



# **THUNDELARRA**

## **EXPLORATION**

### **Annual Report**

### **FOR**

### **Exploration License 10120**

### **“Yam Creek”**

### **For the year ending 14/08/2010**

Map Sheet 1:250,000 Pine Creek SD52-08

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Contents

1. Introduction ..... 4

    1.1 Project name and location..... 4

    1.2 Exploration License Details..... 4

    1.3 Operator Details..... 4

2. Geology ..... 6

3. Previous Exploration Activity ..... 6

4. Target Commodities ..... 7

5. Exploration Methods ..... 7

6. Work Carried out and Results..... 7

7. Environment ..... 8

8. Conclusions ..... 8

9. Expenditure statement ..... 8

10. Program and Budget ..... 8

List of Figures

Figure 1. EL10120 Location Map

Appendix I

EL 10120 Expenditure Report

## Summary

Exploration for gold and uranium mineralisation was carried out on EL10120. The EL has been previously explored for gold. A number of known hard rock gold occurrences are located on MCN's excised from the EL, these include Radfords' Blow, Temperance and Princess Louise.

Thundelarra Exploration commenced uranium exploration on the EL during 2009 as the structural and lithological setting appears very similar to that hosting vein style uranium mineralisation at Thunderball prospect to the South of the EL. Uranium exploration during the previous period has been restricted to literature searches, database compilation and regional geological traversing to confirm geological interpretation.

During the reporting period Thundelarra Exploration carried out a high resolution airborne radiometric and magnetic survey for 268 line km and 1:25,000 scale interpretative geological mapping.

## 1. Introduction

### 1.1 Project name and location

Exploration license EL10120 “Yam Creek” is located on the central part of the 1:250,000 Sheet SD5208 Pine Creek, centred on the Grove Hill Road.

The EL covers part of pastoral lease PL903 (Douglas Station).

### 1.2 Exploration License Details

EL 10120 was granted on 14<sup>th</sup> August 2002 to Biddlecombe Pty Ltd for a period of six years. The EL was renewed for a further period of 2 years on 20/10/2008.

On the 23<sup>rd</sup> December 2008 Element 92 Pty Ltd assumed the rights and obligations of an option agreement to purchase EL10120 which was struck on 10<sup>th</sup> April 2007 between Biddlecombe Pty Ltd and Armada Exploration Pty Ltd. Under the terms of this agreement Thundelarra Exploration Ltd/ Element 92 Pty Ltd have the right to explore the EL.

The EL covers an area of 2 graticule blocks or approximately 6.7 square kilometres and is in its 6th year of tenure. Most of the area of the EL is covered by a number of MCN's.

