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FIRST AND FINAL

REPORT

ON

E.L. 5289

PROGRAM AND EXPENDITURE

FOR YEAR 1

23-10-87 TO 22-10-88
INTRODUCTION

E.L. 5289 was applied for on 4th December 1986 and granted on 23rd October 1987, for a period of five years. The licence, which lies adjacent to and West of the Stuart Highway about 130km North of Alice Springs, is centred on the old Aileron gold occurrence and is nominally 136 square km in area. The area was reconnoitred on a number of occasions until the old workings were finally found. Rock chip geochemistry was carried out and the bulldozing of an access road from the South was planned. However the geochemical results were very low. Since rock exposure is very good, it was felt that the chance of a hidden gold deposit was very low. The planned work was therefore cancelled and the licence relinquished after one year.

GEOLOGY

No new geological work was undertaken thus the geology of the area as known is that on the BMR 1:100,000 Reynolds Range region map. The area in fact lies at the South-Eastern tip of the Reynolds Ranges and Yulyirimbi Range convergence. The bold outcrops of the area are dominated by the Napperly and Boothby gneisses, which are layered granatic types. Several schist zones, marked on the BMR map as Palaeozoic, cut through the Arunta metamorphic gneisses and it is within these that the gold mineralization occurs. No geological mapping was carried out. Future explorers of this area should note that a major detailed study of the Reynolds Range, with emphasis on structure, is being conducted by post-graduate numbers of Melbourne University Geology Department under Dr. Chris Wilson. When this is completed, it could throw useful light on the controls of mineralization.

MINERALIZATION

The mineralization of the area is very minor and consists oxidized quartz-sulphide veinlets in schist. The mineralization, as seen, is only a few metres in extent. The high degree of rock exposure in the area disallows any major extentsion of the observed mineralization. Surrounding the quartz veining, the host rock shows silicification and pitting due to the weathered and leached disseminations of sulphide. However, assays of this material revealed negligible gold, and it could be regarded as wallrock alteration. A copy of a summary of observations of the mineralization of the area by consultant geologist Dr. N. Marshall, compiled late in 1987, is attached.
WORK UNDERTAKEN

Aerial photographs covering the area at 1:25 000 were obtained in order to assist with field work and overall structural assessment. Several field trips were made to the area before the old gold workings were located. The workings consist of a shaft or pit about 1 metre deep, with a few minor scratchings nearby, these occur in a gentle strike-orientated valley, and are obscured by low branches.

Geological assessments were made separately by consultant geologists P.S. Forwood and N. Marshall. These were generally unfavourable, due to the small size of the workings, the lack of any extensions, and the poor geochemical results of analysis of rock chips collected at the old gold prospect. Geochemical results are attached.

EXPENDITURE

Under the terms of being granted EL 5289 a minimum amount of $10,000 was to be expended in carrying out exploration during Year 1. At the time of applying for this EL it was thought this areas potential was significant. Unfortunately after various field trips and assay results the minimum amount could not be justified and therefore the reason to surrender the licence.

The expenditure for Year 1 totalled $5,900 being made up of the following:

- Licence Research $500
- Licence Inspection $4,000
- Surface Sampling $100
- Aerial Photography $550
- Overheads $750

TOTAL $5,900

SURRENDER

E.L. 5289 was surrendered in October 1988.
ATTACHMENTS

1. Location of E.L. 5289.
3. Geochemical Results.
3. **ELA 5289 - AILERON** (Fig. 1)

The licence area of 136 sq miles lies just to the west of Aileron station and roadhouse, a small settlement off the west of the Stuart Highway, 120 km north-west of Alice Springs.

The tenement contains Division One and Division Two metamorphics of the Arunta Block, as both felsic and mafic granulites, gneiss and andalusite hornfels, spatially associated with intrusive gneisses.

Metasediments of the north-west trending Reynolds Range, with its strike faults and shear zones, form a major tectonic and physiographic feature off the north-western corner of the licence area. Structural elements of the Reynolds Range project diagonally across the licence area where they are expressed as fault and shear zones, and in the most extreme cases, as Paleozoic retrogressive schist zones.

Elsewhere in the Arunta Block, such as in the Arltunga Goldfield to the south-east, such retrograde schist zones along major reactivated faults are a preferred structural locus of metamorphically remobilised gold-quartz veins.

About 6 km south-west of Aileron, small quantities of gold are present in quartz lodes in the retrograde schist zone. Two types of lode were mined, one consisting of limonite after pyrite in quartz, the other of finely disseminated arsenopyrite in a fine-grained quartzose matrix. A parcel of about 5 tonnes mined in the late 1930's returned 6.14 g/t gold.

3.1 **Previous Exploration and Potential**

The area has seen little modern exploration apart from reconnaissance uranium exploration in the 1970's.
It is possible that further auriferous quartz lodes may occur in schist elsewhere, including under thin alluvial cover.

The schist itself should also be tested for fine stockwork or disseminated gold.

On a more speculative note, magnesium rich gneisses and mafic granulites of the Nolans Dam and Aileron Metamorphics may host platinum mineralization, which could also be sought as remobilisations in structural sites of weakness (low pressure).
## Assay Results

<table>
<thead>
<tr>
<th>Sample No</th>
<th>Results</th>
<th>PPM</th>
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<tbody>
<tr>
<td>5289 55 1</td>
<td>Cu 35</td>
<td>Zn 10</td>
</tr>
<tr>
<td>5289 55 2</td>
<td>Cu 305</td>
<td>Zn 45</td>
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</tbody>
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5289 55 1 Quartz and sulphide, main ore body.
5289 55 2 Possible after sulphide in schisty host rock.