

# Deep Yellow Limited

ABN 97 006 391 948

## RELINQUISHMENT REPORT

### EPM 14367 - SPIDER

### ALTONA JV

21 July 2005 to 20 July 2012

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## **1. SUMMARY**

### **Aim of Project**

On 25 September 2009, Deep Yellow Limited (DYL) entered into a joint venture with Universal Resources Limited (Universal), now Altona Mining Ltd to explore for uranium mineralisation similar to the albitite-hosted Valhalla Uranium Deposit located approximately 20km northwest of the tenement.

Under the provisions of the Joint Venture Agreement DYL has earned an 80% interest in Exploration Permit for Minerals (EPM) 14367.

### **Object of Report**

To report on exploration carried out on the relinquished portions of the tenement throughout the term of tenure of EPM 14367, Spider.

### **Work Completed**

Work completed over the relinquished areas included:

- Desktop review of available regional data
- Target generation and associated field reconnaissance

## 2. INTRODUCTION

This report documents the exploration programmes carried out from grant to 20 July 2012 on the eleven (11) sub-blocks of EPM 14367 relinquished at the end of the seventh year of term.

### 2.1 Location and Access

EPM 14367 is situated approximately 20 kilometres to the north-east of Mount Isa (Figure 1). The topography of the tenement is hilly with steep rocky terrain which restricts access in places. Vehicular entry to the tenement is via the Lake Moondarra road, then by station tracks.

