

# COMBINED ANNUAL AND FINAL REPORT

# Exploration Licences 23923, 23924 & 23991

# **Reynolds Range Project**

1 June 2004 - 4 July 2011

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Tenement Manager:	Deep Yellow Ltd	
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Commodity:	Uranium	
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Datum/Zone:	GDA94/Zone 53	
250,000 Mapsheet:	Mount Peake, Nabberby	
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#### **Distribution**:

- DoR
- Native Title Unit Central Land Council

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#### 1.0 SUMMARY

Deep Yellow Limited's Reynolds Range (Exploration Licences 23923, 23924, 23991) project is located approximately 200 kilometres northwest of the Alice Springs township on the Mount Peake and Napperby 1:250,000 geological and topographic sheets.

The Exploration Licences were granted over areas of 372, 458 and 35 blocks respectively to Tanami Exploration NL (TENL) on 1 June 2004. Pursuant to an agreement between Deep Yellow Limited (DYL) and TENL, dated 28 June 2005, DYL acquired a 100% interest in the tenements. Transfers reflecting the change in ownership were registered effective 5 December 2006 in respect of EL23991 and 2 August 2007 in respect of EL23923 and EL23924.

Following exploration programmes which failed to identify significant uranium mineralisation DYL decided to surrender the tenements at the end of their 7<sup>th</sup> year of term. As no on-ground work was conducted during the year of term ended 31 May 2011, this report is a combined nil annual report and final report in respect of ELs 23923, 23924 and 23991.

Access to the southern end of the tenements from Alice Springs is via the Stuart Highway to 15 km north of Aileron, then west via the unsealed road through Pine Hill Station and along the north side of Reynolds Range to Coniston Station. A network of station tracks and fence lines provides access within the tenements.

This report describes the work undertaken across the tenements since the grant date. This work included:

- Review of open file exploration data
- Reconnaissance field trips
- Airborne Electromagnetic (AEM) Survey
- Night Time Thermal Infared (NTTI) data interpretation
- Aircore Drill Programme
- Rehabilitation

#### 2.0 INTRODUCTION

The Reynolds Range project tenements, including Exploration Licences 23923, 23924 and 23991, are located approximately 200 kilometres north-northwest of Alice Springs (Figure 1). Access to the southern end of the tenements from Alice Springs is via the Stuart Highway to 15 km north of Aileron, then west via the unsealed road through Pine Hill Station and along the north side of Reynolds Range to Coniston Station. A network of station tracks and fence lines provides access within the tenements.

Exploration conducted across the project tenements was to target palaeochannel hosted uranium mineralisation, similar to the Napperby deposit located approximately 100 kilometres to the south.

Review of historic exploration completed across the project area, including drilling, water sampling and ground radiometrics, identified minor uranium mineralisation across certain parts of the project area.

#### 3.0 TENURE

Exploration Licences 23923, 23924 and 23991 were granted over areas of 372, 458 and 35 blocks respectively to Tanami Exploration NL (TENL) on 1 June 2004. Pursuant to an agreement between Deep Yellow Limited (DYL) and TENL, dated 28 June 2005, DYL acquired a 100% interest in the tenements. Transfers reflecting the change in ownership were registered effective 5 December 2006 in respect of EL23991 and 2 August 2007 in respect of EL23923 and EL23924.

Waivers from the requirement to relinquish blocks were granted at the end of the second and fourth years of term. At the end of the third and fifth years of term, partial relinquishments were completed and the areas held at the time of surrender of the licences are shown in **Table 1** below.

Tenement No.	Name	Blocks	Grant Date	Surrender Date
EL 23923	Mt Treachery	29	1 Jun 2004	4 July 2011
EL 23924	Anmatjira	56	1 Jun 2004	4 July 2011
EL 23991	Beantree	17	1 Jun 2004	4 July 2011

 Table 1:
 Tenement Details

An Exploration Agreement, negotiated by the Central Land Council (CLC) on behalf of the Native Title Holders, was executed on 28 November 2007 covering the Reynolds Range Project tenements. A Sacred Site Clearance survey was conducted by the CLC prior to commencement of the exploration programme.



