Annual Report

FOR

Exploration License 25477
For the year ending
25/06/2010

Map Sheet 1:100,000 Pine Creek 5270

Target Commodities: U, Cu, Pb, Zn, Sn

Title Holder: Atom Energy Pty Ltd

Operator: Thundelarra Exploration Ltd/Element 92 Pty Ltd

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20 July 2010
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Summary

Exploration Licence (EL 25477) is located 150 kilometres by road, south-east of Darwin and covers an area of 13.35 km$^2$ within the Pine Creek Orogen.

Uranium mineralisation was discovered to the north-east of EL25477 at the Cleo’s Project 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 304ppm U$_3$O$_8$ for 430 tonnes (960,000lbs) of contained U$_3$O$_8$ at a 100ppm lower cut off.

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

1.0 Introduction

1.1 Project Name and Location

Access by road from Darwin is via the Stuart Highway to Pine Creek, then 30 kilometres northeast along the Kakadu Highway (Fig. 1). The tenement may then be accessed by a track to the west from the Mary River Station Road.

1.2 Exploration Licence Details

EL25477 was granted on 26th June 2007 for a period of 6 years. The tenement is 100% owned by Atom Energy Ltd. and is currently managed by Thundelarra Exploration Ltd. An application to waive the required reduction of the tenement area was submitted to the Department of Resources in Darwin on 18 May 2010. The expenditure to date is well above the commitment for the current reporting period. The tenure covers an area of four graticule blocks or approximately 13.35 km$^2$. 
1.3 Operator Details

The operator for exploration on the EL 25477 is Thundelarra Exploration Ltd.

Address and contact details for Thundelarra Exploration Ltd. are:

Thundelarra Exploration Ltd  
Level 3, IBM Building  
1060 Hay Street, West Perth  
Western Australia 6005  
Telephone  61 8 9321 9680  
Fax  61 8 9321 9670

2.0 Geological and Structural Setting

EL25477 lies within the central part of the Pine Creek Orogen, which consists of Proterozoic metasediments and post-orogenic granitoids.

The Pine Creek Orogen is 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 Fold Belt.

The tenement area is underlain by granitoids of the Cullen Batholith (Allamber Springs Granite). Most of the tenement is covered by Cenozoic alluvial deposits 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 edge of the tenement (Fig. 2).

The Allamber Springs Granite is surrounded by a metamorphic aureole up to 3 kilometres wide and displays a low radiometric signature (Fig. 3). The ferruginised metasediments which crop out north of the tenement area are strongly magnetic (Fig. 4). The magnetic feature within the south-eastern part of the tenement was visited and strongly ferruginised metasediments of Koolpin Formation were found. They are slightly magnetic and no radioactivity was noticed. The contact with the granite is metamorphosed suggesting that they form large hornfelsed xenoliths within the Allamber Springs Granite.

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 north-east and was previously assigned to the Masson Formation of the Namoona Group. Recent mapping within the area has identified metasediments resembling similarities with the Wildman Siltstone or Koolpin Formation of the South Alligator Group.
3.0 Previous Exploration Activity

Minor exploration activities were undertaken in the past over the current tenure. Previous explorers have targeted base metals, tin and uranium within the proximity of the tenement area.

An exploration program for gold and tin was conducted by G. Eupene for Casey Consolidated Holdings in 1984 and involved stream sediment sampling.

Minatome Australia has explored the metasediments to the north for uranium without success during 1983-1987.

CSR Limited has undertaken limited stream sediment sampling for gold in 1985 under an agreement with Casey Consolidated Holdings, but the results were disappointing.
Figure 3: Uranium Image
Figure 4: Total Magnetic Intensity
4.0 Target Commodities

Thundelarra’s focus during the reporting period has been on uranium exploration, but the EL was also explored for base metals and gold.

5.0 Exploration Methods

The EL has been systematically explored by initially carrying out desktop studies of open file reports and compilation of historical data in conjunction with reconnaissance geological and radiometric traverses. These will provide a foundation for ongoing target definition for future exploration programs.

6.0 Work Carried out and Results

Work carried out consisted of evaluation of the historical data and several geological reconnaissance traverses using a hand-held scintillometer and spectrometer. The detailed field work was delayed several times due to a late wet season.

Detailed mapping and ground radiometrics is required to further assess the northern part of the tenement.

7.0 Environment

As no environmental disturbance has taken place as a result of exploration activities, no rehabilitation work was necessary.

8.0 Conclusions

The compilation of historical data suggests that any uranium potential at the granitic contact on the northern part will be concealed by colluvial deposits. Limited tin mineralisation may be present within the greisenised parts of the Allamber Springs Granite.

9.0 Expenditure Statement

A total of $13,450 was spent on the tenement during the reporting period. The expenditure was well above the commitment of $8,000.

10.0 Program and Budget

The exploration program during the current dry season will be directed to continue prospecting radiometric anomalies within the EL and the compilation and assessment of historical data. This will allow a more structured exploration program
consisting of soil sampling, detailed mapping and ground geophysics during the rest of the dry season.

The provisional budget for EL 25477 is as follows:

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