Project Name: Cameron Downs
Tenement Number: EL 26091
Tenement Operator: Regalpoint Exploration Ltd
Tenement Holder: Regalpoint Exploration Ltd
Report Type: Annual
Report Title: Annual Report for the Period 26 November 2008 to 25 November 2009, Cameron Dows Project, EL 26091
Author: Matthew Gauci
Date of Report: 01 December 2009
1:250 000 map sheet: Pine Creek SD5208
1:100 000 map sheet: Reynolds River 5071, Batchelor 5171
Target Commodity: U
Keywords: Rum Jungle Uranium Field, Batchelor, Rum Jungle Complex, Whites Formation, Spectrometer, TEMPEST, conductor
List of Assays: K, U, Th

SUMMARY / ABSTRACT
Location: The Cameron Downs project is located approximately 6 km south of Batchelor.
Geology: The licence area is situated in the Rum Jungle mineral field. It straddles the boundary between granites of the Late Archaean Rum Jungle Dome and (meta-)sedimentary successions of the Palaeoproterozoic Pine Creek Orogen.
Work done: Desktop study, computer modelling and re-processing of data.
Recommendations: Given the poor exposure within the licence area of the targeted contact zone between the Coomalie Dolostone and Whites Formation the potential of this contact zone to host uranium mineralisation needs to be evaluated by applying exploration techniques that are capable of testing the subsurface, either directly or indirectly. Recommended methodologies are:

1. Soil and stream sediment sampling.
2. Wide-spaced scout drilling and down-hole gamma logging (contingent on results of 1 and 2).
# Table of Contents

GEOLOGICAL ACTIVITIES .........................................................................................................................3

1. Brief description of local and regional geology .................................................................3

2. Office-based activities .................................................................................................................4

3. Conclusions and recommendations .......................................................................................6

4. References ..................................................................................................................................7

LOCATION MAP .......................................................................................................................................8
GEOLOGICAL ACTIVITIES

1. Brief description of local and regional geology

The Cameron Downs project is located in the Rum Jungle mineral field, Pine Creek Orogen. 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 2,535 to 2,525 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. The Rum Jungle complex is unconformably overlain by Palaeoproterozoic basin-fill sedimentary rocks of the Manton, Mount Partridge, South Alligator and Finniss River Groups. These groups form part 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).

EL 26091 straddles the boundary between granites of the Late Archaean Waterhouse Dome and sedimentary successions of the Palaeoproterozoic Pine Creek Orogen. The latter include the:

- Beestons Formation (Manton Group): coarse, poorly sorted, massive feldspathic sandstone or arkose, vein quartz pebble conglomerate, and planar cross-bedded coarse-medium feldspathic sandstone that were deposited in a fluvialite environment.
- Celia Dolomite (Manton Group): silicified dolostone, dolostone and magnesite that were deposited in an intertidal environment.
- Crater Formation (Mount Partridge Group): poorly sorted, arkosic coarse sandstone, BIF conglomerate of poorly sorted pebble- to boulder-sized clasts of haematitic, banded iron formation and vein quartz within a quartz haematite sand matrix, and well sorted, arkosic coarse sandstone, thin quartz pebble conglomerate, shale, siltstone and sandstone that were deposited in a fluvialite environment.
- Coomalie Dolostone (Mount Partridge Group): intertidal, stromatolitic dolostone and magnesite with minor interbeds of calcareous metapelite and para-amphibolite.
• Whites Formation (Mount Partridge Group): inter- to subtidal, fine-grained commonly pyritic calcareous and carbonaceous argillite, and minor quartzite, calcarenite and para-amphibolite.

The licence area covers an approximately 2.7 km-long section of the contact zone between the Coomalie Dolostone and overlying Whites Formation. Most of the uranium deposits in the Rum Jungle mineral field are hosted by the Whites Form or Coomalie Dolostone and are located at or close to the contact between these rock formations.

