

# **Kinloch Resources Pty Ltd**

**BLUE BUSH PROJECT** 

ANNUAL & FINAL REPORT EL28958 FOR PERIOD ENDING 18 JANUARY 2013

**Kinloch Resources Pty Ltd** 

Suite 4/896 Beaufort Street, Inglewood. WA PO Box 911, Inglewood, WA 6932, Australia Office: +61 8 9471 8885 Fax: +61 8 9471 8868 Email: info@kinlochresources.com PROJECT: **BLUE BUSH PROJECT** TITLE: ANNUAL AND FINAL REPORT EL28958 FOR PERIOD ENDING 18 JANUARY 2013 EDITED: TRF AUTHOR/S: M.S.Mitchell APPROVED: TRF DATE: February 2012 PLACE: Perth 250k/100k Sheet Name/s & No/s: Tanami (SE5215), Mallee (4759), Breadon (4859) 3 Figures: 0

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ABSTRACT:

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Table Nos:

Exploration Licence 28958 formed the Blue Bush Project, a rare earth element (REE) prospect covering 186.7km<sup>2</sup> in the northern central parts of the Granites Tanami crustal block. The exploration target was for Rare Earth Elements (REE's) either in primary carbonatitic rocks or in secondary sedimentary horizons of the Gardiner Beds in the basal Palaeoproterozoic Birrindudu formation.

Appendices

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A desktop study was conducted over the area after unconfirmed reports of REE phosphates had been recovered in the area. An open file review did find a single report revealing elevated REE's in a guartzite rock chip in open ground and several REE mineral occurrences in the broader area, but these were all under tenement. The regional area has several known REE mineral deposits at Killi Killi to the West, the Whites Beach and Don deposits to the northwest and Pargee Sandstones to the south. Very little open ground existed in the area except for some ground to the north of Coomarie Granite Dome, which Kinloch pegged. The desktop study also found that very little REE exploration had been reported within the boundaries of the Blue bush tenement.

No ground investigations were conducted during the 10 month tenure and the ground was surrendered prior to its first anniversary due to a rationalization of projects.

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#### 1. INTRODUCTION

Exploration licence 28958 fell within the Granites Tanami Block and was targeted for potential Rare Earth Element (REE) mineralisation. The licence resides on the Tanami 1:250K map sheet and on the Mallee and Breadon 1:100K map sheet. Access to the Blue Bush Project is via the Tanami Track from Alice Springs and the spur to Supplejack Downs. Local station tracks to Blue Bush bore provide access to the tenement.

The tenement was applied for on 17 August, 2011 and granted on 1<sup>st</sup> March 2012 and surrendered on the 18<sup>th</sup> Of January 2013.

#### 2. TENURE

Table 1 below contains tenure details for the tenement within the Blue Bush Project. The location of tenement 28958 is shown on Map 1.

Tenement	Status	Application Date	Granted Date	Surrendered	Area (km2)	Blocks
EL28958	Granted	17/08/11	1/03/12	18/01/13	186.69	61
Table 1: Tenure Details						

Table 1: Tenure Details

#### 3. **DESCRIPTION OF PROJECT AREA**

#### 3.1 Infrastructure

The Blue Bush Project covered an area of 186.7 km<sup>2</sup> and was situated approximately 766 km by road/track northeast of Alice Springs. Access is along the Tanami Road, which starts some 20km north of Alice Springs. The Supplejack Station spur is 617km along the Tanami Track, just past the old Tanami Mine with the edge of the tenement just past Blue Bush bore some 129km along north and north westerly tracks towards Browns Range.

#### 3.2 **Physiography**

The physiography of the project area consists of subdued rises of Gardiner Beds of quartzite and minor basal conglomerates. These minor upland areas of outcrop and laterite, are dissected by shallow broad gullies which exhibit poorly developed drainages. The drainages mainly flow a short distance dissipating across the flat peneplain and are sparsely vegetated with the interfluv areas generally barren or sparsely covered with low and scattered scrub.

#### 3.3 Geology

The tenement resides in the central northern lobe of the Granites Tanami block north of the Coomarie granite dome and south of Browns Dome. The poor exposed basement consists of the Lower Proterozoic Tanami Complex consisting of a metasedimentary and metavolcanic package which has undergone greenschist to amphibolite grade metamorphism. The Complex's structure is generally tightly folded and steeply dipping with cleavage and schistosity sub parallel to the bedding. Late Palaeoproterozoic to early Mesoproterozoic granites intrude the complex and exhibit typical contact metamorphism. Unconformably overlying the Complex are the Carpentarian platform sediments of Birrindudu Group of sandstones, shales and conglomerates, locally these are dominated by the Gardner Sandstones which largely consist of medium grained sublithic quartz arenites which display cross bedding, ripple marks and scattered pebble and conglomeratic lenses. The formation gently dips to the southeast at 10-30 degrees, and the basal contact with the Lower Proterozoic Killi Killi beds can be enriched in REE through xenotime.

