RESOURCE STAR LTD

Annual Report for Marrakai Uranium Project

EL24614

For the Period Dec 2009 to Nov 2010

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Date December 2010
CONTENTS

1.0 Introduction 3
2.0 Tenement Details 3
3.0 Location and Access 6
4.0 Regional Geology and Mineralisation 6
5.0 Project Geology 9
6.0 Previous Exploration 10
7.0 Work Carried Out during the Period 10
  7.1 Airborne Geophysics 11
  7.2 Mapping & Sampling 15
8.0 Exploration Potential 16
  8.1 Uranium 16
  8.2 Gold 16
9.0 Proposed Exploration 17
10.0 Expenditure Statement 18

LIST OF FIGURES

Figure 1 Marrakai Uranium Project Location 4
Figure 2 Geological setting and known mineral sites 5
Figure 3 Interpreted Pine Creek Stratigraphic Sequence 8
Figure 4 Project Interpreted Geology 10
Figure 5 Detailed Aeromagnetic Image 12
Figure 6 Uranium Channel Radiometric Image 13
Figure 7 Geological Interpretation & Radiometrics Combined 14
Figure 8 2010 Sample Locations 15

LIST OF TABLES

Table 1 Tenement Details 3
Table 2 Expenditure Statement 19
1.0 INTRODUCTION

This annual report outlines the work completed during the period Dec 2009 to Nov 2010 for the Marrakai Uranium Project, comprising EL 24614 held by RSL’s 100%-owned subsidiary Orion Exploration Pty Ltd. The tenement covers an area of 20 km².

Resource Star Ltd completed a successful fund raising, and relisted on the ASX in March 2010, and since then there were delays in the start of field work due to an extended wet season in the region.

The work undertaken during the period has been planned to be systematic in nature, given the broad nature of the prospectivity indicated by regional information which suggests the potential for both gold and uranium anomalism first, with potential structural controls.

Detailed airborne geophysics has been completed and soil and pit sampling has been completed but analyses are not yet available.

The Project is situated approximately 60km southeast of Darwin in the Northern Territory (Fig 1). Geologically located toward the western edge of the body of the Pine Creek Orogen, the region hosts the northern end of north-northwest trending Pine Creek Shear Zone, and includes a number of uranium, gold and copper prospects (Fig 2).

2.0 TENEMENT DETAILS

Orion Exploration Pty Ltd (a wholly owned subsidiary of Resource Star Ltd) was granted the exploration licence in 2005. Tenement details are presented in Table 1.

<table>
<thead>
<tr>
<th>Tenement</th>
<th>Registered Holder</th>
<th>Beneficial Holder</th>
<th>Date Granted</th>
<th>Expiry Date</th>
<th>Area/blocks</th>
<th>Expenditure Covenant</th>
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<tr>
<td>EL 24614</td>
<td>Orion Exploration</td>
<td>Resource Star Ltd</td>
<td>2/12/05</td>
<td>1/12/11</td>
<td>6 blocks</td>
<td>$55,000</td>
</tr>
</tbody>
</table>
Figure 2 – Regional Geological Setting showing the location of EL 24614 at the northern end of the regional Pine Creek Shear Zone and known mineral occurrences
3.0 LOCATION AND ACCESS

The Marrakai Project is located to the east of the Adelaide River about 65km southeast of Darwin and 12km east of the Stuart Highway. Access to the project area from the highway is by the formed but unsealed Marrakai Road and then by pastoral tracks across a clay soil plain. The project area contains area of low rocky rises and areas of clay soils. Access is straightforward during the dry season but difficult during the wet.

4.0 REGIONAL GEOLOGY AND MINERALISATION

The project area is located within the Pine Creek Inlier, a Mid-Proterozoic orogen that hosts a number of major uranium, gold and base metals deposits (Fig 2). Regional deformation and metamorphism took place during the Barramundi Orogeny (1860-1850 Ma) followed by widespread felsic intrusive activity. This igneous activity was characterised by the emplacement of granite batholiths which produced thermal metamorphic aureoles in the country rocks, overprinting regional metamorphic mineral assemblages.

