

## Title Page for Reporting under the NT Mining Act

<b>Titleholder</b>	Crestline Enterprises
<b>Operator</b>	Excalibur Mining Corporation
<b>Tenement Manager</b>	M & M Walter Consulting
<b>Titles/Tenements</b>	EL 28565
<b>Mine/Project Name</b>	Brown's Range
<b>Report title including type of report and reporting period including a date</b>	Annual Report for period ending 14/09/2012
<b>Personal author</b>	Samantha Kemp
<b>Corporate author</b>	Excalibur Mining Corporation
<b>Company reference number</b>	Tanami
<b>Target Commodity or Commodities</b>	Gold, PGE, base metals, REE
<b>Date of report</b>	October 2012
<b>Datum/Zone</b>	GDA94/Zone 52
<b>250 000 K mapsheet</b>	Tanami SE 52-15
<b>100 000 K mapsheet</b>	Breaden 4859
<b>Contact details Postal address</b>	Excalibur Mining Corporation PO Box 1779 West Perth Western Australia 6872
<b>Fax</b>	08 9322 3005
<b>Phone</b>	08 9322 8000
<b>Email for further technical details</b>	<a href="mailto:samantha.kemp@excaliburmining.com.au">samantha.kemp@excaliburmining.com.au</a>
<b>Email for expenditure</b>	<a href="mailto:samantha.kemp@excaliburmining.com.au">samantha.kemp@excaliburmining.com.au</a>

# EXCALIBUR

MINING CORPORATION LIMITED

**Annual Technical Report**

**Brown's Range Project**

**EL28565**

**Period 15/09/2011 – 14/09/2012**

Author: S Kemp  
October 2012

## **Executive Summary**

During the reporting period Excalibur's main focus was to assess the potential for gold deposits and other economic minerals at the Brown's Range project site. The information collected over the previous year's programs allowed for desk top studies by Excalibur's in house geologists.

# Contents

## Summary

1. Introduction
2. Location
3. Tenement Status
4. Geology
5. Previous Exploration
6. Activity during the Reporting Period
7. Recommendations and Conclusions
8. References

## Figures

1. Project Location Map
2. Detailed Location Map
3. Tenement Status Report

## 1. Introduction

This report details activities undertaken by Excalibur Mining Corp Ltd at the Brown's Range project area, tenement EL28565, during the reporting period 15/09/2011 to 14/09/2012.

## 2. Location

EL28565 is located in the Western Tanami Desert within the Supplejack Downs Pastoral Lease, and sits within a joint venture tenement of EL25207 Excalibur manages through Padang Resources. The Supplejack Homestead is approximately 800 km north-west of Alice Springs via the largely unsealed Tanami Road. Supplejack can also be accessed via the Tanami Road from Halls Creek to the north-west in Western Australia and via Kalkarindji and Lajamanu from the north (Figure 1 and Figure 2).

All access roads to Supplejack Homestead are unsealed and sometimes closed in wet weather. The project area is approximately 60 km west of the homestead via station tracks and overland.