2. Office-based activities

The following office-based activities were undertaken:

a. Collaborative research project undertaken by the Centre for Exploration Targeting
   • EL 26091 is one of 77 available areas that were considered prospective based on the outcomes of a 1.5 year-long research project on uranium mineralising systems and Australia-wide uranium prospectivity analysis. This project was funded by Regalpoint and undertaken by the Centre for Exploration Targeting ("CET"), a joint venture between the University of Western Australia and Curtin University of Technology.
   • The overall results of this major scientific study greatly advanced Regalpoint’s understanding of uranium mineralising processes and the prospectivity of its exploration licence areas, including EL 26091.

b. Assessment of previous exploration activities
   Previous exploration activities include the following:
   • 1977 to 1982 (relevant licence: EL 1181): International Mining Corporation and Marathon Petroleum Australia carried out a comprehensive exploration programme that included a photogeological study, airborne magnetic and radiometric surveys, ground emanometry, track-etch survey, soil sampling, IP and resistivity work, ground magnetics and spectrometer grid surveys, geological mapping and drilling. The drilling located uranium mineralisation in three areas but the detected uranium occurrences proved to be low grade and discontinuous in nature.
   • 1984 to 1986 (relevant licence: EL 4772): Idemitsu Minerals Australia carried out stratigraphic and structural modelling, ground magnetic and radiometric surveys, geological mapping, helicopter-borne EM and radiometric surveys and drilling.
   • 1990 to 1999 (relevant licence: EL 6640): Exploration by Compass Resources and JV partners Guardian Resources and Billiton Australia Gold (later Acacia Resources) focused on the advanced polymetallic Area 55 prospect.
   • 1995 to 1996 (relevant licence: EL 8475): Nicron Resources targeted gold and Woodcutters-type base metals deposits with a programme of soil sampling, RAB drilling, 1:10,000-scale geological mapping, and a detailed airborne magnetic and radiometric survey over the southern part of EL 8457.

Most of this work appears to have been undertaken outside the boundaries of Regalpoint’s EL 26091.
c. Computer modelling and reprocessing of data

- In October 2009, Southern Geoscience Consultants completed computer modelling and reprocessing of data over EL 26091. Open-file airborne EM (TEMPEST) data was reviewed and modelled with significant anomalies and features identified from these datasets. The TEMPEST surveys were commissioned by Geoscience Australia as part of the Commonwealths Onshore Energy Security Initiative. The project is directed at AEM characterisation of palaeoproterozoic rocks, particularly graphitic units adjacent to the Archean Eon granite domes, and tracing these in regions of cover such as the Woolner Granite area. The project also aims to map the key unconformities and structures which may have influenced mineralising fluids.
- The project covers some 45,000km2 and was flown at 555m, 1.66km and 5km line spacings over two adjoining areas.
- Over EL26091 three lines of 1.66km spaced TEMPEST data were acquired. The CDI depth images show a strong stratigraphic conductor, located east of the tenement and trending NNE, from near surface.
3. Conclusions and recommendations

Given the poor exposure within the licence area of the Coomalie Dolostone and Whites Formation their potential to host uranium deposits can only be evaluated by applying exploration techniques that are capable of testing the subsurface, either directly or indirectly. Suitable methodologies are:

- Soil and stream sediment sampling within the easternmost portion of the licence area (i.e., east of Miles Road).
- Detailed airborne or surface time domain EM surveys; ground surveying will also give better anomaly definition and provide detailed data for modelling and drill targeting.
- Wide-spaced scout drilling and down-hole gamma logging along the 2.7 km-long contact zone of the Coomalie Dolostone and Whites Formation (contingent on soil / stream sediment sampling and / or alpha track survey delivering encouraging result).

Figure 1. Oblique view of the licence area, looking north. Geology overlay illustrates the distribution of the targeted Coomalie Dolostone (yellow) and Whites Formation (white) within the easternmost portion licence area.
4. References