The major Alligator River Uranium Field that includes the Ranger, Narbalek and Jabiluka deposits is in the northeast of the Pine Creek Inlier. The smaller deposits of the South Alligator Valley Mineral Field are situated to the northeast of Pine Creek.

The Pine Creek Orogen consists of Palaeoprotérozoic metasedimentary rocks that overlie a gneissic and granitic basement outcropping in two domes northwest of the region near the town of Batchelor. Uranium and polymetallic mineralisation is present within the Palaeoprotérozoic sediments that surround the domes, and is associated with major faults and shears. This geosynclinal sequence was intruded by granitic plutons that are also of Palaeoprotérozoic age.

The Pine Creek Orogen was folded and regionally metamorphosed to chlorite facies between 1870 and 1900 Ma. Two major phases of deformation pre-date the granitoid intrusions. The first phase produced bedding-concordant fabrics and breccias zones. The second phase produced north to northwest trending folds that vary from open and upright to overturned and isoclinals. The folding was accompanied by the development of a penetrative axial plane slatey cleavage.
Gold mineralisation occurs in two main structural settings; in quartz vein sets that are parallel or sub-parallel to the axial plane cleavage, and in bedding parallel saddle reef position quartz veins. Many of the deposits are located on anticlinal crests. Stockwork, fault related, and stratiform gold mineralisation are also present in the region.

Uranium mineralisation is considered to have arisen from fluids remobilising the ore out of enriched source rocks, although it is still unclear as to whether these originated from the granitic basement material and/or uranium-bearing detrital minerals held within the platform cover sandstones (Lally & Bajwah, 2006). However, precipitation of the uranium is thought to have occurred by redox reaction when the oxidised fluids came into contact with the overlying sediments. This promoted the deposition of uranite where any lithological, structural or tectonic weaknesses effectively acted as chemical and physical traps for ore accumulation (eg. Lally, 2002; Lally & Bajwah, 2006; Lambert & Mckay, 2006). A schematic diagram showing the Pine Creek stratigraphy is presented in Fig 3.

Recent discoveries associated with the Hayes Creek Fault Zone emphasise the importance of structure in the final localisation of potentially economic uranium mineralisation.
Figure 3 – Schematic diagram of Pine Creek Stratigraphy
5.0 PROJECT GEOLOGY

The project area is within the Paleoproterozoic Pine Creek Geosyncline, and contains sediments of the Finnis River Group, the South Alligator Group, and the Mount Partridge Group. Outcrop occurs along low rises above a plain that contains areas of residual gravel and sand that comprise a Cainozoic duricrust surface and broad alluvium rich in black clays and silt. The alluvial areas in the west of the tenement are part of the Adelaide River flood plain and cover abandoned river channels. The large alluvial channel in the northeast drains a substantial area to the east.

The project area is situated at the northern end of the Pine Creek Shear Zone. A major northwest trending fault related to this zone passes through the tenement and a parallel fault is just to the south. Another regionally significant fault, the northeast trending Giants Reef Fault, is four kilometres to the northwest of the tenement. A number of smaller northeast to east-northeast trending faults dislocate the Proterozoic sequence, which is interpreted to comprise four fault separated blocks within the project area. The sequence is folded along north trending axes that are spaced about 750m apart and along which zones of brecciation and quartz veining have developed.

