



**EXPLORATION LICENCE 59/2007  
ROYAL GEORGE**

**ANNUAL AND FINAL REPORT TO 26 NOVEMBER 2010**

**Russell Fulton  
Minemakers Limited  
Level 2, 34 Colin St  
West Perth WA 6872**

## ABSTRACT

Minemakers conducted a program of exploration for sediment-hosted uranium mineralisation in the Storeys Creek-Royal George area of the Fingal valley. The project area is covered by two tenements; EL59/2007 and EL27/2004. The model for mineralisation is remobilisation of uranium from the Ben Lomond Granite and re-precipitation within carbonaceous lithologies at the base of the unconformably overlying Permo-Triassic Parmeener Supergroup sediments.

Uranium mineralisation was discovered in basal sediments in Castle Carey Creek in 1956 on an adjacent tenement, EL27/2004, and a short reverse circulation drilling program carried out by Minemakers in 2007 encountered elevated uranium levels within basal sediments in the same area.

Exploration on EL59/2007 consisted of interpretation of airborne geophysical data to define radiometric anomalies and ground inspection of some of the anomalous areas. No significant ground features were identified. Two rock chip samples were collected and analysed.

## **CONTENTS**

<b>1.</b>	<b>INTRODUCTION.....</b>	<b>4</b>
<b>2.</b>	<b>REVIEW OF PREVIOUS WORK .....</b>	<b>5</b>
<b>3.</b>	<b>WORK COMPLETED DURING THE REPORT PERIOD .....</b>	<b>10</b>
<b>4.</b>	<b>CONCLUSIONS.....</b>	<b>10</b>
<b>5.</b>	<b>ENVIRONMENT.....</b>	<b>10</b>
<b>6.</b>	<b>REFERENCES.....</b>	<b>11</b>

## **FIGURES**

- FIGURE 1.** Location of tenement
- FIGURE 2.** Exploration activity and topography
- FIGURE 3.** Radiometric anomalies - southern part of EL59/2007
- FIGURE 4.** Radiometric anomalies - northern part of EL59/2007

## 1. INTRODUCTION

EL59/2007 is located in the Fingal valley approximately 60 kilometres SE of Launceston (Figure 1). The licence area is comprised of four separate blocks, totalling 38 square kilometres.

The purpose of acquiring EL59/2007 was to extend an area prospective for sediment-hosted uranium mineralisation currently held under EL27/2004.

Uranium mineralisation was discovered in 1956 in black shales near the base of the Permo-Triassic Parmeener Supergroup at Prospect Creek, approximately 8 kilometres north of Avoca (within EL27/2004). The radiometrically hot Devonian Ben Lomond Granite is the likely source of the uranium and the contact with the overlying Parmeener Supergroup rocks is unconformable.

The majority of the prospective geology is held by Minemakers within EL27/2004.

North-east Tasmania has had sporadic exploration for sediment-hosted uranium mineralisation since the early 1970's and is summarised briefly below.

- International Mining Corporation NL  
April, 1970  
Drilled 8 percussion holes in the Permo-Triassic sediments west of Castle Carey Graben for 1135' (346m) ranging from 30' to 230'. Holes were gamma logged but not assayed. Only three holes penetrated the underlying granite. High cps readings in one hole and at surface near another hole. More drilling was proposed but there is no record of it.  
(Hall *et al.* 1970)
- Getty Oil Development Company Limited and Tenneco Australia Inc  
November 1972 – January 1973  
The company drilled 122 rotary holes for 39,783' (12,125m) in the Tertiary Launceston Basin exploring for sedimentary uranium. They failed to discover any significant radioactivity.  
(Middleton, T.W. 1973)
- CRA Exploration  
1981  
The company drilled 6 percussion holes for 399 metres on flats at Royal George, exploring for tin and uranium. Lots of drilling problems and not considered to be a comprehensive test.  
(Dunn, P.R. 1981)