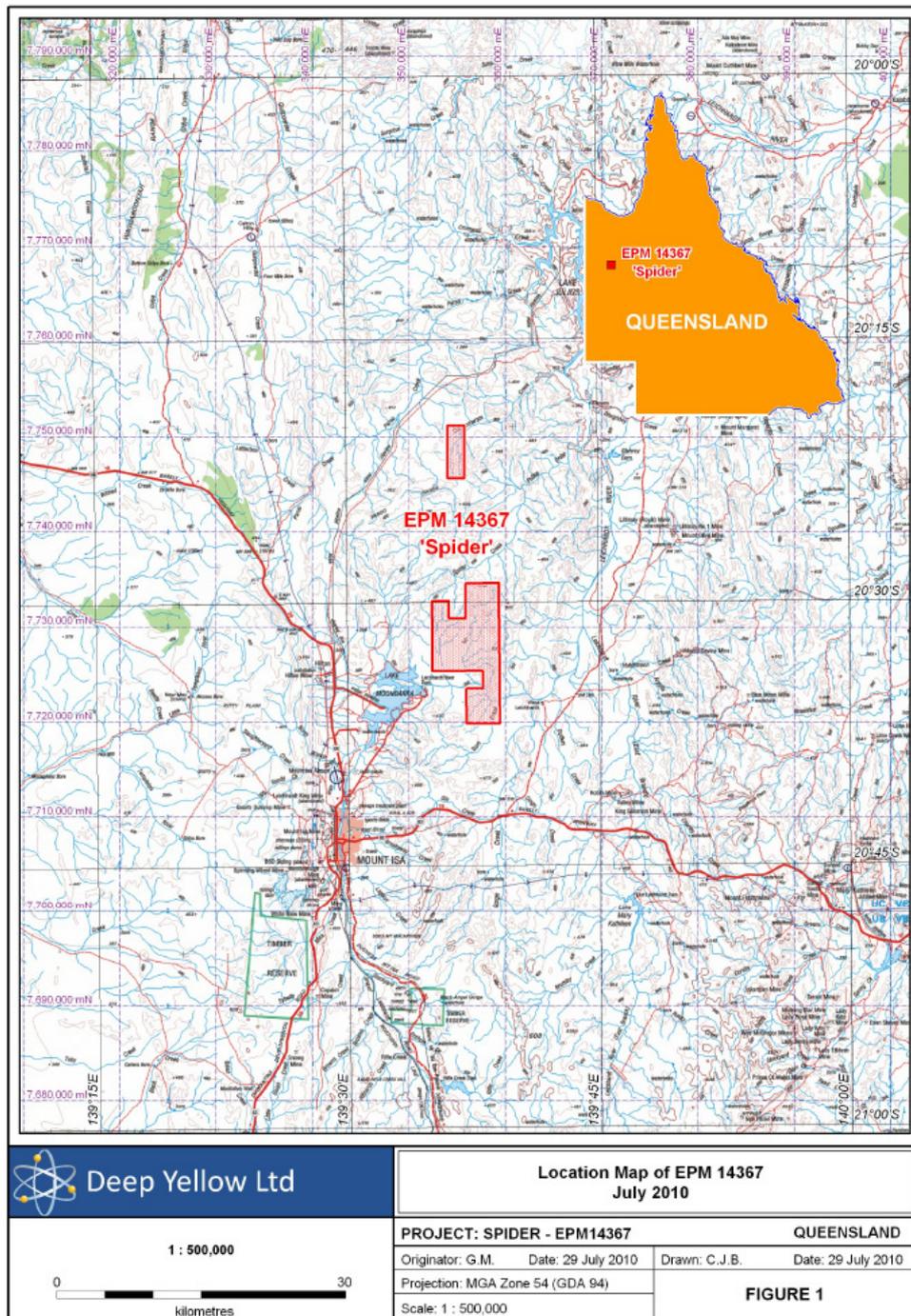


Figure 1: EPM 14367 Location Plan

## 2.2 Tenure

EPM 14367 was granted on 21 July 2005 to Universal for a five (5) year term and initially comprised 100 sub-blocks. Following two reductions (at the start of years 3 and 4), the tenement was reduced to an area of 25 sub-blocks, in two discrete groups.

EPM 14367 was renewed in respect of 25 sub-blocks for a further term of five years ending 20 July 2015. At the end of the sixth year of term two (2) sub-blocks were relinquished with the eleven (11) sub-blocks listed below being relinquished at the end of the seventh year of term.

**Table 1: EPM 14367 Relinquished Sub-blocks**

<b>BIM</b>	<b>Block</b>	<b>Sub-blocks</b>
CLON	308	B, G, M
CLON	452	A, H J, N, O Y
CLON	524	D, J

DYL has acquired an 80% interest in EPM 14367 pursuant to the terms of the Earn-in Joint Venture executed in February 2009 by DYL and Universal. An assignment in respect of a 51% interest has been registered to DYL against EPM 14367. Assignment of DYL's remaining 29% interest is yet to be registered against the title.

