

181001

P2-2-3 D

STATUS OF ROARING MEG PROSPECT

NEAR QUEENSTOWN, TASMANIA

MARCH, 1967

MICROFILMED

5th March 1967

Mr. B.E. Kennedy
Pickands Mather & Co.
2000 Union Commerce Building,
Cleveland, Ohio

Dear Sir,

Presented herewith are notes on the progress of work completed to date on the Roaring Meg Prospect in an area immediately south of the Mt. Lyell copper ore bodies. Investigations including detailed stream sediment and soil surveys, geological mapping, magnetometer surveys, E.M. surveys, induced polarization surveys and diamond drilling were carried out under the direct supervision of Mr. Vic Wuerch. Results of this work are shown on the following:-

(All maps missing - not on Microfiche)

1. Generalized geological map: Scale 1" = 400'
2. Copper concentration in soils: Scale 1" = 400'
3. Lead concentration in soils: Scale 1" = 400'
4. Electromagnetic survey over the western part of Roaring Meg (Broadside Method): Scale 1" = 200'
5. Electromagnetic survey over eastern part of Roaring Meg (Broadside Method): Scale 1" = 200'.
6. Induced Polarization profiles, lines 46E, 54E and 90E.

7. Section 46+00E including DH. RM201: Scale 1" = 100'

8. Section 46+00E including proposed DH. RM 202:

Scale 1" = 100'.

Work completed to date suggests that the western parts of the area are the more important and as a result two zones were outlined for further investigation by diamond drilling:-

1. A roughly East-West trending zone of relatively weak EM cross-overs more or less parallel to 26+00N in the western part of the prospect area. This zone corresponds to an ill-defined geochemical soil anomaly and a low intensity magnetic anomaly (see copper soil map and section 56+00E). IP confirmed this zone with low resistivity values to a depth of very approximately 360'.

DH. RM 201 collared on line 56+00E to test the zone as described. (RM.200 was abandoned at 20' depth). Immediately east of the hole, are located old adits and trenches as well as outcrops of massive hematite (see geological map). To date RM.201 has intersected feldspar-chlorite-sericite schists ("Mt. Lyell Schists") with the proportions of the four minerals, feldspar, chlorite, sericite, quartz, varying thus lending the rock differences in appearance and character. Several zones containing disseminated sulphides (pyrite and minor chalcopyrite) were intersected. Of these the most important is a 25' band (true width \pm 18'), intersected at 453' and believed to be the cause of EM and IP anomalies measured. This zone is presently being assayed by AMDEL in Adelaide.

2. A second roughly East-West trending zone of stronger EM cross-overs

parallels 13+00N in the western part of the prospect. This zone is confirmed by strong IP anomalies on lines 46+00E and 54+00E respectively. Geochemical dispersion patterns are again diffuse and inconclusive except perhaps showing that metal highs occur in soils roughly near to and along a contact of white siltstone sediments with chlorite-sericite schists and where occasional pyrite mineralization has been observed at surface.

To test this conductor it is proposed to drill RM.202 as shown on 46+00E. (collar 46+00E, 13+00N at 53° to the north).

Geological notes prepared in December 1966 by Mr. Murray Hodges who mapped the Roaring Meg Prospect are attached; further detailed geological field work was conducted recently by Mr. Huon Smith in the western part of the area. All this information is shown on the geological plan.

By way of summary the following conclusions are considered pertinent:-

Initial stream sediment anomalies have been confirmed by above average concentrations of copper, lead and zinc in soils with dispersion patterns mostly ill-defined, diffuse and discontinuous. This is considered in part due to the extreme topographic relief of the area and the fact that weathering and erosion are of extreme intensity resulting in widespread alteration and leaching of rocks and minerals at surface. This in turn means that critical interpretations of geochemical data in the Queenstown area are most important.

EM surveys have resulted in a large number of anomalies which can be evaluated readily with the help of geochemical information

on hand. Two conspicuous EM conductors are present in the western part of the Roaring Meg area and these were substantiated by IP anomalies. Diamond drilling has confirmed the first zone to be due to disseminated pyrite with minor chalcopyrite. The second zone, the stronger EM conductor of the two, has been confirmed by the results of induced polarization measurements along line 46+00E.

