NORTH FLINDERS MINES LTD / ROEBUCK RESOURCES N.L.

TENNANT CREEK  JOINT VENTURE

RELINQUISHMENT REPORT ON IVANHOE SOUTH

E.L.7432

FOR PERIOD TO AUGUST 1993

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1. **INTRODUCTION**

This report was prepared by North Flinders Exploration and documents exploration carried out on the relinquished west block of E.L.7432 in the period to August 1993. During this period a work programme involving "M" sample soil geochemistry was carried out over the NE portion of the relinquished block.

The Ivanhoe Group is one of a number of Tennant Creek Prospects that are subject to a farm-in agreement dated the 16th April 1991 between North Flinders Mines Ltd and Roebuck Resources N.L. NFM took over management of the Joint Venture from the 1st January 1993.

E.L.7432 is located approximately 30 kms north-west of Tennant Creek south of the Mary Lane Shear Zone (MLSZ) and the Ivanhoe Mine (Fig. 1). Access to the east of the E.L. 7432 is via the Warrego Road and the Ivanhoe haul road.

This report is based on the field work of Roebuck Resources N.L. geologists Keith Fox, Sam Warne and Peter Allchurch.

2. **TENEMENT DETAILS**

E.L. 7432 was granted on the 2nd August 1991 and on the second anniversary, the western graticular block was relinquished reducing it to 3 graticular blocks.

**Table 1. Tenement Details Ivanhoe Group.**

<table>
<thead>
<tr>
<th>Tenement</th>
<th>Granted</th>
<th>Expires</th>
<th>Blocks 92/93</th>
<th>Covenanted Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.L. 7432</td>
<td>2/08/91</td>
<td>1/08/97</td>
<td>4</td>
<td>$12,000</td>
</tr>
</tbody>
</table>
3. HISTORY AND PREVIOUS WORK

3.1. Mining History

There are no significant workings on Exploration Licence 7432, but there are several shallow diggings in the vicinity of Explorer 54. The Ivanhoe Mine, which produced 315,000 tonnes at a recovered grade of 2.3 g/t Au, 12.3 g/t Ag and 2.9 % Cu between 1965 - 1972. (Meade 1987) is located approximately 1 Km north and NE of the licence area. The Ivanhoe was discovered in 1959 by deep drilling of a magnetic anomaly (Explorer 9.) in an area that was completely covered with Quaternary alluvium and colluvium. Ore was mined from a vertically dipping, brecciated, tabular, chlorite - magnetite body with a strikelength of 100 m. and a 10 m. width. The minerals gold, bismuthinite, galena and sphalerite occurred as fracture infillings in magnetite. The mineralized shear zone would appear to have a strong base metal component with galena and sphalerite reported as gangue minerals and a substantial silver content in the mine production.

3.2. Previous Exploration

No previous exploration of the relinquished block was found although Geopeko carried out exploration of the adjacent Explorer 54 magnetic anomaly including drilling.

4. EXPLORATION PROGRAMME 12 MONTHS TO AUGUST 1993.

4.1 Survey

A Magellan NAV1000 GPS unit was used to locate ground positions to within an estimated 30m. radius, no grid was surveyed as part of the current exploration programme. All "M" samples were located with the Magellan GPS.

4.2. "M" Sample Geochemistry

Following an orientation survey, Roebuck Resources adopted "M" sampling, a proprietary surface geochemical technique developed by Consultant Geochemist Dr. N. Marshall for arid environments as their first pass exploration tool. Like all geochemical tools especially innovative methods there have been some unexplained results from the method and further research and evaluation is required. A total of 33 "M" samples were collected in the reporting period from the NE portion of the relinquished block. (fig 3.) in an area with no outcrop.

Gold values ranged from 2-24 ppb, Bi from 1-13.5, Cu from <1 to 29 ppm, and lead from 24-54 ppm.
5. CONCLUSIONS and RECOMMENDATIONS

The results of the "M" sampling of the West most block of E.L. 7432 were not sufficiently encouraging to warrant further exploration and the block was relinquished.

6. REFERENCES

FIGURE 1 LOCALITY PLAN

1. EL 7453 Renate
2. Ivanhoe Group

- WARREGO
- NIRVANA
- MARSANNE
- WHITE DEVIL
- DARK KNIGHT
- THE SMELTER
- SEMILLON
- ORLANDO
- GECKO

- EL 7651
- EL 7445
- EL 7432
- EL 6205
- EL 7443

- THREE WAYS
- Barkly Highway
- TENNANT CREEK
- NEW MOON
- BLUE MOON
- METALLIC HILL
- EL 7453

- ARGO
- PEKO
- COMET
- GOLDEN FORTY
- JUNO
- NOBLES NOB
- ELDORADO
- COMSTOCK

- TENTANT CREEK
- Alice Springs
- Mt Isa

- Roads
- Mine Location
- Tenement/Prospect Location

0 20
KILOMETRES