

# LEVEL 14 | 191 ST GEORGES TERRACE | PERTH | WA 6000

# **Exploration Licence**

EL26094

Northern Territory

Rum Jungle

Annual Technical Report

For the period

6/05/2009 to 5/05/2010

Author: M. Castle

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Distribution
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Titleholder: Regalpoint Resources Ltd

Operator: Regalpoint Resources Ltd

Tenement Manager: Regalpoint Resources Ltd

Tenement: EL 26094

Project Name: Rum Jungle

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EL 26094 (Rum Jungle)

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## **Executive Summary**

Exploration licence 26094 (Rum Jungle) was granted to Regalpoint Exploration Ltd ("Regalpoint") on 06 May 2008, covering an area of 27 blocks (c. 73 km<sup>2</sup>). Regalpoint is the sole holder and operator of EL26094. The project area is located immediately northeast of the abandoned Woodcutters Zn-Pb-Ag mine, approximately 13 km northeast of Batchlor and 55 km south-southwest of Darwin. The geology of the Rum Jungle Project, which is situated in the Rum Jungle mineral field of the Pine Creek Inlier, is complex. The project area covers a series of NNW-SSE-trending syn- and anticlinal fold structures and reverse faults, and NE-SW-striking cross structures that control the distribution of exposed Palaeoproterozoic rock sequences, including (from oldest to youngest) the Whites Formation, Wildman Siltstone, Koolpin Formation, Gerowie Tuff, Mount Bonnie Formation, and Burrell Creek Formation. Regalpoint selected the area because of its potential for uranium deposits at the boundary between the Coomalie Dolostone and overlying Whites Formation, and gold deposits in rocks of the Whites Formation, South Alligator Group and Finniss River Group. Immediate exploration objectives are: (1) evaluation of the uranium potential of the buried Whites Formation, and (2) evaluation of a significant gold anomaly previously reported by Normandy Woodcutters Ltd. Work undertaken during the period was limited to literature research, data compilation and a brief reconnaissance visit. The project area was previously explored for uranium deposits. However, available open-file data suggest that the uranium potential of the prospective contact between the Coomalie Dolostone and overlying Whites Formation in the central part of the project area (i.e., core of the De Monchaux anticline) has not been systematically tested because this area is largely covered by recent sediment. An alpha-track (radon gas) survey and RAB and / or RC drilling of potential radon anomalies are recommended. In addition, a significant gold anomaly previously reported by Normandy Woodcutters Ltd. warrants follow-up exploration, including geological mapping, infill geochemical sampling, and drilling (if warranted).

## **Keywords**

Gold; Lake Bennet; Reconnaissance exploration; Rum Jungle; Uranium

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## Introduction

#### **Tenure**

Exploration licence 26094 (Rum Jungle; Fig. 1) was granted to Regalpoint Exploration Ltd ("Regalpoint") on 06 May 2008, covering an area of 27 blocks (c. 73 km²). Regalpoint is the sole holder and operator of EL26094. The project area is located immediately northeast of the abandoned Woodcutters Zn-Pb-Ag mine, approximately 13 km northeast of Batchelor and 55 km south-southwest of Darwin. Other geographic features include Lake Bennet, which is excised from the area under tenure, and the Stuart Highway and Alice Springs-Darwin railway, which coincide with the western boundary of the project area.

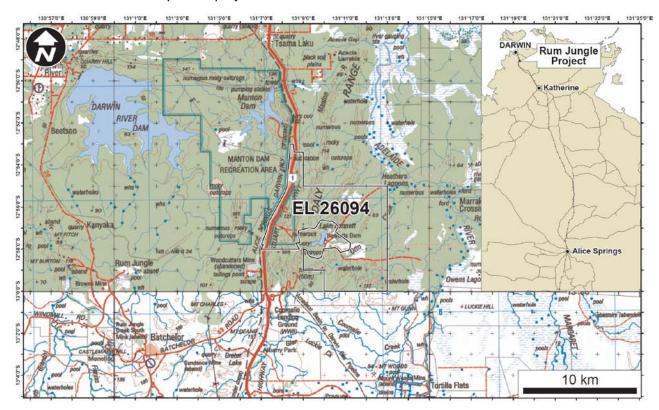


Figure 1. Location and boundaries of EL 26094 (Rum Jungle).

## **Regional Geology and Uranium Mineralization**

Exploration licence 26094 is located in the Rum Jungle mineral field of the Pine Creek Inlier.

