rest of the project consists of granites from the Allamber Springs Suite. Some metasediments can be found on the northern tip of the tenement. These sediments consist of carbonaceous phyllite, slate, siltstone, sandy siltstone with minor laminated medium to coarse grey quartzite and feldspathic quartzite, and massive ironstone. This unit is prospective for uranium mineralisation similar to that found at Cleo's Prospect to the northeast.
Figure No. 2

- **Pgcz**: Grey-green medium equigranular biotite-hornblende-quartz monzonite, coarse porphyritic quartz monzonite, biotite-hornblende-quartz syenite; minor biotite-hornblende-quartz monzodiorite and olivine dolerite

- **Pgcm**: Granite, leucogranite and granodiorite

- **Pgcs**: Granite, leucogranite and granodiorite

- **Pgca**: Granite, leucogranite and granodiorite

- **Pdz**: Chloritised medium quartz dolerite and amphibolite

- **Pnm**: Carbonaceous phyllite, slate, silty phyllite, sandy siltstone, minor laminated medium to coarse grey quartzite and feldspathic quartzite; minor hornfels; minor chert and quartz pebble conglomerate; graded bedding, cross-bedding and scour structures in places. Red and white broad-leaved plant litter;

- **Ppm**: Coarse, pebbly feldspathic quartzite arkose and micaceous quartzite; minor chert and quartz pebble conglomerate. Graded bedding, cross-bedding and scour structures in places. Red and white broad-leaved plant litter;

- **Ppm**: Coarse, pebbly feldspathic quartzite arkose and micaceous quartzite; minor chert and quartz pebble conglomerate. Graded bedding, cross-bedding and scour structures in places. Red and white broad-leaved plant litter;

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- **Czg**: High level gravels and gravelly lithosols

- **Cz**: Carbonaceous phyllite, slate, silty phyllite, sandy siltstone, minor laminated medium to coarse grey quartzite and feldspathic quartzite; minor hornfels; minor chert and quartz pebble conglomerate. Graded bedding, cross-bedding and scour structures in places. Red and white broad-leaved plant litter;

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5.0 Exploration Activities

Exploration activities on EL25477 were restricted to review of historic exploration data.

A number of companies have explored at various times for base metals and uranium in the locality now covered by EL 25477. Open-file reports describing these activities are available on the DRDPIFR Industry Report Management System. Details of relevant reports are listed in Table 1.

<table>
<thead>
<tr>
<th>EL No.</th>
<th>Company</th>
<th>Year</th>
<th>IRMS Report No</th>
<th>Report Title</th>
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<tbody>
<tr>
<td>EL1093</td>
<td>CRA Exploration</td>
<td>1978</td>
<td>CR1978-0062</td>
<td>Annual Report on Moline, Goodparla, Francis Creek, Pine Creek Basin NT</td>
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<td>EL1093</td>
<td>CRA Exploration</td>
<td>1979</td>
<td>CR1979-0060</td>
<td>Final Report on Exploration Francis Creek</td>
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<td>EL6336</td>
<td>N/A</td>
<td>1990</td>
<td>CR1990-00192</td>
<td>Annual Report EL6336, 01-12-1998 to 01-12-1989</td>
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<td>EL6336</td>
<td>N/A</td>
<td>1990</td>
<td>CR1991-0054</td>
<td>Report on Exploration Mt Saunders</td>
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<tr>
<td>EL3174</td>
<td>CSR – Casey Consolidated Holdings</td>
<td>1986</td>
<td>CR1986-0142</td>
<td>Annual Report Year Ending 11-01-86, Pine Creek</td>
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<tr>
<td>EL3174</td>
<td>CSR – Casey Consolidated Holdings</td>
<td>1988</td>
<td>CR1988-0111</td>
<td>Final Report EL3174, Pine Creek area 12-01-82 to 12-01-88</td>
</tr>
</tbody>
</table>

Table 1. Summary of Open File Reports
The tenement also includes two sample sites in which whole rock analysis was carried out (see Figure 3) for a suite of 12 elements including tin, potassium and manganese. This data is also available on the DRDPIFR Industry Report Management System.

6.0 Conclusion / Recommendations

Atom Energy Ltd. is currently re-evaluating the Cleo’s uranium resource on EL24549 to the northeast of EL25477 with the view to increase the current resource by further exploration of the project and through identification of additional exploration targets in the region.

7.0 Exploration Expenditure

<table>
<thead>
<tr>
<th>EL25477</th>
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<tbody>
<tr>
<td>Field Costs</td>
<td>$4501</td>
</tr>
<tr>
<td>Other Consultant</td>
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</tr>
<tr>
<td>Drilling</td>
<td></td>
</tr>
<tr>
<td>Consultant Geologist</td>
<td></td>
</tr>
<tr>
<td>Maps &amp; Drafting</td>
<td></td>
</tr>
<tr>
<td>Travel &amp; Vehicle Costs</td>
<td></td>
</tr>
<tr>
<td>Accommodation</td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>Sampling / assaying</td>
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<tr>
<td>Administrative Costs (15%)</td>
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<tr>
<td>Literature Review/ Database</td>
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<tr>
<td>Reporting</td>
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<tr>
<td><strong>TOTAL COSTS</strong></td>
<td><strong>$9329</strong></td>
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