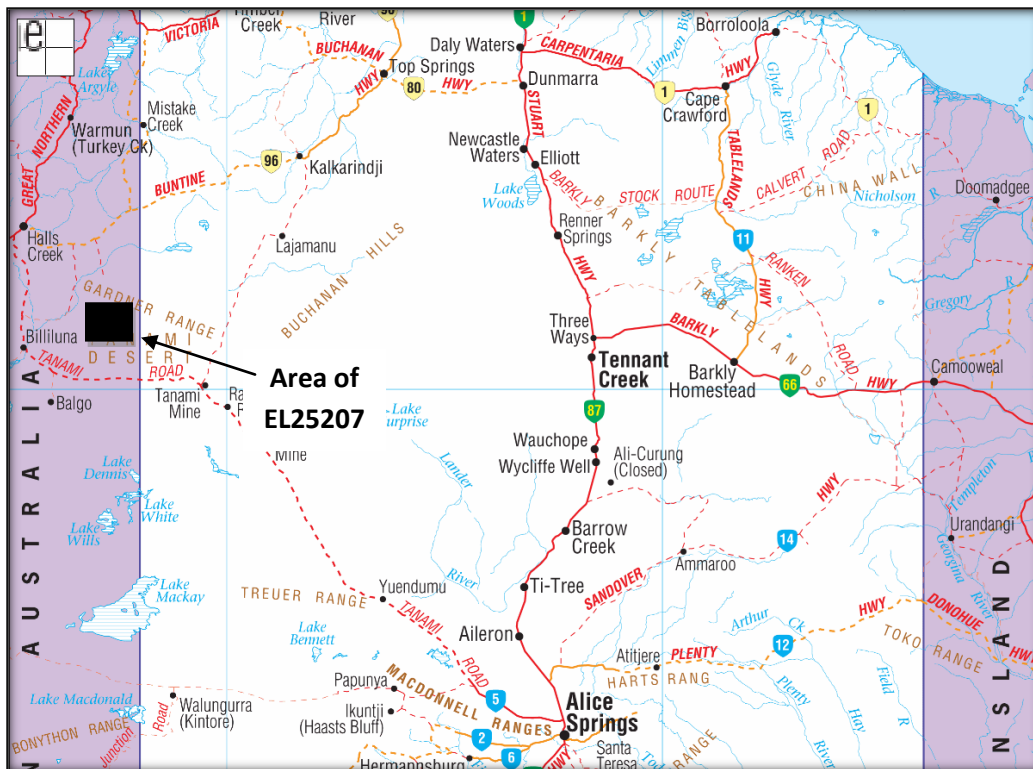


Figure 1: Project location map

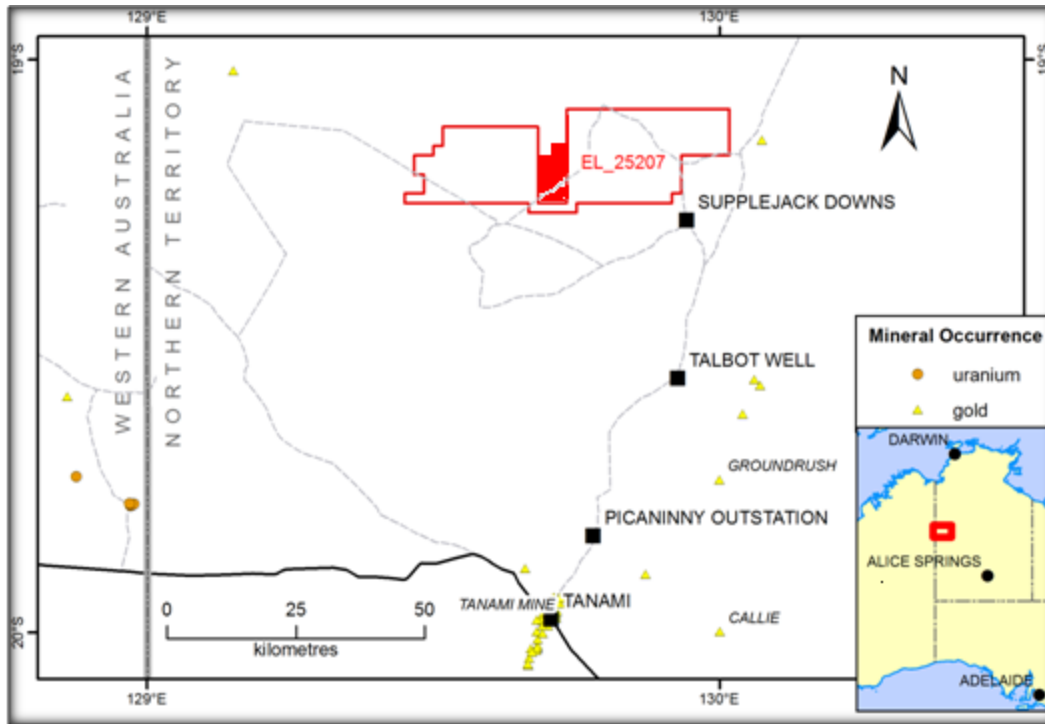


Figure 2: Detailed location map – EL28565 shaded in red.

### 3. Tenement status

EL28565 is a mineral exploration lease covering 17 blocks (55.14km<sup>2</sup>) and was granted on the 15th October 2011. Excalibur is the holder of the lease through its wholly owned subsidiary Crestline Enterprises Pty Ltd.