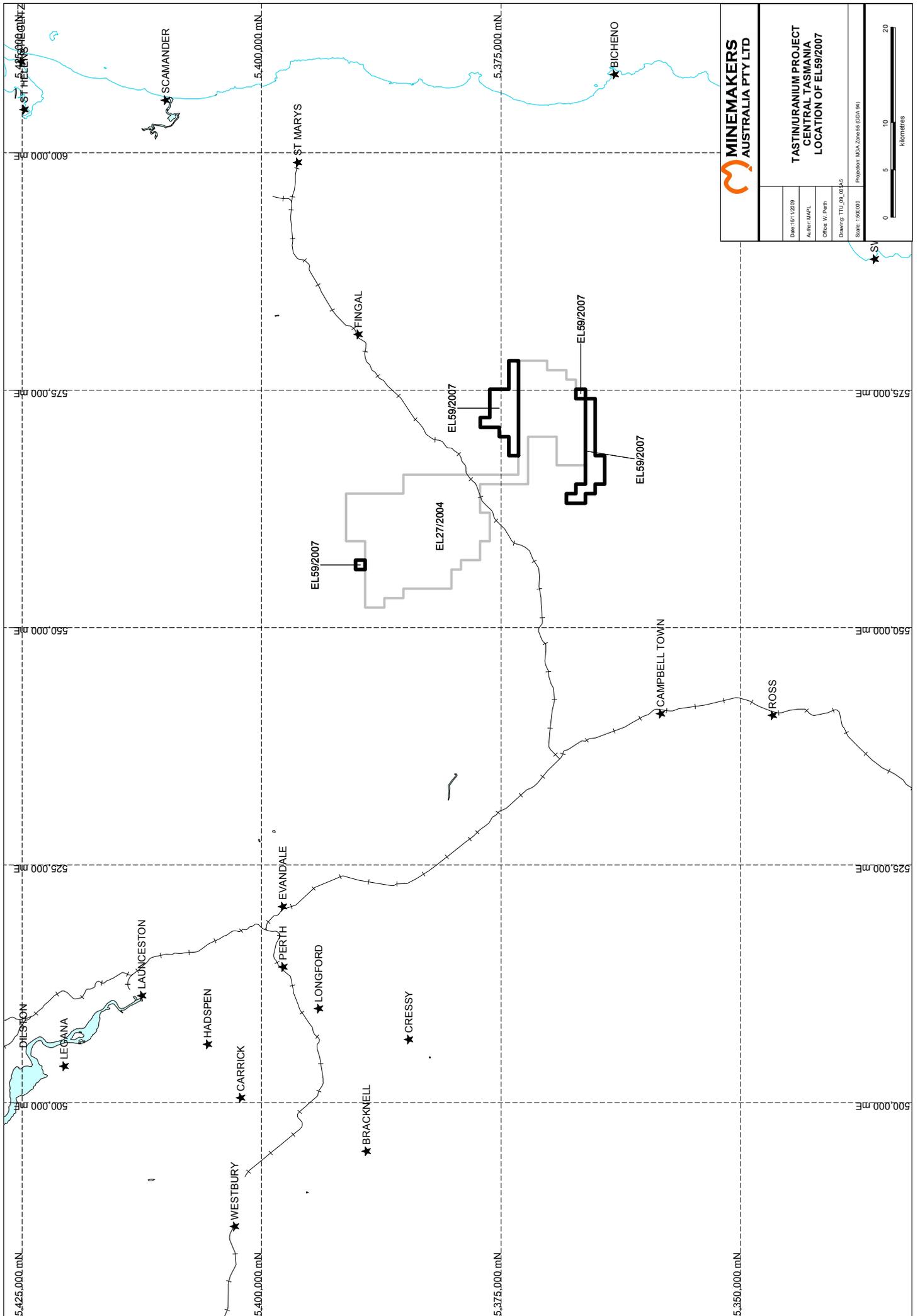


Figure 1. Location of tenement.

## 2. REVIEW OF PREVIOUS WORK

### 2.1. PRIOR TO CURRENT TENEMENT

There is no record of exploration for uranium or other metallic commodities in EL59/2007.

### 2.2. DURING CURRENT TENEMENT

Minemakers' Tasmanian uranium work program was carried out concurrently on EL59/2007 and EL27/2004. Work carried out during the current tenure is shown in Figure 2 and includes:

#### 2.2.1. Airborne geophysical data

Interpretation of airborne aeromagnetic and radiometric data acquired and processed by Mineral Resources Tasmania in 2007-2008 was carried out by uranium consultant Syd Morete. The infill airborne data acquired by Minemakers at the time of the government survey does not cover any part of EL59/2007. Some radiometric anomalies were identified within EL59/2007 (Figures 3 and 4).