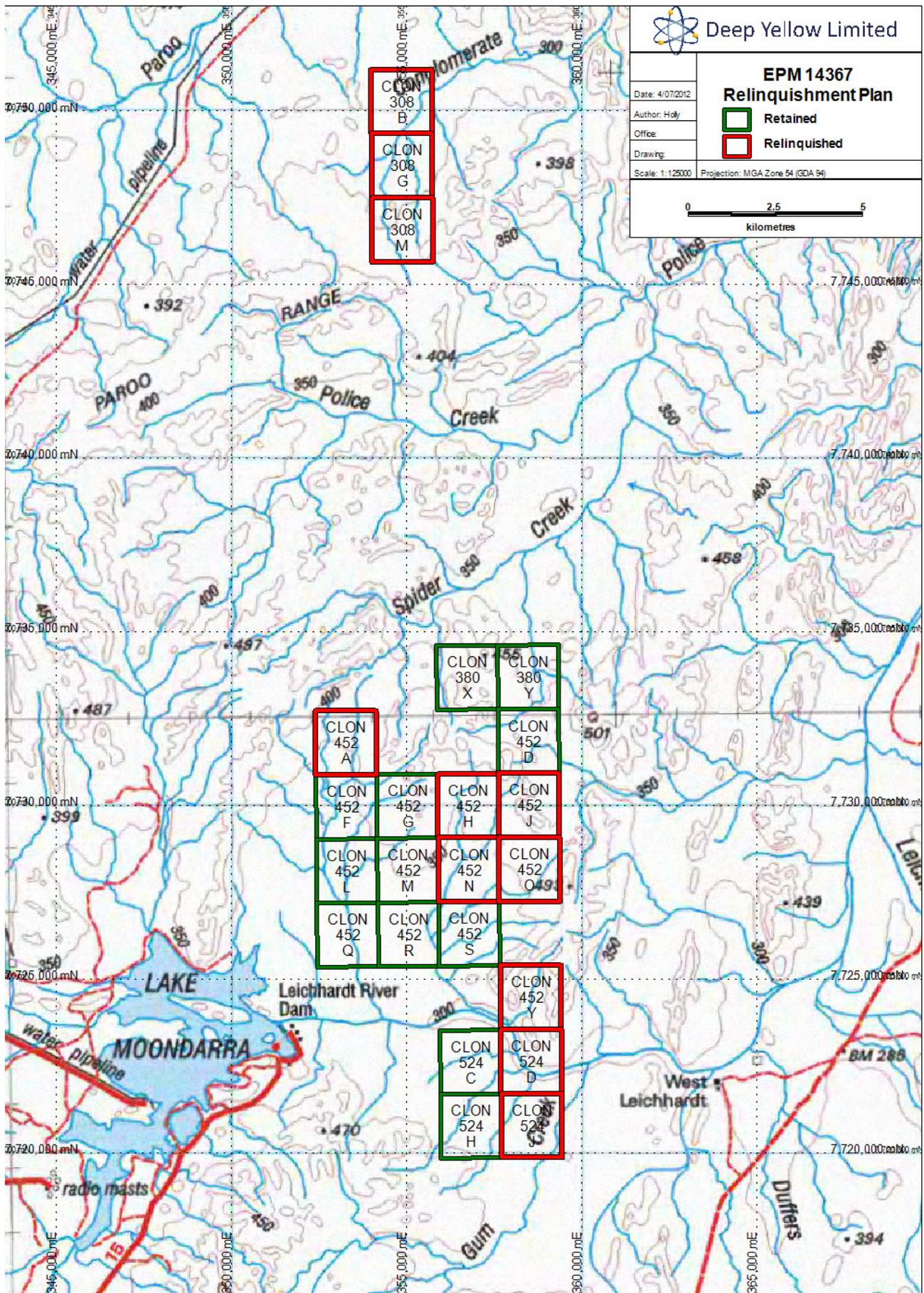


Figure 2: EPM14367 Block and Sub-block Relinquishment Plan

### 3. GEOLOGY AND URANIUM MINERALISATION

#### 3.1 General

EPM 14367 covers part of the Middle Proterozoic Leichhardt River Fault Trough, a tectonic unit of the Western Fold Belt of the Mount Isa Inlier (Blake, 1987). The trough is believed to represent an intra-continental rift, formed between 1800 – 1650 Ma (Derrick, 1982), stretching in a northerly direction some 600 kilometres long and up to 65 kilometres wide.

Within the Mount Isa Inlier, the younger Proterozoic stratigraphy has been divided into three cover sequences, representing major stratigraphic packages separated by regional unconformities (Blake & Stewart, 1992). Cover sequence rocks at Spider belong to Cover Sequence 2 (1800 – 1755Ma), dominated by mixed, shallow water sediments and bi-modal volcanics of the Haslingden Group.

#### 3.2 Stratigraphy

The Haslingden Group comprises (from the base), metasediments (Mount Guide Quartzite,) which is conformably overlain by a sequence of tholeiitic flood basalts with intercalated sediments (Eastern Volcanic Sequence), which in turn are conformably overlain by a second sequence of metasediments (Myally Subgroup). The Eastern Creek Volcanics have been sub-divided into the Cromwell Metabasalt Member, Lena Quartzite and the Pickwick Metabasalt Member. The Myalla Subgroup is subdivided into the Alsace Quartzite, Bortella Formation and the Whitworth Quartzite (Derrick, 1982).

#### 3.3 Structure

The tenement is dominated by north to north-west orientated folding with sub-vertical axial planes with a slight northerly plunge. Blake (1987) reports that at least three phases of major fold deformation have been recognised by previous workers within the area (D1 – D3). The earliest phase of deformation resulted in east-west orientated folding. This was followed by a period of east-west compression resulting in northerly trending folds. The final phase resulted in localised north to north-west fold directions.

Faulting in the area is complex, relating to the different phases of deformation. Major fault orientations within the project area are related to the Mount Isa / Hero fault system (north – south), north-west and north-east rift transfer structures and east-west detachment faults (Figure 3).



## 4. PREVIOUS EXPLORATION

The area was subject to uranium exploration in the 1970's, with work in the 1980's and 1990's focussed on copper ± gold – uranium as well as lead – zinc – silver mineralisation. The current tenement has been partially covered by at least 13 EPMS / Authorities to Prospect (A-P's) since the 1970's.