#### Item Information

1 of 1

<b>Tenure Type</b>	Exploration Licence
<b>Number</b>	28565
<b>Date Effective</b>	15/09/2011
<b>Status</b>	grant
<b>Area</b>	17 SBKS (55.14 sqkm)
<b>Grant Date</b>	15/09/2011
<b>Expiry Date</b>	14/09/2017
<b>Renewal Application Date</b>	
<b>Renewal Grant Date</b>	

#### Holdings Information

Name	Percent	Type
------	---------	------

M & M WALTER CONSULTING	Contact
CRESTLINE ENTERPRISES PTY LTD	100.00% Current Holder

### Transactional History Information

Transaction Type	Effective Date	Expiry Date	Period	Area (km2)
Application	17/01/2011		6	55.14
Native Title	21/01/2011	16/08/2011		
Landholder Notification	31/01/2011			
Advertisements	06/04/2011			
Advertisements	06/04/2011			
Advertisements	08/04/2011			
Offer Of Grant	06/09/2011	07/10/2011	6	55.14
Grant	15/09/2011	14/09/2017	6	55.14
Gazettals	21/09/2011		1	

Figure 3: Tenement Status Report

## 4. Geology

Geology and previous exploration have been researched and reported by Ravensgate Mineral Industry Consultants<sup>1</sup> and is summarised herein which includes the surroundings of lease EL25207.

The project area covers the eastern extent of both the Palaeoproterozoic Tanami Complex and lower-mid Proterozoic sediments of the Birrindudu-Victoria Basin.

Deformed granitoids and sediments of the 1800 to 1850 Ma Ware Group (sandstones, volcanoclastics) and the Killi Killi Formation comprise most of the Tanami Complex lithologies known to occur within the project area. These units are unconformably overlain by sandstones, grits and conglomerates of the lower Proterozoic (1700 to 1750 Ma) Birrindudu-Victoria Basin, including, Gardiner and Pargee Sandstone members.

Deposition in Birrindudu Basin began with sandstone transgressing over metamorphic and crystalline basement around 1.7 Ga. Transgression was associated with regionally extensive north-trending growth faults and volcanism, which may indicate rifting. The Birrindudu and Tolmer Groups represent the exposed section of this basin and may be up to 6,000 m thick locally. These units are dominated by coarse clastic sedimentary rocks with minor felsic volcanics (tentatively assigned to undifferentiated Birrindudu Group) and carbonate rocks and shale in the upper Tolmer Group.

The Gardiner Range Sandstone is a flat lying sequence starting with a basal conglomerate which passes upwards into a series of feldspathic sandstones and grits. The lower sandstone unit is overlain by a sequence of flaggy sandstones and grits.

<sup>1</sup> Passeres Group P/L to Ravensgate "Independent Geologists Report on Australian Uranium Prospects" for Palace Resources Limited, David Holden, September 2006.

Overlying the basal Birrindudu sediments are a thick package of predominantly siliclastic and carbonate rocks, with minor shales and muddy sediments.

Areas of the project, particularly those underlain by Lower Proterozoic rocks are covered by surficial deposits including alluvium and windblown sand. The plateau areas, which are underlain by the Gardiner Formation, are frequently capped by a silcrete layer of variable thickness. Such areas may have hindered exploration in the past by masking potential zones of mineralisation.

In the east of the project area are mafic volcanics and sediments assigned to the Cambrian Wiso Basin.

## 5. Previous exploration

Uranium exploration was first carried out in the Tanami area in the 1960s by New Consolidated Gold Fields in the Killi Killi Hills. Mineralisation was discovered in radioactive conglomerates and sandstones in the basal part of mid Proterozoic Gardiner sandstone, unconformably overlying lithologies of the Tanami Complex (Killi Killi Formation). Assays up to 0.23%  $U_3O_8$  and 5% combined rare earth elements were returned from selected surface rock samples.

In the early 1980s the Mineral Reserves Group of Canada discovered polymetallic vein-related uranium-gold-nickel-copper mineralisation associated with autunite and metatorbernite mineralisation in the Gardiner Range (the Don Uranium Prospect, Morrison, 1985, Stocklmayer, 1987). Mineralisation occurs within structurally controlled chloritic shear zones close to the Tanami Complex-Birrindudu unconformity. Drilling encountered narrow widths with assays including 0.4 m at 1.7%  $U_3O_8$  and 2.0 g/t Au (reference the hole ID and from depth).