Although limited, IP work completed has once again shown conclusively the positive effectiveness of the method, viz, several EM anomalies are apparently not due to true conductors (sulphides etc) and can thus be eliminated. By the same token IP results gave a 'third dimension' (depth) to valid conductors.

It would appear that no additional work is required east of about line 70+00E but that EM, geochemical soil surveys and geological mapping be completed in the southwest corner of the Roaring Meg sheet, in particular in an area about $\frac{1}{2}$ mile SW of the SW corner of the sheet and where the original stream sediment survey outlined a copper anomaly.

The results of detailed and integrated investigations completed to date and which have culminated in the present diamond drilling program, will presumably provide a yard-stick for the evaluation of other geochemical and geophysical anomalies, not only in the Roaring Meg area, but perhaps even in the district. It is implied at the same time, that information forthcoming in the near future, may hopefully provide a "yard-stick" of economic importance.

Yours very truly,
PICKANDS MATHER & CO. INTERNATIONAL



R.C. Schmidt

005

ROARING MEG ANOMALYNORTHWEST TASMANIA.INTRODUCTION

The Roaring Meg lead and copper geochemical anomaly lies to the east of Queenstown, approximately $1\frac{1}{2}$ miles south of the Mt. Lyell copper deposits. The anomaly overlies Cambrian Mt. Read Volcanics which represent the favorable host rock of the area. Since initial detection by stream sediment sampling detailed investigations have been carried out using geological mapping, geochemical soil sampling and ground magnetometer techniques. An electromagnetic survey of the area is now in progress.

A summary of the Roaring Meg grid is tabulated below.

Total Length of Lines	126,400 ft.
Length Geologically Mapped	126,400 ft.
Length Soil Sampled	126,400 ft.
Length of Run Ground Magnetics	84,000 ft.

GEOLOGY

As stated, the anomaly overlies Cambrian Mt. Read Volcanics. Fundamentally the volcanics consist of a sequence of lavas, tuffs, breccias and agglomerates with interbedded shales and siltstones. Regional metamorphism presumably associated with the mid-Devonian

006

Tabberabberan Orogeny converted the pyroclastics to a complex sequence of schists and albitic rocks.

Generally, schists occupy the western two thirds of the anomaly, they include chlorite-sericite schist, chlorite-feldspar-schist and quartz-chlorite-sericite schist. Throughout these schists the schistosity is uniform and has a NW-SE (130°M) strike. Areas of these schists, in particular the quartz-chlorite-sericite schist, are comparable with the schists associated with the Mt. Lyell ore bodies.

Three disconnected areas of feldspar-pyroxene porphyry outcrop in the northern section of the schist area. This rock consists of feldspar and pyroxene phenocrysts in a chloritic feldspathic groundmass. An intrusive origin for the rock is possible, however, mineralogy, texture and field occurrence suggest that the rock represents a band in the original volcanic sequence which due to chemical, mineralogical, or physical properties adjusted differently to imposed metamorphic conditions.

Albitic rocks including feldspathized tuffs and feldspar porphyry predominate in the eastern 1/3rd of the anomaly.

STRUCTURE

In the southeast portion of the anomaly, primary sedimentary structures suggest the sequence of interbedded tuffs, volcanic agglomerates and shales, strike in a NW-SE direction and dip steeply to the NE. Over the remainder of the anomaly regional metamorphism has almost obliterated the primary structures, however, residual features suggest a continuance of the NW-SE strike; no reliable dips are obvious.

CONCLUSIONS

The results of preliminary investigations carried out to date in the Roaring Meg area are favorable. These investigations have established the presence of associated magnetic and lead copper geochemical anomalies, located over an area $1\frac{1}{2}$ miles south of a major copper deposit and in the same geological environment as this deposit.

It is the opinion of crews from the Bureau of Mineral Resources involved in geophysical exploration programs in the area, that electromagnetic surveys are the most effective method available. It is suggested that further investigations on the Roaring Meg anomaly should involve detailed electromagnetic surveys, followed by induced polarization surveys over favorable areas located by the electromagnetic survey.

M. Hodges