Figure 1. Reynolds Range Project Location Map

# 4.0 GEOLOGY

The Reynolds Range project lies within the north-western portion of the Early to Mid Proterzoic Arunta Orogenic Domain in the Northern Territory (Figure 2).

The Arunta Orogenic Domain comprises metamorphosed sedimentary and igneous rocks that have been extensively intruded by a range of granitic bodies. The Granites-Tanami and Tennent Creek inliers are located to the north-west and north respectively. On all other side's the Arunta Orogenic Domain is surrounded by, and forms basement to, younger Late Proterozoic to mid Paleozoic Sedimentary basins.

The regional project area covers the Central and Northern tectonic zones of the Arunta Orogenic Domain and contains greenschist to granulite facies lithologies and a range of granite intrusive. Several of these granites have similar geochemistry to granites within the Pine Hill inlier, being enriched in tin and uranium.

## 5.0 HISTORIC EXPLORATION

Historic exploration conducted across the project tenements include:

- In 1977 an airborne radiometric survey was completed across part of the project area.
- Excavation of Anzac Dam in 1980, led to carnotite being observed at the surface. The mineralisation occurs within 2 metres of the surface in a calcrete granite regolith. A weakly mineralised zone with dimensions of 300 x 100 metres was defined by auger drilling.
- Water sampling was completed over the project area with stock bores and drill holes being assayed for uranium. Highly anomalous uranium values were obtained from Nintabrinna bore (802ppb), and drill holes to the west of Anzac Dam.
- A drill programme and detailed ground scintillometers survey was completed from 1981-1982. Minor gamma anomalies were intersected during the drill programme.
- 1981 a ground magnetometer survey was completed, which indicated three possible kimberlite anomalies which were tested
- Prospect mapping
- Rockchip and stream sediment sampling
- Vacuum and RAB drilling





#### 5.0 EXPLORATION COMPLETED

#### **Reconnaissance Field Trips**

Reconnaissance field trips were carried out to evaluate drill rig access, potential drill water supplies and drill targets. Historic copper workings/anomalies across the project were visited to check for any uranium association. All copper workings/anomalies visited had no significant uranium signature. Drill targets were identified by areas with little to no outcrop and evidence of transported material and drainage.

#### Airborne Electromagnetic Survey (AEM)

An AEM survey (RepTEM system) was flown by GPX Aeroscience Pty Ltd across EL 23923 and EL 23991. 865 line kilometres were flown at 1.5 km spacing (Figure 3). The data (attached in Appendix 1) obtained from the AEM survey aided in identifying palaeochannels which tested with follow up with aircore drilling.

#### Aircore Drilling Programme

Bostech Drilling Pty Ltd completed 57 aircore drillholes (Figure 4) for a total of 1,677 metres in 2008. Drill holes varied in total depth from 3 to 115 metres in depth, and a composite 3-5 metre samples were taken for uranium assay. All composite samples were submitted to ALS Chemex in Alice Springs and analysed for uranium by XRF (method ME\_XRF\_05) with a detection limit of 4 ppm. Results received showed that all drill holes failed to intercept any significant mineralisation with 47ppm U over 5 metres being the highest detection. Assay results are provided in Appendix 2. The collar data for this programme are provided in Appendix 3.

#### Night Time Thermal Infrared

A report was commissioned to interpret NTTI data to help identify palaeo-channels. This data, alongside the Airborne Electromagentic (AEM) survey, aided in identifying possible palaeo-channels and palaeoponds which could then be followed up with aircore drilling. The report, which identified a number of possible palaeo-ponds inside the Reynolds Range project tenements, is attached as Appendix 6.



Figure 3 AEM survey area





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#### 6.0 REHABILITATION

Directly after the 2008 drill programme all aircore holes were capped and covered.

In 2009 additional rehabilitation was carried out at the drill sites which included:

- Plugging and covering drill collars
- Performing a final rake on the drill pad and over drill samples, blending in all drill spoil with top soil.
- Monitoring of regeneration of native vegetation.

DYL undertakes rehabilitation following the Department of Resources guidelines and the DYL Environmental Management Plan.

An application for a Closure Certificate in respect of Authorisation No 0451-01 has been lodged with Mining Perforamnce.

#### BIBLIOGRAPHY

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