According to Lally (2002) and Lally and Bajwah (2006), the oldest known rocks in the Rum Jungle mineral field are schist and banded ironstone of the Stanley Metamorphics that during the period 2535 to 2525 Ma were intruded by granites of the Rum Jungle Complex. These Archaean rocks are exposed in the Rum Jungle and Waterhouse domes, two domical inliers in the central portion of the Rum Jungle mineral field. Both inliers are unconformably overlain by Palaeoproterozoic basin-fill sedimentary rocks of the Manton, Mount Partridge, South Alligator and Finniss River Groups of the Pine Creek Orogen.

Multiple folding and faulting events affected the Rum Jungle mineral field from 1880 to 1760 Ma. Early NW-directed thrusts were overprinted by tight to isoclinal N-trending folds, accompanied by upper greenschist facies metamorphism. Open folding and kinking was the distal expression of granite emplacement to the east and southeast. Retrograde lower greenschist facies metamorphism accompanied regional-scale, NW-trending strike-slip faulting.

Haematitic quartzite breccia, siltstone and sandstone of the Geolsec Formation (a palaeo-regolith?) unconformably overlie rocks of the Mount Partridge Group and postdate the Pine Creek orogeny.

Uranium and polymetallic base metal mineralisation occurs in Mount Partridge group sediments around the margins of the Archaean domes and is associated with faults (e.g., Lally, 2002; Lally and Bajwah, 2006).

## **Project Geology**

The geology of the Rum Jungle Project is complex (Fig. 2). The project area covers a series of NNW-SSE-trending syn- and anticlinal (e.g., the De Monchaux anticline) fold structures and reverse faults, and NE-SW-striking cross structures that control the distribution of exposed Palaeoproterozoic (i.e., Orosirian) rock sequences, including (from oldest to youngest) the Whites Formation (calcareous and carbonaceous pyritic mudstone and siltstone, dolomitic mudstone, rare quartzite) and Wildman Siltstone (siltstone, mudstone and fine grained sandstone) of the Mount Partridge Group, Koolpin Formation (pyritic quartz sandstone, commonly carbonaceous mudstone and siltstone, chert bands and gypsum casts in places), Gerowie Tuff (siliceous tuffaceous mudstone and siltstone, mudstone, chert, thin BIF beds) and Mount Bonnie Formation (siltstone and mudstone, minor tuffaceous siliceous siltstone, BIF, fine sandstone) of the South Alligator Group, and Burrell Creek Formation (siltstone, shale, greywacke, quartz pebble conglomerate) of the Finniss River Group.

## **Exploration Philosophy and Objectives**

Regalpoint selected the area because of its potential for uranium deposits at the boundary between the Coomalie Dolostone and overlying Whites Formation, and gold deposits in rocks of the Whites Formation, South Alligator Group and Finniss River Group.

Immediate exploration objectives are:

- Evaluation of the uranium potential of the buried Whites Formation.
- Evaluation of a significant gold anomaly previously reported by Normandy Woodcutters Ltd

## **Review of Previous Exploration Activities**

Exploration licence EL26317 is virtually unexplored. According to the relevant NTGS database, only one historical tenement ever encroached on the project area, whilst all other work was undertaken outside EL26317.

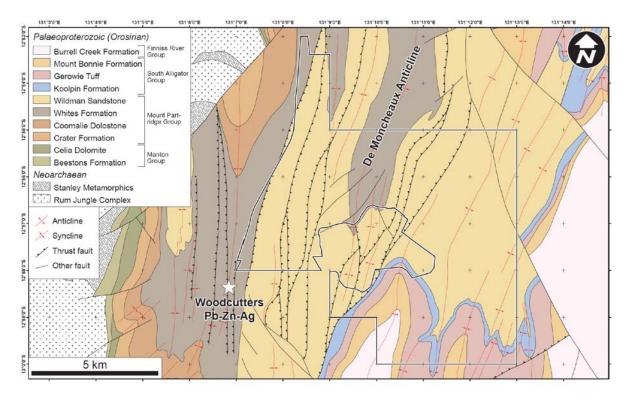


Figure 2. Geological map of the licence area.

#### Relevant activities include:

1974–1977: Magnum Exploration NL / Amax Exploration (Australia) Inc

- Tenement number: EL739.
- Target commodities: Pb, Zn, U.
- Exploration activities: literature research and evaluation of previous work by the BMR, geological mapping, reconnaissance geochemical sampling, airborne radiometric and magnetic survey, stream sediment sampling, rock chip sampling, assaying (Cu, Pb, Zn, Ni, Co, Mn, U, Ag), track etch survey.
- Reason for relinquishment: exploration failed to locate significant uranium mineralisation.

