ANNUAL REPORT EL 4416 (Area Retained)

July, 1985 to July, 1986

on behalf of the holders

Messrs F.E. Henry, N.J. Walker, E.J. Bailey & J.G. Wright

by

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EUPENE EXPLORATION ENTERPRISES

Darwin, N.T.
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1:250 000 Pine Creek and Mount Evelyn
1:100 000 Pine Creek and Ranford Hill
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1 INTRODUCTION

1.1 General Introduction
Exploration License 4416 was taken up by Messrs Henry, Walker, Bailey and Wright to explore for alluvial tin deposits. The License was granted on 13th July, 1984.

This report outlines the exploration work completed on the returned portion of the license area and recommends a programme of work for the next year.

1.2 Location and Access
The retained area of EL 4416 straddles the Kakadu Highway between Pine Creek and Moline (Figure 1). An all weather gravel road running from Pine Creek to Frances Creek skirts the western boundary of the License area.
2 CONCLUSIONS

(i) Significant concentrations of tin are being shed from the Cullen Granite over a potentially wide area.

(ii) Alluvium in the creek systems may be of sufficient volume to supply a tin treatment plant.

(iii) A programme of systematically panning recent stream gravels should recognise broad areas of interest.

(iv) Testing could then proceed in promising areas with the excavation of test pits to determine gravel volumes and to obtain bulk samples for grade estimation.
3 RECOMMENDATIONS

(i) The license area should be covered with a stream sediment sampling programme. All first order creeks should be sampled at least at their junctions with second order creeks, and every 500 metres where long enough. This programme would total about 200 samples. One pan full of material should be collected at each sample site. If visible tin is present a volume of 0.05 cubic metres should be washed, with the concentrate subsequently weighed and analysed.

(ii) Trenching and bulk sampling should follow up promising areas. Ten to fifteen cubic metre samples should be taken every 200 metres along stream and every 30 metres across stream.
EXPENDITURE
The covenant for year two (July, 1985 to July 1986) of the license was set at $6,800.

Actual expenditure for the whole license area is listed below:

Prospector sampling  5 days at $200/day  $1,000
Vehicle hire  5 days at $45/day  225
Consulting Geologist  3 days at $350/day  1,150
Depreciation and Maintenance on
  Alluvial Test Plant  2,000
  Administration  500
TOTAL  $4,875

The covenant was not met due to the concentration of personnel and funds in the pressing search for ore for Mt Bonnie treatment plant.

It is proposed to spend $6,000 on the license area in the coming year.
5 TENURE

EL 4416 is presently comprised of 62 blocks. It is proposed to reduce this to 11 blocks, as shown in figure 1.
6 GEOLOGY

The northern, southern and western segments of the license area cover the Cullen Granite batholith. The eastern segment covers some folded Lower Proterozoic sediments of the South Alligator and Finniss River group.

Recent 1:100,000 maps produced by the Bureau of Mineral Resources and N.T.G.S. recognise a number of phases of the Cullen Granite in the license area. The Allamber Springs and Driffield Granites are the dominant lithologies, which surround smaller intrusions of the Saunders laucogranite and monzonite.

No tin mineralisation has been recognised in the license area, in the literature. However, fractionated alkaline intrusives are associated with tin mineralisation in the Jimmy's Nob area, 10km to the north west of the license area.
SAMPLING PROGRAMME

A preliminary sampling programme was completed where the Nellie Creek crosses the Kakadu Highway (Figure 2). Alluvial tin was reported to occur in this area by Mr Wally Reid.

Creeks in the area were sampled every two to three hundred metres. A total of sixteen samples were collected. At each sample site a volume of about 0.05 cubic metres (3 pan fulls) of recent alluvium was collected and washed on site. The grade of the sample was roughly estimated by inspecting the amount of concentrate subsequently obtained. The potential thickness and width of alluvium in the creek's valley was estimated at each location.

Figure 2 illustrates the results of this programme. All samples contained some tin. Although alluvium volumes appear to diminish to the north (downstream), economic cross sections of alluvium extended through the sampled area. Economic volumes would need to extend over a greater stream length than sampled. However, results from this programme and sampling in the nearby EL 4561 demonstrate significant volumes could occur in the license area.