Tertiary deposits of laterite, silcrete and calcrete occur as low rises and the sporadic outcrop of both the Tanami Complex and Gardiner Sandstones are characterised by pervasive laterisation and silicification. A relatively thin veneer covers approximately 80% of the project as Quaternary Aeolian sands, usually less than 5m thick.

The local geology is present in Map 2 and corresponding satellite image in Map 3.

### 4. EXPLORATION

#### 4.1 Rationale

The Blue Bush project was generated from an Australian Target for REE deposits and available ground fell within the broad target area. A review of the literature and Open file data found unconfirmed reports of REE phosphate minerals and elevated REE occurrences both within the free ground and regional area. In addition some northerly were considered as local targets for carbonatitic fluid migration from the Coomarie Granite to the south.

### 4.2 Desktop Study

A review of past exploration activities was undertaken initially to check for potential REE targets. Table 2 summaries all past tenement holders and unfortunately not all reports were available. Historical sampling was focused on Iron ore, gold, base metals and uranium.

Tenement	Explorer	Granted	Ceased	Area km2	%Overlap
AP 769	New Consolidated Goldfields (Asia) Pty Ltd	1959?	1963?	4844.1	100.0%
EL 6567	Western Mining Corporation	6/11/89	21/12/92	149.2	13.1%
EL 7804	Delta Gold NL	2/07/92	2/08/93	243.2	16.6%
EL 8341	Zapapon NL	24/12/93	19/01/95	194.6	46.7%
EL 8372	Zapapon NL	22/03/94	6/03/95	243.2	16.7%
EL 9684	Stockdale Prospecting Limited	18/12/96	5/12/00	1621.4	86.4%
EL 10348	Ottergold Limited	23/01/01	22/07/05	409.7	5.6%
SEL 10319	Ottergold Ltd/Anglogold Australia	23/01/01	10/08/10	1621.4	29.4%
EL 22173	Newmont Australia	5/09/01	22/07/05	10.7	5.7%
EL 24178	Areva/Afmeco Mining and Exploration Ltd	10/02/05	14/12/12	203.6	67.9%
EL 25210	Oklo Uranium Limited	13/11/06	19/02/09	355.7	11.4%

 Table 2: Historical Tenement Holders (source NTGS) and the approximate percentage

 overlap with EL28958

## 4.2.1 <u>New Consolidated Goldfields (1959-1963?)</u>

Only one report was available despite two being listed. Details are scant, but it appears they were costeaning and drilling for Iron ore at Ochre Hill (outside EL28598) into haematitic black shales.

## 4.2.2 <u>Western Mining Corporation (1989- 1992)</u>

WMC undertook a grid geochemical sampling programme on an 800 x100m grid, covering a small section of the northern part of EL28958. They collected lag samples, the ironstone portion of the Aeolian sands, and treated these by acid digestion and fire assay atomic adsorption for Au, Cu, Cr and Ni. No anomalous gold was detected. A Landsat study was also undertaken, but no interpretation was given.

### 4.2.3 <u>Delta Gold NL (1992-1993)</u>

Landsat imagery was used to discriminate the target Tanami Complex rocks from the Birrindudu sandstones which were subjected to lag and soil sampling on a 500m centred grid. Low order Au and Cu anomalies were followed up without enhancement. Delta's tenement overlapped with the eastern portion of EL28958.

## 4.2.4 Zapopan NL (1993-1995)

A combined airborne magnetic and radiometric survey was flown over two adjoining licences at 200 E-W, 60m sensor height and 2km tie lines. The survey characterised the NNE geological fabric and identified a possibly blind intrusion which they attributed to a "magnetite bearing granite". Limited rock and lag sampling was conducted with fire assay/XRF for Au, Cu, Pb, Zn, Bi, Sb, As and W. A number of low order Au, As, Cu and Zn anomalies were produced, and a fine grained rhyolitic tuff with secondary iron, possibly after sulphides, was attributed to one of the anomalies. Zapopan's tenement coverage covered the eastern half of EL28958.