## 1979–1984: Mines Administration Pty Ltd

- Tenement number: EL1983.
- Target commodities: Pb, Zn, U.
- Exploration activities: geological mapping, gridding, rock chip sampling, traversing, follow-up
  exploration focused on the Wildman Sandstone and included gridding, geological mapping,
  rock chip sampling, trenching, shallow vertical RAB drilling (c. 10 m), radiometric drill hole,
  logging and a SIROTEM geophysical survey.
- Reason for relinquishment: none of the radiometric and gold anomalies were considered to be significant, indicating that there is little chance of an economic deposit.

#### 1983: BHP

- Tenement number: EL2533.
- Target commodities: Cu, Pb, Zn, Au, U.
- Exploration activities: review of previous exploration immediately north of EL2533 by Uranerz Australia Pty Ltd, brief field reconnaissance visit.
- Reason for relinquishment: a review of previous exploration resulted in a downgrading of the area and subsequent relinquishment.

1987–1991: Woodcutters Joint Venture / Mr R Biddlecombe / Nicron Resources Ltd

- Project: Lake Bennet (EL5106).
- Target commodities: Au, base metals.
- Exploration activities: literature review, field reconnaissance, rock chip sampling, stream sediment sampling, photogeological interpretation, follow-up exploration including detailed stream sediment sampling and rock chip sampling, detailed exploration at the Octa Cu-Zn-Au anomaly including stream sediment sampling, rock chip sampling, soil sampling and costeaning.
- Relevant results: Gossanous quartz veins in dolerites were exposed in costeans at the Octa Cu-Zn-Au anomaly but grades and dimensions preclude the existence of any economic structures.
- Reason for relinquishment: exploration activities failed to define high priority exploration targets.

1989-1994: Nicron Resources Ltd

- Project: De Moncheaux Creek (EL7534).
- Target commodities: Cu, Pb, Zn, Au.
- Exploration activities: literature research, stream sediment sampling, soil sampling, rock chip sampling, assaying (Au, Cu, Pb, Zn, Mn, As), follow-up of gold anomalous BLEG stream sediment samples by rock chip and soil sampling.
- Reason for relinquishment: adequate testing of all gold and base metal anomalies was completed with negative results.

1989–1999: Nicron Resources Ltd / Aztec Mining Company Pty Ltd / Normandy Woodcutters Ltd

- Projects: Woodcutters, Flaming Fury, Highlander (EL5678).
- Target commodities: Cu, Pb, Zn, Au.
- Exploration activities: gridding, geological mapping, stream sediment sampling, soil sampling, seismic survey along grid line 5500N, airborne radiometric and magnetic survey, re-interpretation of the geology, costeaning, RC drilling.
- Relevant results: definition of a stratabound zone of vein-hosted gold mineralisation over a strike length of 4.5 km that was considered to reflect metal zonation within the larger Woodcutters mineralised system. Gold in soil anomalies range from 0.02 to 0.5 g/t Au, gold anomalous costean samples include values such as 9 m @ 1.13 g/t Au, 50 m @ 0.3 g/t Au, 4 m @ 1.4 g/t Au, and drill intersections include values such as 8 m @ 11.3 g/t Au, 3 m @ 2.9 g/t Au, 3 m @ 4.92 g/t Au (including 1 m @ 14.1 g/t Au) (Report CR97/608).
- Reason for relinquishment: no reason stated.

## **Reconnaissance Exploration**

Reconnaissance exploration was undertaken at EL26094 on 20 June 2008. The principal aim of this brief field visit was to (1) get familiar with the terrain, outcrop situation and some of the main rock types in the project area, (2) assess easily accessible parts the licence area with respect evidence for uranium mineralising processes having occurred, and (3) assess the extent of the recent sediment cover.

A traverse across the main area of interest confirmed that the Whites Formation in the De Monchaux anticline is almost everywhere under recent sediment cover. No zones of elevated uranium or vectors to uranium mineralisation were located in any exposed Palaeoproterozoic sequences.

# **Work completed during the Reporting Period**

The tenement forms part of Regalpoint's Rum Jungle Project and is included in a portfolio of projects which Regalpoint is preparing for an Initial Public Offerring. Snowden Mining Consultants have prepared a Competent Persons Report on the Portfolio which highlights the Highlander gold prospect.

## **Highlander prospect**

The Highlander prospect is gold-in-soil anomaly which has been traced for over 1,000 m in the southwest corner of EL26094. Previous exploration included several costeans cut through the anomalous zone and results of channel sampling returned substantial widths of anomalous gold mineralisation. Selected gold anomalous costean samples include 9 m at an average grade of 1.2 g/t Au, 50 m at an average grade of 0.3 g/t Au and 4 m at an average grade of 1.4 g/t Au (INCLUDE insert in Figure 6.8 or additional map with locations of costeans and all drillholes).