#### 2.2.2. Field work

A program of ground inspection of radiometric anomalies was carried out in October-December 2008.

Two rock chip samples were collected, both returning uranium values <6 ppm.

An extract from the uranium consultant's notes pertaining to uranium prospectivity and sampling in the Storeys Creek-Royal George area are presented below:

#### Summary from Consultant's Notes.

##### **Uranium Target Type**

*The target deposit type in the Rossarden area is tabular black shale sedimentary uranium deposits proximal to uraniferous Devonian granites. This style of deposit may be enhanced in grade by proximity to structures that facilitate groundwater movement and sumps in the palaeo-topography at the time of deposition.*

*Occurrences in the Castle Carey graben are limited by narrow boundary faults within a steep scarp environment with attached environmental problems whereas occurrences in uplifted blocks appear to be unaffected by tectonics and are more extensive.*

*A model for mineralisation is presented in Figure UR1 below.*

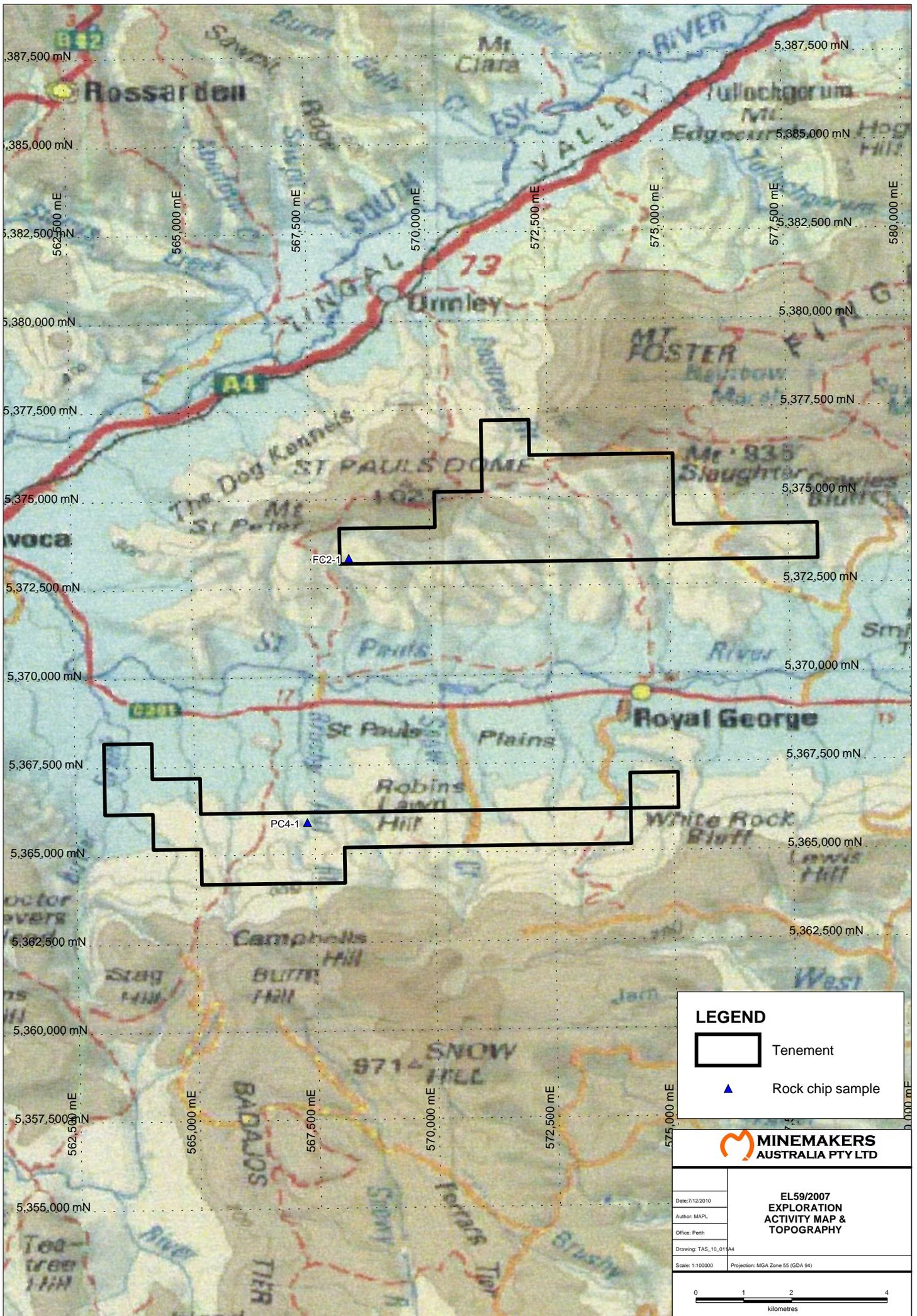


Figure 2. Exploration activity.



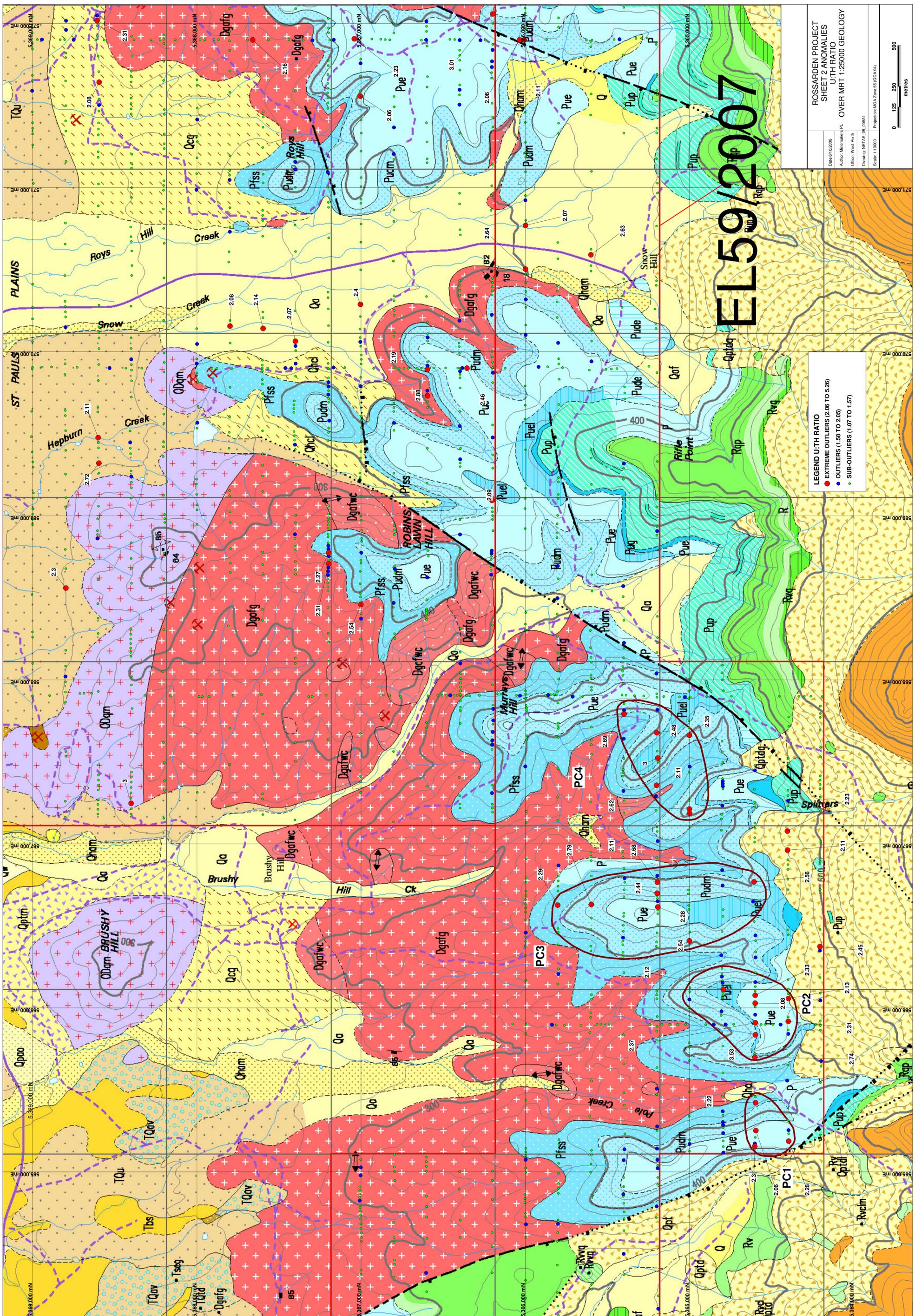
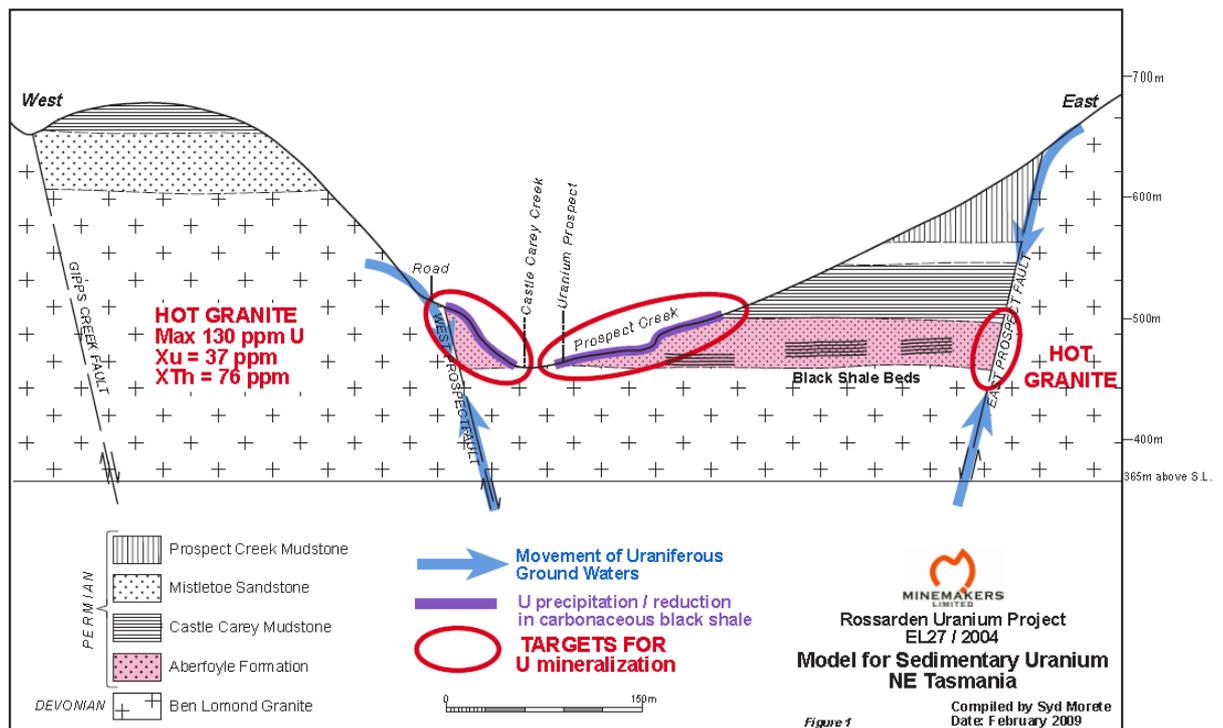


