NORTHERN GOLD N.L.

ANNUAL REPORT FOR THE YEAR ENDING JUNE 1984

EXPLORATION LICENCE 4193

REYNOLDS RIVER, NORTHERN TERRITORY

LICENCEE : Gol tan Exploration and Mining Ltd.
OPERATOR : Northern Gold N.L.
LICENSE : EL 4193
LOCATION : Pine Creek 1:250,000 Map SD52-8
Reynolds River 1:100,000 Map 5071
PERIOD : June 83 - June 84
DATE SUBMITTED : September, 1984
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TABLE OF CONTENTS

1. INTRODUCTION

2. GEOLOGY

3. EXPLORATION AND RESULTS

4. WORK DONE AND RESULTS

5. CONCLUSIONS AND RECOMMENDATIONS

FIGURES

1. Location Map - EL 4193

2. Geology Map - EL 4193

APPENDICES

1. Statement of Expenditure, June 1983
   - June 1984 (EL 4193)
SUMMARY

Exploration Licence 4193 is located 90 kms. SSW of Darwin on the Reynolds River 1:100,000 map. The tenement was granted to Goltan Exploration and Mining Limited on the 27th June 1983 and is now operated by Northern Gold N.L.

The tenement contains the plateau forming units of the Depot Creek Sandstone overlying the turbidite sediments of the Burrell Creek Formation. Further to the west the granites and meta-sediments of the Litchfield Complex occur. Tin bearing pegmatites emanate from these granites and include the Burrell Creek Formation units. The abandoned Mount Tolmer tin mine occurs in the tenement area.

Work during the year involved mapping and sampling and general reconnaissance. A number of pegmatites with a strike length of over 2 kms were identified and these will be the target for exploration in the 1984/85 period.
1. INTRODUCTION

Exploration Licence 4193 is located 90 kms SSW of Darwin on the Reynolds River 1:100,000 topographic map (Fig. 1). The tenement covers 4 blocks and was granted to Goltan Exploration and Mining Limited on the 27th June 1983. In December 1983, Northern Gold N.L. became the operator of EL 4193.

Access to the area is via the Wangi Station roads but vehicular movement along these tracks is possible only during the dry season.

The tenement contains the old Mount Tolmer tin mine and a number of small eluvial diggings, all occurring on northerly striking pegmatites in the Burrell Creek Formation. During the year a number of mineral claims were pegged over the pegmatites and some geological mapping and reconnaissance traversing was carried out by the author.

2. GEOLOGY

Exploration Licence 4193 occurs on the eastern margin of the Litchfield Block (Fig. 2). The north east corner covers the ferruginous sandstone of the Depot Creek Sandstone which unconformably overlies the siltstone, greywackes, shales and conglomerates of the Burrell Creek Formation. The Depot Creek units form the prominent Tolmer Plateau, and the contact appears to dip on an average 15 degrees cast to north-east. The units of the Burrell Creek crop out only along the escarpment. Further to the west all rock types are covered by recent sediments. Below this cover, Cambrian mudstones and siltstones overlie the metasediments and granites of the Litchfield Complex. The tin bearing pegmatites that intrude the Burrell Creek Formation emanate from these granites. The pegmatites often follow shear zones, faults and old fold axes and are found paralleling the strike of the country rock.
EL 4193 occurs within what Walpole termed the West Arm/Mount Finniss/Fletcher Gully area. This area comprises a belt of country, nearly 200 kms long and up to 16 kms wide, and contains a large number of tin and tantalite bearing greisens and pegmatites. Most of the production at the Mount Tolmer tin mine came from a group of greisens or altered pegmatite dykes up to 10 m wide. Workings in 1889 were reported to include two shafts, 20 m and 10 m deep, shallow pits and open cuts but the area was abandoned in 1894. Since then, the area has been worked on a small scale on several occasions, and total recorded production is 75 tonnes of tin concentrate, of which at least 45 tonnes were won before 1891.

3. EXPLORATION POTENTIAL

Exploration Licence 4193 has the potential for a small open cut tin mining operation using the already established plant at the Walkers Creek Mine.

4. WORK DONE AND RESULTS

During the year one week was spent by the author on general reconnaissance and mapping of the area. The old workings were visited and a number of samples were collected for panning. The pegmatites were followed south into EL 2807 and to the north under the unconformity. Five mineral claims were pegged by a contractor and several visits were made by various consultants, including Professor Alan Jopling from Canada.

The work carried out defined approximately 2 kms strike length of pegmatites with intermittent workings. Tin was panned from most samples and tin was seen in many rock specimens from the old workings. The width of the pegmatites is generally less than 4 meters, but in many areas it is impossible to gauge due to scree cover.
5. CONCLUSIONS AND RECOMMENDATIONS

The area has good potential for a small tin mining operation. A minimal amount of costeaining will determine the width of the pegmatites and also the grade.

Bulk testing of the eluvials and alluvials will be done under a tribute system to R. Townshend of Welltree Station. The hardrock potential will be assessed at a later stage during the exploration programme covering both EL4193 and the adjoining tenement, EL2807.

If the hardrock grades are significant, the ore will be trucked across the plateau to the Walkers Creek Mine. The estimated expenditure in 1984/85 is $7,000. A statement of Expenditure is given in Appendix 1.
APPENDIX 1. STATEMENT OF EXPENDITURE

Wages and Salaries 1,600
Consultant Fees 600
Logistics 700
Airfares and Accommodation 500
Administration 300

$ 3,700