

000
HALL, RELPH & ASSOCIATES PTY. LTD.
GEOLOGICAL & EXPLORATION CONSULTANTS

L. R. HALL. M.Sc., M.A.A.P.G., M.Aus.I.M.M.
R. E. RELPH. B.Sc., M.Aus.I.M.M.

997001

70-642.
Q 26, 20

9TH FLOOR
36-38 CLARENCE STREET,
SYDNEY, 2000, AUSTRALIA
TEL.: 29-5631

10th June, 1970.

PLUTON EXPLORATION N.L.

REPORT ON
THE PENDING EXPLORATION LICENCE
NORTHWEST, TASMANIA

1 INTRODUCTION

1. GENERAL

This report summarises observations made on a very brief inspection of the area on April 2nd, 1970.

2. TOPOGRAPHY

The area consists essentially of a peneplain hinterland stretching 10-20 miles from the coast. Numerous recent and fossil sand dunes lie parallel to the coastline. Vegetation consists dominantly of short scrub and grass.

3. ACCESS

The area is easily accessible to 4 wheel drive vehicles.

II. GEOLOGY.

1. REGIONAL GEOLOGY

Precambrian sediments comprise most of the licence area. In the northern half, Cambrian volcanic ? sequences

2..../

001

II GEOLOGY (Cont.,)

unconformably overlies the Precambrian. A number of Tertiary basalt outliers overlies these sediments. Also on the northern half, Quaternary sediments are developed in a large swampy area which was once a deltaic region draining from the highlands to the south.

2. ECONOMIC GEOLOGY

Montagu Temma Copper Prospect

Traces of chalcopyrite and pyrite occur disseminated through a honeycombed quartz vein which varies from 1 - 4 feet in width. The vein is irregular and occurs over an interpolated strike length of at least 600 feet. It dips steeply west and strikes 330° and is emplaced in a Precambrian sequence of graded sandstones, greywackes, phyllites and black pyritic slates. The vein does not appear to have a hydrothermal or granitic origin; it splits and coalesces over the strike length and appears to have been 'sweated' out of the silica rich sediments. Development consists of a flooded shaft. Azurite and malachite occur as blebs and stains developed from chalcopyrite.

Surface indications show the prospect to be quite uneconomic. Exploration for any hidden orebody would require extensive geophysical investigation and is not warranted.

2. Beach Sand

The extensive dune deposits along the coast have been auger drilled by Pickands Mather Pty Ltd., apparently without success. The results of this work are available in the Department of Mines, Hobart.

3. Alluvial Chromite

Some areas in the Montagu Swamp have been tested for chromite. It is estimated that the sands would have to contain 30% chromite with large tonnages to be economic and this grade seems unrealistic for alluvial material.

002

2. ECONOMIC GEOLOGY (Cont.,)

4. Iron

Iron ore has been exposed in a bulldozer cut 10 miles south of the Arthur River bridge on an adjoining tenement. Iron deposits may occur in the Precambrian terrain within the area applied for.

III SUMMARY

1. CONCLUSION

The area has very little recorded mineralisation and would therefore appear to have little prospect for economic discoveries. However a compilation and detailed study of all available geological data may indicate otherwise. The area may have potential for a hitherto undiscovered deposit of some rarer or previously uneconomic trace metal or non-metallic mineral.

Any comprehensive exploration would require high expenditure with integrated programmes of aeromagnetism, radiometrics, geochemistry and extensive surface prospecting. This work would cost at least \$60,000 and comprise:

Aeromagnetic - Scintillometer survey	\$30,000
Regional Geochemistry	\$15,000
Surface Prospecting	\$15,000

This expenditure would give a comprehensive coverage. Unsystematic or hit-miss methods in a hitherto uneconomic mineral province are of no use.

This type of large scale systematic exploration is not advisable for a small company especially in what appears to be an essentially unmineralised area.

HALL, RELPH & ASSOCIATES PTY LTD.,

D. L. R. Lovell, D.Sc.

PK:sp