Figure 4. Radiometric anomalies-southern part of EL59/2007.



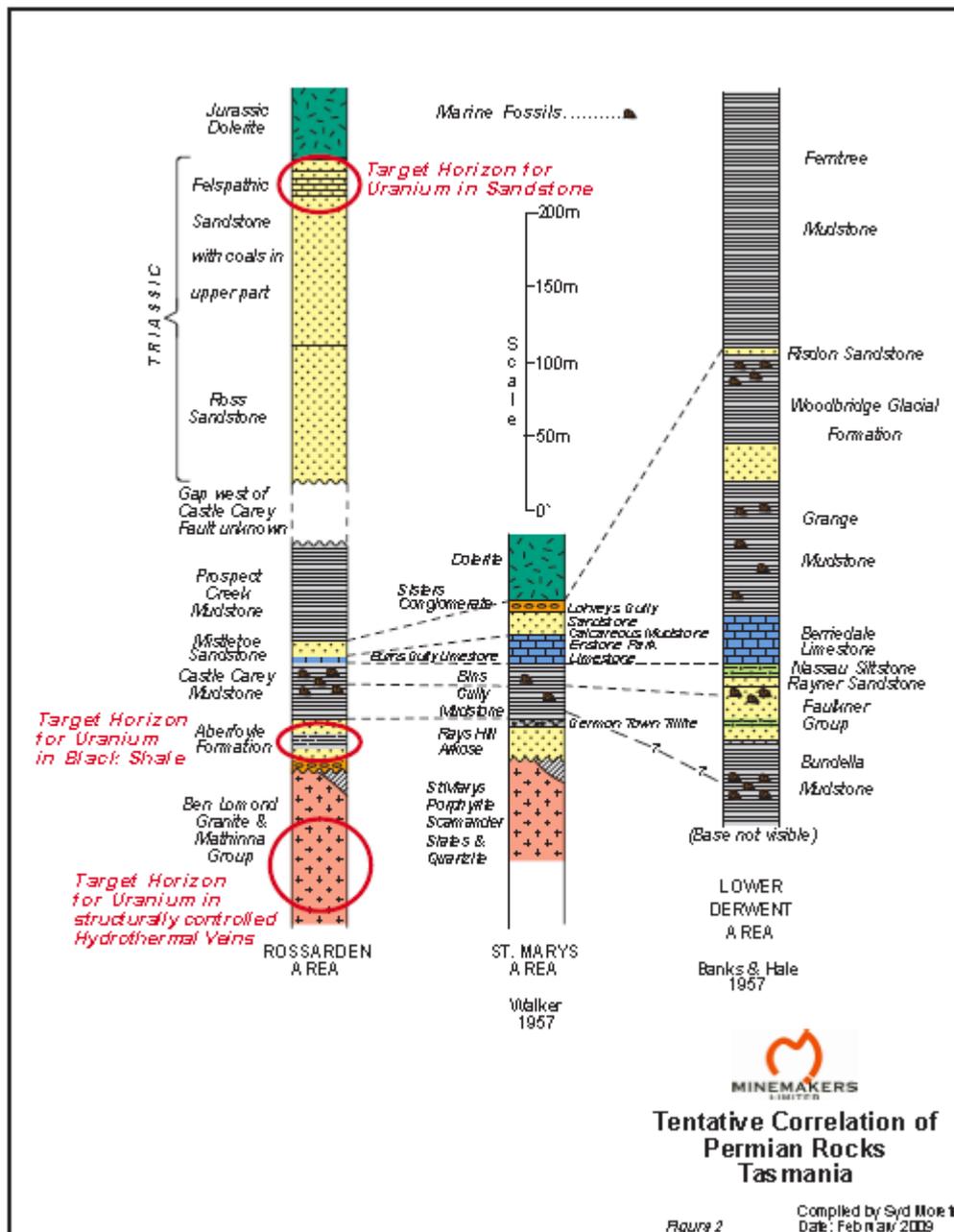
### Assessment of Uranium Potential of Black Shales

In the Rossarden area, geological mapping has demonstrated the presence of black shales and limited exploration has shown that some occurrences are uraniumiferous. Source rocks have been demonstrated by exploration since the mid-1950's. The presence of both primary and secondary uranium minerals associated with a granite stock has been demonstrated.

Uranium exploration in the 1970's by Esso Exploration confirmed the Ben Lomond Granite was a "hot" granite with a maximum assay of 130ppm U in a porphyritic microgranite but often accompanied by higher thorium values (Pohl, 1978).

International Mining Corporation (1970) reported on eight percussion drill holes (PDH1-8) aimed at assessing the uranium potential of the basal sediments overlying the Devonian granites.

A tentative stratigraphic correlation is presented in Figure UR2 below.



### Prospect Size and Uranium Endowment

Various scenarios of in-ground prospect tonnage and grade have identified a target. A target potential of one square kilometre with a black shale thickness of 3m, density of 2 and grade of 300ppm (or 900ppm.metres) would total 6,000,000t and contain 1,800t U. These are not unreasonable figures for this style of deposit.

### Desktop Data Processing

Raw radiometric data including total count, potassium, uranium and thorium were extracted from the government airborne geophysical survey of NE Tasmania to cover Minemakers tenements. This was added to the Minemakers infill airborne geophysical survey over the Castle Carey graben.