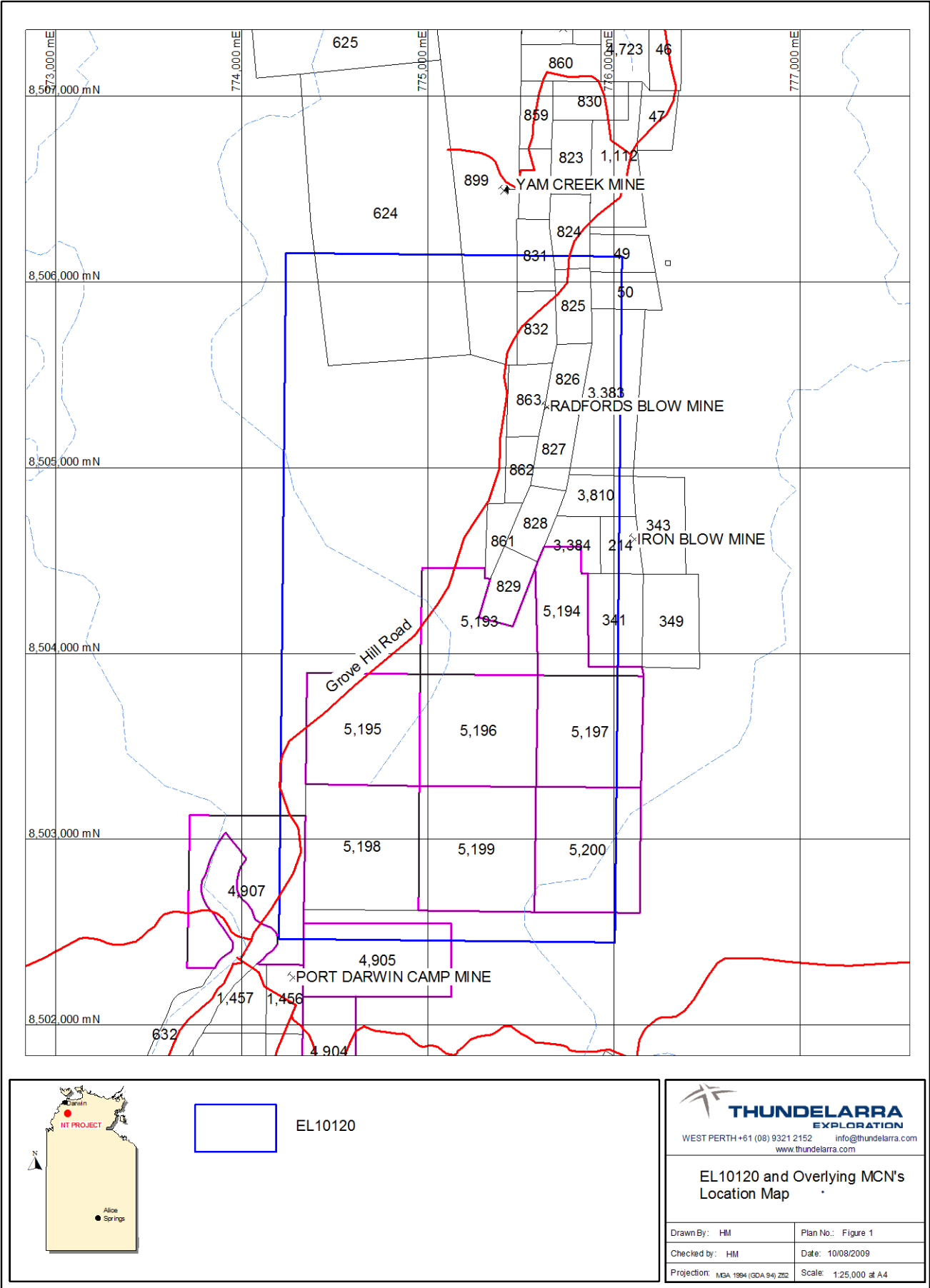
### 1.3 Operator Details

The operator for exploration on the EL is Thundelarra Exploration Ltd.

Address and contact details for Thundelarra and wholly owned subsidiary Element 92 Pty Ltd are:

Thundelarra Exploration Ltd  
Level 3, IBM Building  
1060 Hay Street, West Perth  
Western Australia 6005

Telephone      61 8 9321 9680  
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## 2. Geology

The Priscilla EL lies in the central portion of the Pine Creek Orogen. The orogen consists of Early Proterozoic meta-sedimentary rocks on an interpreted granitic Archean Basement. The Proterozoic rocks are tightly folded on NE trending axes and metamorphosed to greenschist facies. The meta-sedimentary rocks are intruded by pre-deformational basic igneous rocks and post-deformational granites.

EL 10120 lies over an area of tightly folded meta-sedimentary rocks assigned to the Mt Bonnie and Gerowie Tuff Formations of the South Alligator Group and the Burrell Creek Formation of the Finnis River Group. The tenement covers the northern extent (the north plunging Yam Creek Anticline) of a doubly plunging antiform known as the Golden Dyke Dome. The major regional Hayes Creek Fault cuts the antiform at a NNE angle in the southern part of the EL.

EL10120 covers a number of gold workings known as the Priscilla Line. These include Radfords Blow, Temperance and Princess Louise. These are mostly on excised MCN's held by other parties. The gold mineralisation is generally confined to lines of reef within greywacke units of the Mt Bonnie Formation in close proximity to the anticline crest.

## 3. Previous Exploration Activity

The EL forms part of the historical Yam Creek Goldfield where gold was first discovered in 1870. The area of the EL would have been subjected to intensive historical prospecting. Several hard rock gold and alluvial/eluvial occurrences were mined on the EL between 1872 and 1910.

Modern company exploration appears to have commenced in the late 1970's with regional assessments for basemetals by Geopeko and others. The modern phase of gold exploration appears to have commenced in 1988 with percussion drilling near Port Darwin Camp by Geonorth. A total of 20 holes were drilled within the area of EL10120. The best reported intercept was 3m @ 1.16 ppm Au.

