ANNUAL REPORT
FOR
EXPLORATION LICENCE 2818
N.T.

OPEN FILE

By
GREENEX
[A Division of Greenbushes Tin Ltd]

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R.D. BIRRELL
GEOLOGIST

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PLATES

1. EXPLORATION LICENCE LOCALITY PLAN

2. GEOLOGICAL AND SAMPLING LOCATION PLAN (Sheet 1)

3. GEOLOGICAL AND SAMPLING LOCATION PLAN (Sheet 2)

4. GEOLOGICAL AND SAMPLING LOCATION PLAN (Sheet 3)
TENEMENT INFORMATION

TENEMENT: Exploration Licence 2818 - Greenbushes Tin Ltd.

LOCALITY: Frances Creek/Pine Creek, Northern Territory.
N.T. Map Ref. 14/6

AREA: 286 Square Kilometres.

DATE GRANTED: 17th February, 1981.

DURATION OF LICENCE: 1 year 9 months.

PLATE 1: E.L. 2818 LOCALITY PLAN
1.0 INTRODUCTION

Exploration for tin, tantalum and tungsten continued during the 1981 field season with work being carried out by Greenex a division of Greenbushes Tin Ltd.

The program consisted of:

a) Geological Mapping.

b) Follow up heavy mineral stream sediment sampling.

c) Reduction of samples to a heavy mineral concentrate.

d) Mineralogical examination and X.R.F. analyses of concentrates.

e) Rock sampling and analyses.

f) Collation of information.

An extensive reduction of area is recommended for the exploration licence.
2.0 GEOLOGICAL MAPPING

A geological base plan at photoscale 1:16032 was constructed using black and white stereo air photography.

Detailed field traversing continued in selected areas and in conjunction with mapping completed by the Bureau of Mineral Resources, a more detailed geological plan has been produced. All analytical results have been included on the base plan shown on photos 2, 3 and 4.

Lithological units recognised within the exploration licence are:

2.1 Pnm - Masson Formation.
   Predominantly phyllite and siltstone within the E.L. with minor quartzite.

2.2 Pnm - Mundogie Sandstone.
   Medium to coarse pebbly quartzite with minor bands of siltstone.

2.3 Ppw - Wildman Siltstone.
   Colour banded siltstone and phyllite with beds of massive haematite ironstone.

2.4 Psk - Koolpin Formation.
   Ferruginous phyllite and carbonaceous shale. Small chert bands have limited occurrence.

2.5 Bsg - Gerowie Tuff.
   Brown to grey glassy tuffaceous chert.

2.6 Bdz - Zamu Dolerite.
   Chloritised quartz dolerite.

2.7 Bgc - Cullen Granite Complex.
   Numerous phases of the Cullen Granite Complex are represented in the area.
2.8 Kp - Petrel Formation.
Medium quartz sandstone with occasional micaceous siltstone. Limited occurrence of a coarse limonitic quartz sandstone.

2.9 Qa, Cz.
Skeletal soils, silt and gravels.

3.0 SAMPLING

3.1 Heavy Mineral Sampling.
This program continued on a limited basis mainly as a follow up program from previous sampling. Samples were taken from pits and channels dug into stream beds and banks. Approximately 10 litres of sample material was collected and concentrated at the company's laboratory at Berrimah, prior to being visually examined after treatment in a zinc block and if necessary X.R.F. analysis.

3.2 Rock Sampling.
Rock sampling was initiated in areas considered as prospective sources for the anomalous tin concentration detected in heavy mineral concentrates.

3.3 Analysis.
Heavy mineral concentrates were analysed by X.R.F. for:

- SnO₂
- Ta₂O₃
- Nb₂O₅
- Fe₂O₃
- TiO₂
- W

Rock samples were analysed for:

- Sn
- W
4.0 RESULTS

Results of geological mapping and analyses have suggested that with the exception of a large greisen zone in the Cullen Granite near the Frances Creek Iron Ore Mine, tin mineralisation appears to be restricted in the main to small shears within the granite offering little large scale economic potential.

5.0 EXPENDITURE

Expenditure for the year was approximately $10,450.

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R.D. BIRRELL
Geologist