EXPLORATION LICENCE

6147 AND 6148

ANNUAL REPORT FOR YEAR ONE

28 September 1988 to 27 September 1989

for
L. E. FRANKENFELD

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1. INTRODUCTION

Exploration licence 6147 and 6148 lie in the central west of the Northern Territory in largely comprehensively unexplored terrain (Figure 1).

Work undertaken during Year One was restricted to literature research and basic field reconnaissance by the licence holder. The majority of the year was spent arranging a Joint Venture agreement with Lachlan Resources NL for exploration on these licences and four other licence applications held by Mr. L. E. Frankenfeld.

No sampling was carried out during Year One, however the Joint Venture agreement now being discussed, will encompass a helicopter-borne drainage, eluvial and rock chip sampling programme over both licences during Year Two.
2. TENURE

Exploration licence 6147 lies approximately 220 km northwest of Alice Springs via the Tanami Road.

The licence was granted to Mr. L. E. Frankenfeld on 28 September, 1988 for a six year period. The licence currently consists of 110 blocks extending from central Mount Wedge east along the Stuart Bluff Range (Figure 2).

Exploration licence 6148 lies approximately 340 km northwest of Alice Springs via the Tanami Road.

The licence was granted to Mr. L. E. Frankenfeld on 28 September, 1988 for a six year period. The licence currently consists of 261 blocks extending along the Treuer Range and east to the Naburula Hills (Figure 3).
3. GEOLOGY

Exploration licence 6147 and 6148 lie on the southern and northern flanks of the Ngalia Basin respectively.

The basin sediments extend east to west as a preserved depression in Early Proterozoic basement crystalline rocks and metasediments of the Arunta Complex. Both licences encompass over 200 km strike length of unconformity between the Late Proterozoic Vaughan Spring Quartzite (Ngalia Basin sediments) and Early Proterozoic Arunta Complex.

The basement rocks consist mainly of granites and mica schists. In the northeast is a small area of less metamorphosed sediments and tuffs of uncertain age known as the Patmungala Beds. The cover rocks commence with quartzites, conglomerates and siltstones of the Vaughan Springs Quartzite, which is correlated with the Heavitree Quartzite of the Amadeus Basin. These are overlain by siltstones, dolomites and tillites of the Mt. Doreen Formation. Younger sediments of the Ngalia Basin succession which are included in the two exploration licences include Ordovician sandstones and shales and carboniferous Mt. Eclipse Sandstone, which consist of arkosic sandstone, subgreywacke and conglomerate. The northern basin margin was strongly deformed during the late Carboniferous Mt. Eclipse Orogeny, when the basement overthrust the basin from the north, and the sediments were folded into tight, sometimes overturned, folds. The southern margin is relatively undisturbed, gently dipping north into the basin and affected by block faulting.

Both licence areas could be prospective for Arltunga/White Range gold mineralisation and possibly unconformity style and palaeoplacer uranium/precious metals mineralisation.
4. PREVIOUS EXPLORATION

Basement rocks to the north contain a number of small mines, prospects and mineral occurrences which include copper, wolfram, silver-lead and fluorite. Gold occurs with copper, wolfram and silver at the Mt. Doreen Mine outside the northern limit of EL 6148.

In the sedimentary rocks the most important mineralisation is uranium in the Mt. Eclipse Sandstone within mineral claims and leases excluded from the eastern part of EL 6148. Intensive exploration up to 1983 has proved a resource of 2560 tonnes of uranium oxide in this area (L. E. Frankenfeld, pers. commun.)

On the southern margin of the basin there are reports of haematitic breccias occurring at several sites at the basement/cover unconformity. One occurrence of this type, at Patty Well outside the eastern limit of EL 6147, is reported to contain gold.

The areas of the two exploration licences have been included in a number of uranium exploration programmes, although detailed work was virtually restricted to the Mt. Eclipse Sandstone. There has been very limited exploration for gold and base metals.
5. WORK COMPLETED

During Year One of both licences, exploration was limited to reconnaissance field trips with no sampling taking place.

The majority of the year was spent by the licence holder negotiating a Joint Venture agreement for exploration with Lachlan Resources NL.
6. EXPENDITURE FOR YEAR ONE

**EL 6147 and EL 6148**

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<tr>
<td>Literature Review</td>
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<td><strong>TOTAL</strong></td>
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7. WORK PROGRAMME AND EXPENDITURE FOR YEAR TWO

As no sampling was undertaken on the two licences during Year One, a helicopter-borne sampling programme will be completed over both licences to elucidate any regional anomalous zones for gold, base metals or uranium.

The exploration programme will include:-

a) Purchase latest 1:80 000 aerial photographs.

b) Produce exploration base maps.

c) Undertake photo interpretation to determine drainage/eluvial and rock chip sampling points.

d) Undertake helicopter-borne regional sampling programme.

Estimated expenditure for Year Two on EL 6147 and EL 6148 is $45 000.00. The exploration programme will cover both licences and as a result of the programme, the licence holder will be able to:

a) Determine the most prospective areas for further exploration, and

b) Nominate which blocks can be dropped to effectively halve the licences.
8. CONCLUSIONS

Both licence areas hold considerable potential for the discovery of new gold, base metal or uranium prospects with the implementation of a comprehensive exploration programme.

Unfortunately, exploration during Year One did not follow the proposed programme and was essentially wasted. With the completion of the Joint Venture agreement with Lachlan Resources NL, exploration during Year Two will be completed as outlined and reported on accordingly.
Compiled from a map by G Orridge.
SECOND SCHEDULE
(Plan of Area)

EL6147
110 BLOCKS
354 sq km

FIGURE 2
SECOND SCHEDULE
(Plan of Area)

FIGURE 3