Subsequent to this Dominion Gold Ltd explored the area of the EL between 1993 1996. Work carried out included soil sampling, vacuum drilling, geophysical interpretation and RC drilling. A total of 8 RC holes were drilled by Dominion although all of these were on MCN's excised from the current EL.

Following this Northern Gold obtained an interest in the area. Northern Gold explored the EL between 1996-and 1997. Northern Gold carried out a Mobile Metal Ion soil sampling programme and drilled 8 RC holes in the area of EL10120.

A number of gold explorers were active on MCN's excised from the EL during the late 1990's to recently, including AngloGold and GBS Gold. This has included several exploration and resource definition drilling programmes. Little company exploration seems to have been done on other areas of EL10120 during this period.

During 2007 Armada Exploration carried out an infill soil sampling programme on the area of EL10120.

Small scale prospecting for gold has been intermittently carried out over EL10120 by Mr R.M.Biddlecombe from at least the early 1990's to the present. During the last reporting period a bulk sample of 5000t of material at a grade of 0.25 g/t Au producing 41 oz. fine gold was put through an alluvial testing plant.

During the previous reporting period Thundelarra Exploration conducted a number of exploration activities, including a compilation and review of historical data and regional geological traverses.

## **4. Target Commodities**

Thundelarra is exploring the Priscilla EL primarily for uranium and gold mineralisation.

## **5. Exploration Methods**

Thundelarra's exploration efforts have consisted of compilation and review of historical data, a high resolution airborne radiometric-magnetic survey and the compilation of a 1:25,000 interpreted geology map. The geophysical data and mapping will be reviewed to determine if further uranium exploration is warranted.

Mr Biddlecombe is exploring the EL for alluvial gold deposits by processing bulk samples of alluvial material through a test plant.

## **6. Work Carried out and Results**

Mr R.M. Biddlecombe has informed Thundelarra that his bulk sampling activities for alluvial gold have continued.

A combined high resolution airborne magnetic-radiometric survey was flown over all of EL10120 by Thomson Aviation. A total of 268 line km of 25m spaced data was collected. The results of this survey were processed by Southern Geoscience Consultants. This data has been recently supplied to the Mines Department as an appendix to Crocodile Gold's 2009 Annual report for EL23431. Minor ground follow-up with a hand held spectrometer was carried out to investigate some radiometric features.

The new airborne data and other available imagery was used by consultant Barry Cotton to draft a 1:25,000 scale interpreted geological map for the region, including EL10120.

A single infill flight-line (1.7km) of the collaborative Geoscience Australia/Thundelarra Airborne Tempest EM survey has crossed the southern part of the EL. The data of this EM survey were further processed by Southern Geoscience Consultants, resulting in a number of conductivity depth slices. These have been previously reported. (in Crocodile Gold Ltd Annual Report 2010 EL23536).

## 7. Environment

Thundelarra's activities on EL10120 have had no impact on the environment.

## 8. Conclusions

Historical exploration work has defined strongly anomalous Au geochemistry on EL10120. Previous drilling has been limited but has intercepted narrow widths of moderate grade mineralisation which require further assessment.

No historical exploration for uranium has taken place on the area of EL10120. The area lies along trend and contains the same stratigraphic package as hosts Thundelarra's Thunderball Prospect to the South West, and is cut by the Hayes Creek Fault. All these factors indicate a high possibility for vein style uranium mineralisation similar to that identified at Thunderball Prospect, despite the apparent lack of a strong airborne radiometric response over the EL.

## 9. Expenditure statement

A total of \$17,795 was spent on EL10120 by Thundelarra Exploration Ltd. In addition Mr Biddlecombe informs us that he has spent approximately \$12,000 on his bulk testing programme. A full expenditure report is given in Appendix I.

## 10. Program and Budget

During the next period Thundelarra will carry out prospect scale geological mapping, an airborne hyper-spectral survey, geophysical interpretation and soil and rock chip sampling. Mr Biddlecombe will continue his exploration activities for alluvial gold.

The provisional budget for EL10120 is as follows:

Wages:	\$1500
Vehicle:	\$1500
Geochemistry/Assaying:	\$2000
Geophysics:	\$2000
Geological Mapping:	\$3000
Bulk Sampling:	\$10,000
Total Budget	\$20,000



## **APPENDIX I**

### **EL10120 Expenditure Report**

## **APPENDIX II**

### **Hayes Creek 1:25,000 Geology Interpretation**