Significant phases of exploration relevant to the current tenement are summarised below:

### **1965 – 1969: Mount Isa Mines Limited (A-P 292)**

M.I.M. carried out, what would appear to be the most extensive exploration over the area now encapsulated by EPM 14367, targeting base metal mineralisation. Work carried out included detailed aerial photography, ground mapping and extensive stream sediment sampling, assaying some 2000 samples for Cu, Pb, Zn, Co, Ni. Follow-up work appears to focus on areas outside the current license. Towards the end of the exploration license, the focus shifted to uranium with an airborne gamma ray spectrometer survey being carried out. No targets were generated from the survey and the licence was relinquished.

### **1973 – 1974: Agip Nucleare Australia Pty Ltd (A-P 1284)**

Agip carried out a helicopter borne spectrometer survey over the southern portions of EPM 14367, targeting uranium mineralisation within rocks of the Eastern Creek Volcanics. Areas identified for follow-up were subjected to geological and radiometric mapping. A number of prospective targets, covered by mining leases are located within the current exploration, to the north of Leichhardt River.

### **1980 – 1981: Carpentaria Exploration Company Pty Ltd**

The central portion of the tenement was identified as prospective for fault related copper-zinc-lead mineralisation. Carpentaria carried a number of widely spaced soil lines, analysing for Cu, Pb, Zn and Hg. It was determined that the soil data did not support the presence of a large base metal deposit.

### **1980 – 1984: Mount Isa Mines Limited (A-P 2359)**

M.I.M. targeted the southern portion of the current Spider tenement for economic copper mineralisation. Initial exploration, consisting of detailed gravity survey and follow-up ground magnetics, was designed to identify coincident gravity-magnetic anomalies for detailed prospecting. No targets were generated, with most of the current tenement relinquished in 1993.

### **2006 - 2009: Universal Resources Limited**

Universal Resources Limited completed a uranium prospectivity review from geophysical and geological databases. Field work included the assessment of the priority uranium targets through geological prospect mapping, surface sampling and scintillometer studies. Additional work included the acquisition, review, interpretation and target generation of ASTER data obtained through Geoscience Australia / CSIRO.

## 5. EXPLORATION COMPLETED THROUGHOUT THE TERM OF TENURE

Work completed was wholly focused on uranium prospectivity and included:

- Data review
- Target generation and associated field reconnaissance

### 5.1 Data Review

Regional geophysical, geological and geochemical data was reviewed in order to determine the prospectivity of the tenement. The relinquished areas were deemed unprospective due to their lithological and structural characteristics.

### 5.2 Target Generation and Associated Field Reconnaissance

Following the review of regional data a number of targets were identified as prospective for uranium mineralisation based on their geophysical and geological signatures. A number of these targets were also previously investigated by AGIP.

A regional reconnaissance programme was undertaken to field check these targets. Several areas were visited within the relinquished blocks in the northern area of the tenement. These included an historical AGIP Prospect named Anomaly 18. The reconnaissance work was carried out using an RS125 Spectrometer which gives readings in counts per second (CPS) and estimated uranium values in ppm. Appendix A details the information recorded at these sites during the reconnaissance work.

## 6. BIBLIOGRAPHY

- Bartlett, J. and Ewert, B., (2007): Annual Report – Spider Tenement, EPM 14367 for the period 21 July 2006 to 20 July 2007. Universal Resources Limited. DME report number CR 47477.
- Bartlett, J. and Ewert, B., (2008): Annual Report – Spider Tenement, EPM 14367 for the period 21 July 2007 to 20 July 2008. Universal Resources Limited.
- Blake, D.H., 1987: Geology of the Mount Isa Inlier and environs, Queensland and Northern Territory. *Bureau of Mineral Resources, Geology and Geophysics, Australia, Bulletin 225*.
- Blake, D.H. & Stewart, A.J., 1992: Stratigraphic and tectonic framework, Mount Isa Inlier. In Stewart, A.J., & Blake, D.H. (Compilers & Editors): Detailed Studies of the Mount Isa Inlier. *Australian Geological Survey Organisation, Bulletin 243*.
- Bridgwater, H. 2011 Annual Report – Spider Tenement, EPM 14367 for the period 21 July 2010 to 20 July 2011. Deep Yellow Limited
- Derrick, G.M., 1982: A Proterozoic Rift Zone at Mount Isa, Queensland and implications for Mineralisation. *Bureau of Mineral Resources, Journal of Australian Geology and Geophysics*, 7, p81 – 92
- Harvey, A.J. 2010 Annual Report – Spider Tenement, EPM 14367 for the period 21 July 2009 to 20 July 2010. Deep Yellow Limited