

COMMONWEALTH OF AUSTRALIA.

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DEPARTMENT OF NATIONAL DEVELOPMENT.  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS.

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RECORDS.

Records 1956/123



REPORT ON THE COPPER REEF AT YUENDUMU NATIVE SETTLEMENT.

NORTHERN TERRITORY.

by

G. R. Ryan

REPORT ON THE COPPER REEF AT YUENDUMU NATIVE SETTLEMENT,  
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Introduction

At the request of Welfare Branch, Northern Territory Administration, an inspection was made of this reef on 26th September, 1956. The reef lies roughly 8 miles north west of the Native Settlement and is easily accessible to light vehicles though the road will probably have to be improved for heavier traffic.

Geology

The reef consists of a series of quartz lenses, with some pegmatitic material, cropping out intermittently over a length of some 1600 feet. These lie within quartz schists striking at approximately 100 degrees and dipping north at 80-90 degrees.

The ore is secondary malachite with some cuprite, and payable values appear to be confined mainly to pegmatitic lenses. These pegmatites are medium even-grained, shattered rocks consisting predominantly of quartz and felspar with a little mica. Grain size seldom exceeds 6-7 mm. The quartz and country rocks are lightly stained with malachite but it is estimated that this would nowhere exceed 2 per cent Cu.

Four samples were taken for assay with the following results (see map):

	% Cu	% Pb	Insol.	% Fe	Remarks
1.	3.22	0.3	90.38	0.5	No radioactivity
2.	14.17	0.2	69.06	1.5	No radioactivity
3.	53.76	0.2	30.65	0.5	No radioactivity
4.	3.72	0.2	86.9	1.0	No radioactivity

Of the above only Nos. 2 and 3 are of economic grade. No. 2 was a representative sample taken at right angles across the strike of the lode and it is thought that this may approximate to the true grade of the ore as mined. Sample No. 3 represents a small body of cuprite which will be worth exploiting but cannot be expected to persist in depth.

Exploitation

Experience in this area suggests that ore will not persist below a depth of 10 to 15 feet. On the assumption of 14 per cent copper ore persisting to 10 feet, it is calculated that there will be a net return of approximately £2,000 from 127 tons. In addition the cuprite body should produce approximately 8 tons of ore worth about £1,000 net.

The possibility that payable ore will persist in depth cannot be discounted and a trial shaft should be sunk on the lode to test this.

### Conclusions

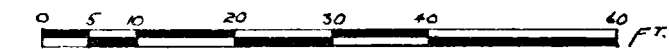
Of several copper-bearing reefs which have been inspected in this area this appears to be the best. Although the lode is not expected to live, a considerable body of ore, by local standards, is present at the surface and can be exploited to provide capital for exploration of the reef.

# MINES BRANCH, ALICE SPRINGS

Surface Plan of Copper Reef

YUENDUMU NATIVE SETTLEMENT N. T.

Scale



26/9/56

Based on tape and compass survey.

Reef continues  
intermittently for approx  
500 FT.

32.2% Cu  
Malachite

14.17% Cu  
Malachite

53.7% Cu  
Cuprite

Favourable portion of reef

S  
c  
h  
i  
s  
t  
s

3.2% Cu  
Malachite

Reef continues intermittently  
for approx 300' with  
large quartz 'blows' and  
minor amounts Copper  
staining

## LEGEND

- Quartz Lenses
- " disseminated in country rock.
- Copper Lode
- " staining in country rock.
- Boundary - established
- " - indefinite
- Dip and strike of lineation.

TENNANT CREEK

STUART H'WAY

ALICE SPRINGS

The Granites

Mt. Doreen

Yuendumu

LOCALITY MAP