Two of the high soil areas were drilled with 24 RC holes and one diamond hole. Work focused on two soil anomalies with over 0.1 g/t gold and no drilling was carried out in the intervening area or further to the south. Results of the drilling included the following intercepts:

HLRC 1 1 m at 14.5 g/t gold from 2 m depth

HLRC 4 1 m at 1.22 g/t gold from 3 m depth

HLRC 7 9 m at 1.88 g/t gold from 12 m depth

HLRC 8 9 m at 1.94 g/t gold from 25 m depth

Thirteen other holes in the programme returned similar intercepts but most assays were below 1.0 g/t Au. The soil anomaly is considered open to the north within EL26094. No assays are recorded for elements other than gold despite its possible relationship to the Woodcutters zinc, lead, silver deposit.

## **Summary and Recommendations**

The Rum Jungle Project (EL26094) is covers a series of NNW-SSE-trending syn- and anticlinal fold structures and reverse faults, and NE-SW-striking cross structures that control the distribution of Palaeoproterozoic rock sequences, including (from oldest to youngest) the Whites Formation, Wildman Siltstone, Koolpin Formation, Gerowie Tuff, Mount Bonnie Formation, and Burrell Creek Formation. Regalpoint selected the area because of its potential for uranium deposits at the boundary between the Coomalie Dolostone and overlying Whites Formation, and gold deposits in rocks of the Whites Formation, South Alligator Group and Finniss River Group.

The project area was previously explored for uranium deposits. However, available open-file data suggest that the uranium potential of the prospective contact between the Coomalie Dolostone and overlying Whites Formation in the central part of the project area (i.e., core of the De Monchaux anticline) has not been systematically tested because this area is largely covered by recent sediment. An alpha-track (radon gas) survey and RAB and / or RC drilling of potential radon anomalies are recommended. In addition, a significant gold anomaly previously reported by Normandy Woodcutters Ltd. warrants follow-up exploration, including geological mapping, infill geochemical sampling, and drilling (if warranted).

## **Discovery potential**

The Rum Jungle project is located within a proven uranium producing area with historic production of over 6,000 tonnes of  $U_3O_8$  extracted from unconformity related deposits. Regalpoint's tenements cover unconformities analogous to those hosting the known mineralisation in the area and are considered to be highly prospective for uranium mineralisation.

Regalpoint selected the area because of its potential for uranium mineralisation at the boundary between the Coomalie Dolostone and overlying Whites Formation and for gold mineralisation in rocks of the Whites Formation, South Alligator Group and Finniss River Group.

The project area is known to incorporate a series of unconformity surfaces and uranium mineralisation may occur at, below or above these unconformities. EL26091 and EL26094 show high uranium responses on gamma-ray spectrometric imagery that are coincident with the identified unconformity surfaces. Snowden considers that uranium exploration remains at an early stage of assessment at the Rum Jungle project despite the region's history of uranium mining. Whilst Regalpoint's initial reconnaissance work did not identified immediate targets the area remains underexplored and warrants further exploration.

## **Proposed Work Programme for the Next Twelve Months**

The project area has been previously explored for uranium mineralisation but the existing data suggest that the uranium potential of the contact between the Coomalie Dolostone and overlying Whites Formation in the central part of the project area (i.e. core of the De Monchaux anticline) has not been systematically tested due to the extent of recent alluvial cover. As such, Regalpoint plans to complete an alpha-track (radon gas) survey and carry out RC drilling of any radon anomalies. Furthermore, a previously reported and significant gold anomaly is planned to be investigated with geological mapping, infill geochemical sampling and drilling if required. Regalpoint has allowed for 6,500 m of RC drilling which is considered appropriate.

## Proposed activities for the next period include:

- Evaluation of the uranium potential of the buried contact between the Coomalie Dolostone and overlying Whites Formation in the central portion of the licence area via an alpha-track (radon gas) survey and RAB and / or RC drilling of potential radon anomalies.
- Evaluation of the Highlander prospect with RAB drilling and followup Reverse Circulation drilling. Further surface sampling will be undertaken for base metals as this aspect was not addressed in the earlier work.

## References

Lally, J.H., 2002: Stratigraphy, structure and mineralisation, Rum Jungle Mineral Field, Northern Territory. Northern Territory Geological Survey Record, v. 5, 21 p.

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