### 4.2.5 <u>Stockdale Prospecting Limited (1996-2000)</u>

Stockdale (SPL) focus was on diamond exploration but had a JV with Otter Gold with reciprocal rights to each other ground, where Otter were exploring for gold. SPL undertook a heavy mineral stream sampling programme over all defined drainages and supplemented this with interfluv grid (2x2km) loam sampling and soil regolith chemical samples for gold analysis. The HM mineral sampling appears to be done under free range and the results not reported. The geochemical samples were analysed for Gold under a JV with Otter Gold Limited. Several low order gold anomalies were detected and correlated to local geological units. A rock chip sampling follow-up did identify the source of the gold anomalies, however not in encouraging concentrations. SPL also investigated the regional magnetic and gravity data. Over EL28958 the associated gravity high was interpreted as being related to the Nongra Creek Beds, which sit above the Killi Killi beds and below the outcropping Gardner Beds. The CRCLEME regolith study using Landsat data was obtained and used to distinguish between the clay rick, iron oxide and silica rich zones, which helped map out the Birrindudu Group sediments.

## 4.2.6 Otter Gold Limited (2001-2010)

Under the SPL/Otter JV 2x2km grid soil geochemical samples were analysed for gold producing low order gold anomalies. No follow-up sampling was conducted in the EL28958 portion of ground.

## 4.2.7 Newmont Australia (2001-2005)

No work appears to be done in this tenement which was part of a larger package of tenements. Also details are scant due to Newmont's takeover of Otter Gold which seems to have halted work/reporting.

## 4.2.8 <u>Areva/Afmeco Mining (2005-2012)</u>

Afmeco undertook airborne geophysical and hyperspectral surveys with follow-up rock chip sampling for geochemistry, petrology and spectral identification. A VTEM survey was flown at 400m E-W lines, aeromagnetic/radiometric survey was flown N-S at 150m line spacing with 2km ties lines and the Hyvista Hymap survey was flown N-S at 2km line spacing. The datasets were correlated and a number of targets identified from rock chip sampling. On the EL28958 overlap portion some 6 rock samples were collected for lithium borate fusion geochemistry, petrology and PIMA spectral analysis. The rocks were identified as Gardner sandstones and Talbert Well Cherts. One sandstone sample had slightly elevated Y relative to the other samples located in the north of the EL28958.

## 4.2.9 Oklo Uranium Limited (2006-2009)

Oklo targeted Lower Proterozoic unconformity for Athabasca Basin style uranium mineralisation on the edge of the Coomarie Granite Dome. They contracted Nick Lockett and Associates to interpret Aster and ALOS remote sensing data for "stratiform or structurally related clay alteration targets". None of the generated targets were considered worthy of further investigation.

### 5. CONCLUSION

Exploration in tenement was focused on the REE potential for the area bound between and the Lower Proterozoic Killi Killi beds and unconformable Carpentarian Gardner Sandstone contacts. Unfortunately much of the area was held by others, but the area of open ground was pegged forming EL28958. This area was thought to host some potential, especially after unconfirmed REE phosphate was reported. A desk top study of the historical exploration activity was conducted and correlated with all published geological, geophysical and remote sensing data. Unfortunately the target was not ground truthed due to Kinloch rationalising its exploration portfolio.

#### 6. **REFERENCES**

References are summarised in Table 3 with the Company report numbers (CR) for each historical report covering EL28958.

Tenement	Explorer	Company Report - NTGS		
AP 769	New Consolidated Goldfields (Asia) Pty Ltd	CR1960-0006,CR1962-0006		
EL 6567	Western Mining Corporation	CR1991-0277,CR1992-0310,CR1992-0311,CR1993- 0174,CR1993-0219		
EL 7804	Delta Gold NL	CR1993-0598		
EL 8341	Zapapon NL	CR1995-0337		
EL 8372	Zapapon NL	CR1995-0392		
EL 9684	Stockdale Prospecting Limited	CR1999-0115,CR2000-0014,CR2001-0061,CR2001-0072		
EL 10348	Ottergold Limited	CR2002-0021,CR2003-0052,CR2004-0083,CR2004- 0242,CR2004-0719,CR2005-0509,CR2005-0686		
SEL 10319	Ottergold Ltd/Anglogold Australia	CR2002-0022,CR2003-0133,CR2003-0160,CR2005- 0105,CR2006-0009,CR2007-0794		
EL 22173	Newmont Australia	CR2002-0209,CR2003-0339,CR2004-0483,CR2004- 0719,CR2005-0513,CR2005-0686		
EL 24178	Areva/Afmeco Mining and Explo- ration Ltd	CR2009-0270,CR2010-0216		
EL 25210	Oklo Uranium Limited	CR2007-0549,CR2008-0965,CR2009-0268		



#### 7. EXPENDITURE

Expenditure for the period of tenure involved mainly geological investigations, tenement management and report writing, see Table 4

ITEM	Cost		
Salaries & Wages	\$4,560		
Rent	\$1,891		
Administration	\$912		
Total	\$7,363		

Table 4: Expenditure for EL28958

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