PNC Exploration (PNC) Australia's exploration of the Browns Range Dome area for unconformity style mineralisation was carried out from 1986 to 1990 (Conan-Davies, 1989, Percy, 1991, 1992). Exploration activities include aerial photography, geological reconnaissance mapping, airborne geophysical interpretation, Landsat lineament and interpretation mapping, airborne magnetics and radiometrics, geological mapping and sampling for geochemistry and petrology, ground EM and magnetics, heliborne gravity surveys, ground magnetics, radiometric and radon surveys, as well as diamond and percussion drilling. A number of uranium prospects were located.

The main focus for uranium exploration was Area 15, where uraniferous chloritic shears were discovered. At Area 10, gossanous, radioactive quartz veins returned assays with uranium values up to 0.1%  $U_3O_8$  as well as elevated As, Cu and Pb values. Limited drilling at Area 10 returned inconclusive results.

Another prospect, Area 32 comprised a uraniferous linear anomaly 400 m long, 100 m wide in recent fluvial sands and clays, overlying the Gardiner sandstone, although the area was not conclusively tested.

PNC also located several other areas of uranium mineralisation, areas 19, 20 and 21. All have a spatial association with the Tanami Complex-Birrindudu unconformity.



Other historical exploration in the region for uranium has been limited, and has focused on targeting the unconformity between the Tanami Complex (Killi Killi Formation) and the Gardiner Sandstone. Other companies to have explored the area for uranium include WMC (Barrat, 1992, 1994, Norris 1993), Otter Mines NL (1978), Kratos Uranium (1973) and Sigma Resources (Sutherland, 1983).

The majority of exploration in the region occurred prior to 1983. Since then the area has been the subject of intensive exploration for gold, which has produced several discoveries and currently operating mines.

Previous on-ground exploration of EL25207 has been very limited. To date, most work by Palace and Excalibur has been a review of available geology and geophysical data, and the flying of a detailed aeromagnetic and electromagnetic survey. This work targeted uranium targets which have since been given a low priority standing, and a higher focus placed on gold exploration of the area

## **6. Activity during the reporting period**

The main focus over the reporting period was to review all available information and conduct a desk top study in preparation for upcoming exploration programs. The review used available geophysical maps, structural indicators, previous studies and information understood by the geologist during previous works carried out on surrounding tenements.

All work was conducted through desk top studies for this year, and as yet, no on ground work has been carried out. The findings of the review shows that there is potential for gold occurrences and that additional data collection on site such as mapping and sampling is warranted.

## **7. Conclusions and recommendations**

As the previous exploration in the general area focused on the discovery of uranium and REE deposits it is believed that Tanami style gold indicators may have been overlooked. In the new reporting year Excalibur will design and carry out a program of structural mapping and soil and/or stream sampling to test the areas of interest provided through the initial desk top study.

## 8. References

- Blake DH, Hodgson IM and Smith PA, 1972a Geology of The Birrindudu and Tanami 1:250,000 sheet areas, Northern Territory. *Bureau of Mineral Resources, Australia, Report 174.*
- Collis GD. 1993. Exploration Licence 7721 Supplejack, NT, 1st Annual Report Delta Gold *NTGS Open File Report CR1993-0471*
- Collis GD. 1994. EL7721 Suplejack, NT Final Report Delta Gold Exploration *NTGS Open File Report CR1994-0262*
- Collis, GD. 1993. EL7804 Suplejack Extension NT first and Final Annual Report. Delta Gold *NTGS Open File Report CR1993-0598*
- Conan-Davies MS, 1990. Annual report Nongra year ending 5 November Western Mining *NTGS Open File Report CR1991-0277*
- Craven B, 2009. Browns Range Project Airborne EM & Magnetics Interpretation for Palace Resources Ltd. *Southern Geoscience Consultants SGC Report No. 1932*
- Hogarth P. 1999. Partial Relinquishment report on EL 9252, for the period 3 October 1995 to 2 October 1998 Glengarry Mining *NTGS Open File Report CR1999-0048*
- Holden D, 2006. Independent Geologists Report on Australian Uranium Prospects. *Passeres Group P/L ta Ravensgate for Palace Resources Limited*
- Norris, MS 1992. Final report ELs 4825,4831,4833 and 6417 Tanami Complex. Western Mining. *NTGS Open File Report CR1992-0153*
- Norris, MS 1993. Final report EL 6567 Nongra, 6 November 1989 to 16 December 1992. Western Mining. *NTGS Open File Report CR1993-0219*
- Vandenberg LC, Hendrickx MA and Crispe AJ 2001. Structural Geology of the Tanami Region. *Northern Territory Geological Survey Geological Survey Record 2001-004*