The geological interpretation of the project (Fig 4) shows areas of alluvium and floodplain overlain. The Proterozoic geological succession is summarised in the legend. The majority of the units contain similar lithologies, which, in conjunction with the discontinuous outcrop, has led to significantly varying interpretations of the geology within the project area.
Figure 4 – Marrakai Project. Interpreted geology and regional uranium channel data
6.0 PREVIOUS URANIUM EXPLORATION

Previous exploration within the project area has been carried out by Kakadu Resources Ltd (“Kakadu”) and Aztec Mining Company Ltd (“Aztec”). Kakadu carried out geological mapping and collected about fifteen stream sediment BLEG samples and fifty rock chip samples between 1987 and 1990 from the present tenement area. The BLEG samples, although widely spaced, indicated the presence of anomalous gold in the area, by returning values up to 8ppb Au. The rock chip sampling returned results of 0.6g/t and 1.1g/t Au respectively from brecciated chert and a ferruginous lens in the Ella Creek Member of the Koolpin Formation. About 700m south of the tenement, a rock chip sample from the Koolpin Formation returned 2.0g/t Au. Aztec explored the area from 1991 to 1993. It also carried out stream sediment and rock sampling (six stream sediment BLEG, about forty -40# stream sediment, and five rock samples were collected). No anomalous results were obtained.

7.0 WORK CARRIED OUT DURING THE PERIOD

During 2009-2010 a major review of exploration strategy, potential and prioritisation of all Resource Star Ltd’s Northern Territory prospects was finalised. CSA Global Pty Ltd, who undertook the study, identified the RSL’s Edith River Project as the highest priority target, and work on Marrakai has fitted in around work at Edith River as a „tier two’’ project with grass roots prospectivity.

Once RSL was relisted in early 2010, and as a result of the exploration review it was decided to undertake a detailed airborne geophysical survey over the most prospective areas identified in RSL’s NT tenement holdings, and this included the entire Marrakai lease.

The airborne geophysics, incorporating multi-spectral radiometrics and aeromagnetics, was flown processed and interpreted, and a subsequent ground exploration program has been completed, incorporating systematic soil / pit sampling, mapping and selective rock chip sampling.
7.1 *Airborne Geophysics*

A program of detailed, low-level airborne geophysical surveying has been completed over the entire tenement. A total of 200 line-km was flown for both multi-spectral radiometrics and magnetics at 200m line-spacing and a 60m flight height. The work was undertaken by GPX Surveys using a 32 litre NaI detector crystal.

Initial processing and interpretation of the data (Figs 5 to 7) has significantly improved resolution, in particular better defining the structural disruption of the sedimentary units.

![Marrakai Exploration Project - Total Magnetic Intensity](image)

*Figure 5 – Newly-acquired TMI data over Marrakai*
The much better defined radiometric anomalies are disrupted by interpreted structures related to the regionally-important Pine Creek Shear Zone, and in combination with previously interpreted geology (Fig 7) they formed the focus of ground exploration.
Figure 7 - Overlay image of the Marrakai Project with uranium channel data overlain on interpreted geology.
Interpreted structural features appear to be confirmed and potential new disruptions are visible.
7.2 Surface Sampling

Figure 8 – 2010 Systematic Sampling of EL24614 showing sample locations, and features of interest generated by airborne geophysical survey

The detailed airborne geophysics has confirmed the potential prospectivity of the whole lease for structurally-associated gold or uranium mineralisation, with deformation and potential host units throughout the whole area. As such it was decided to complete systematic
recce sampling over the whole tenement taking such samples as appropriate to the local conditions – with 66 rock chip, surface soil or shallow pit sampling depending on the extent of erosion or cover.

This sampling has been completed as shown on satellite imagery in Fig 8, but the analytical results are not yet available.

8.0 EXPLORATION POTENTIAL

The Marrakai Project is situated at the northern end of the Pine Creek Shear Zone and is prospective for uranium, gold, and iron mineralisation. It has never been systematically explored, despite the fact that it is only 15km from the Woodcutters Zn-Pb mine, 30km from the Rum Jungle U and polymetallic mines, is within the Pine Creek Shear zone, and contains the same stratigraphy and structures as the major gold mines of the Pine Creek region.