Ratios U:Th, K:Th and U/U+Th were calculated with the U:Th ratio being used to assess subtle uranium-biased anomalies. These calculated variables were processed in Data Desk using box plots and scatter plots to define potential values of interest and classified as:

- Extreme Outliers
- Outliers
- Sub-Outliers.

These three categories occupy the top 25% of the data profile. Colour circles with increasing diameter were assigned to each of the three categories and plotted at 1:25,000 over MRT coloured geology. Visual inspection of 1:25,000 plots then identified clusters of interest. These clusters were digitized and re-plotted at 1:10,000 for field use. This work resulted in the recognition of 31 clusters located in nine prospects listed below.

- Ben Lomond Marshes (8 clusters: BE1-8),
- Bark Hut Flats (BH1-2),
- Castle Carey (CC1-6),
- Dalrymple Hill (DH1),
- Forbes Creek (FC1-7),
- Pole Creek (PC1-4),
- Rossarden Road (RR1),
- Rossarden East (RE1)
- Rossarden West (RW1).

The highest U:Th ratio within a cluster is referred to by the cluster letters and a double digit number, e.g. CC41 with successive descending U:Th ratios taking ascending numbers.

## **FIELD INVESTIGATIONS**

### **Instrumentation**

A Scintrex GRS500 spectrometer was used to assess radioactivity. All readings are from the Total Count (TC1) channel which records total contributions from potassium, uranium and thorium in counts per second (cps).

A RadEye personal radiation detector was used to measure radioactivity emanating from the 17 rock samples collected for assaying. Readings are in counts per second. The RadEye reads lower than the GRS500 by about one order of magnitude.

A Garmin GPSmap 60CSx instrument was used for navigation. It has a high-sensitivity receiver with improved satellite reception for challenging topography. Once locked on satellites, the instrument never lost signal reception even in the steep-sided valleys at Prospect Creek and Castle Carey Rivulet. All GPS Map readings relate to Zone 55 G and were downloaded at the end of each day. Elevations readings are approximations.

### **Prospect Recognition**

*Field checking focused on the highest U:Th ratio for each cluster and/or the higher U:Th values associated with the basal sandstone±shale. Radiometric values from higher stratigraphic units tended to be much lower and many of these locations were dropped from later investigations.*

*The following descriptions cover prospects with some recognized black shale uranium potential.*

**Table 3: Details of Rock Samples, Rossarden area, EL59/2007.**

<b>SampNo</b>	<b>GDA94_E Zone 55 G</b>	<b>GDA94_N Zone 55 G</b>	<b>RadEye (cps)</b>	<b>MagSus1</b>	<b>MagSus2</b>	<b>Lithology</b>
<i>PC4-1</i>	<i>567342</i>	<i>5365901</i>	<i>16</i>	<i>1.76</i>	<i>0.11</i>	<i>sericite-altered granite</i>
<i>FC2-1</i>	<i>568301</i>	<i>5373339</i>	<i>15</i>	<i>0.044</i>	<i>0.019</i>	<i>gray-black shale</i>

### **3. WORK COMPLETED DURING THE REPORT PERIOD**

No work was undertaken in the final reporting period.

### **4. CONCLUSIONS**

No significant features were found to date, however the prospectivity for sediment-hosted uranium within the area is still moderate.

Minemakers has decided to focus on the development on its tin and tungsten assets and so is relinquishing EL59/2007.

### **5. ENVIRONMENT**

No ground-disturbing exploration work was carried out during the tenure.

## 6. REFERENCES

Blissett, A.H. 1959. The Geology of the Rossarden-Storeys Creek District. Geological Survey Bulletin No. 46. Tasmanian Department of Mines.

Dunn, P.R. 1981. Drilling of Cainozoic sediments in the St. Pauls River valley, near Royal George. EL 7/78 NE Tasmania. CRA Exploration Pty Ltd. MRT open-file report 82-1701.

Hall et al. 1970. Report on exploration licence 13/1969, Avoca, Tasmania. International Mining Corporation NL. MRT open-file report 70-0636.

Middleton, G.W. 1973. Launceston Basin Project. Report on phase 1 drilling in the Launceston Basin area, Tasmania. Getty Oil Development Company Limited. MRT open-file report 73-0939.