8.1 Uranium

The project area is also prospective for uranium mineralisation. The mineralisation within the Rum Jungle Mineral Field to the southwest occurs within Mount Partridge Group sediments, mainly within the Whites Formation, which is a calcareous and carbonaceous, pyritic argillite. In general, the uranium mineralisation is associated with shearing and brecciation. Within the Marrakai project area, the Koolpin Formation, a pyritic carbonaceous shale, is a similar unit and a potential host for similar mineralisation. The faults within the area may have provided pathways for mineralizing fluids and the project is within a region that hosts numerous uranium deposits and occurrences.

The uranium anomalies depicted on Figure 7 are within an area of the tenement that contains Koolpin Formation rocks. The anomalies can be considered to have located a target area that has the potential to contain significant uranium mineralisation.

8.2 Gold

The location of the project area within the Pine Creek Shear Zone and the rock units within it make it a prospective location for gold mineralisation. It is unlikely that outcropping mineralisation has been missed, as quartz veined and brecciated outcrops have been sampled
by previous explorers. However, the stream sediment sampling that was carried out is unlikely to have been effective in the testing of the area, as outcrop only covers less than half of the tenement, the drainage is poorly defined, and the sample density was low. In addition, the faults, with which gold mineralisation may be associated, are largely under alluvial cover, much of which is likely to have been derived from outside the tenement.

The iron and sulphide rich composition of the Koolpin Formation makes it a favourable host for gold mineralisation (at the 0.94Moz Cosmo Howley deposit, about 75km to the south, the mineralisation is within a sulphidic iron formation, carbonaceous mudstone, and mudstone unit of the Koolpin Formation). The other formations within the project area are also prospective, the Wildman Siltstone being the host formation at the Toms Gully Mine, the Mount Bonnie Formation the host at the 0.5Moz Woolwonga deposit, and some of the Brocks Creek-Zapopan deposits are described as being within or marginal to the Gerowie Tuff.

Locally, the Maureen and Maureen Extended gold prospects, which are respectively located 7km and 10km to the south of the project area, are within the Koolpin Formation.
9.0 PROPOSED EXPLORATION

Resource Star Ltd proposes to continue systematic exploration of the deformed sediments for uranium and gold mineralisation, with a view to progressing to drill testing.

The work programme for the Marrakai Uranium Project for the following year includes:

- Follow-up mapping and sampling in any areas of anomalism defined by the recent work to better understand any related structural controls and alteration
- Dependent on the apparent host sequence and mineralisation style suitable geophysical and/or geochemical techniques will be used as required, prior to
- Designing a drilling programme, if justified

Proposed 2011 estimate of Marrakai Project exploration expenditure:

- Geophysics / geochemistry: $20k
- Geological contractors: $20k
- Accom, Field Supplies etc: $10k
- Total: $60k

Expenditure on any potential drilling program would be additional to this.
10.0 EXPENDITURE STATEMENT

Expenditure Report EL24614 for the period is presented in Table 3.

Table 2 – Expenditure Statement

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Note:
- Final payment of geological contractors have been held over pending delivery of the final report,
- Analytical Laboratory payments are as yet un invoiced
BIBLIOGRAPHIC DATA SHEET

PROJECT NAME: Marrakai

TENEMENTS: Exploration Licences 24614

MINERAL FIELD: Pine Creek Geosyncline

OPEN FILE REPORTS: CR 1988/253

CR 1989/779

CR 1993/786

CR 1994/893

LOCATION:

DARWIN SD5204 1:250 000

Noonamah 5172 1:100 000

COMMODITIES: Uranium and Gold

KEYWORDS: Marrakai, Uranium, Gold, Pine Creek Orogen.

PROSPECTS DRILLED: N/A

ELEMENTS ASSAYED: Results yet to be received:

U, Au, As, Ca, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, Pb, Ti, V, Zn, Ag, Bi, Cd, Cs, Ce, Co, Ga, In, La, Mo, Nb, Rb, Sb, Se, Sr, Te, Th, Tl, W, Y, Dy, Er, Eu, Gd, Ho, Lu, Nd, Pr, Sm, Tb, Tm, Yb