

REPORT

on

EUREKA PEAK

B.C.

by

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### INTRODUCTION

Eureka Peak is in the Cariboo district at N. Lat. 52°19', W. Long. 120°38'. It is the high point on a northwesterly trending ridge that is between MacKay River and McKusky Creek, both northwesterly flowing tributaries of Horsefly River.

Copper showings were found on the ridge in 1965 and staked as the EN Group. The claims were optioned to Helicon Explorations, a subsidiary of Chapman, Wood and Griswold Ltd. Presumably Government aeromagnetic maps of the area, which show two discrete anomalies on the ridge, were partly responsible for Helicon's interest. In any event, Helicon tackled the project with a great deal of vigour; in addition to geological mapping and geochemical sampling, a helicopter-borne aeromagnetic survey was flown "in order to gain better definition of the mineralized intrusive mass" and an electromagnetic survey was performed across an east-facing talus slope near the base of Eureka Peak. Finally, two adits were drilled a total of 109 feet to provide a safe drill setup from which to test an EM anomaly and a known zone of mineralization by means of a horizontal drill hole. This hole was drilled, in spite of numerous difficulties, to a depth of 630 feet.

### CONCLUSIONS

The facts indicate clearly that Helicon spared no effort in a determined attempt to uncover an economic occurrence of copper. Indeed, from the writer's perusal of the various documents at his disposal, it would appear that there is little likelihood left that such a deposit exists in Eureka Peak.

The Eureka Peak type of mineralization occurs elsewhere in the Cariboo but nowhere does it constitute an economic deposit and, hence, not too much can be said concerning the possibilities of finding an economic deposit of this nature, i.e. relatively massive sulphides containing copper and possibly nickel in a basic-ultrabasic environment.

Beyond additional careful prospecting in the hope of finding much better mineralization than that discovered thus far, the writer can offer no suggestions with regard to further exploration of the EN property. In view of the amount of work done, the results have to be classed as disappointing and the remaining possibilities are not encouraging.

GEOLOGY

The ridge of Eureka Peak is the axis of a northwesterly plunging syncline. Thus the ridge is composed of the youngest rocks of the area, consisting of volcanics and sediments of late Triassic and/or early Jurassic age. These rocks rest on a black phyllite-argillite sequence that may be as much as 8,000 feet thick in places.

There are no intrusive masses of any size in the area although local geological maps and property reports refer to diorite, quartz diorite, gabbro, pyroxenite, and augite porphyry. For the most part, these rocks are probably metamorphosed volcanics or closely related as sills, dykes, etc. An important point, however, is that there are no granitic masses of any consequence on Eureka Ridge.

J.A. Coates refers to a basic to ultrabasic intrusive on the northeast that is "at least 4,500 feet wide and possibly several miles long". This is bordered on the southwest by a zone of rusty weathering rocks - "foliated rocks of low metamorphic grade" - that are probably greenstones in the main.

### MINERALIZATION

Sulphide mineralization occurs in the rusty rocks bordering the "basic to ultrabasic intrusive". It consists of pyrite and pyrrhotite which occur as disseminations and fracture fillings. In places the iron sulphide content may be as much as 20 per cent of the rock but generally it is much less. Apparently the sulphide content increases toward the "basic-ultrabasic rocks"; moreover, it is restricted to within 1/4 mile of these rocks.

The copper mineral is almost entirely chalcopyrite. Malachite is rare.

The core from the drill hole was classified as a pyroxene porphyry. From 0 to 325 feet the pyrrhotite: pyrite: chalcopyrite ratio is roughly 10:1:1 whereas from 325 feet to 375 feet, pyrite is the dominant sulphide. Thereafter there is a slight increase in chalcopyrite to the end of the hole but it does not reach as much as 0.15% copper.

No mention is made of nickel assays but it is presumed that assays were run for this metal. Certainly the nature of the mineralization and of the geologic environment warrant that this be done.

COMPARISON OF EUREKA PEAK AND CARIBOO BELL AEROMAGNETIC ANOMALIES

There are two magnetic anomalies on Eureka Peak, a southerly prominent one and a northerly, much less prominent one.

These two anomalies and the Cariboo Bell anomaly all occur over high ground. The Cariboo Bell anomaly is centred somewhat south of the summit of Mt. Polley; the Eureka north anomaly peaks between 5,500 and 6,000 feet on the east side of a higher ridge and the Eureka south anomaly peaks similarly on the southeast side of the ridge.

The Cariboo Bell and Eureka south anomalies are similar in shape and in areal extent (2.6 x 1.7 miles). They are also very similar in their intensity above the regional magnetic background — (1000-1050 gammas). The Eureka north anomaly is of a very different shape (the other two are oval whereas Eureka north is linear) but its areal extent is mathematically comparable. The intensity above regional background of the Eureka north anomaly is only one quarter that of the other two.

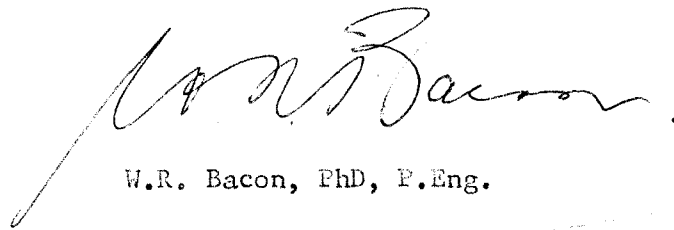
The Cariboo Bell anomaly is a strong peak over a high magnetic background whereas Eureka south occurs over a relatively low magnetic background. The latter is in an area of relatively simple magnetic structure and the former occurs in a large complex belt of magnetic anomalies. These facts constitute the main differences between Cariboo Bell and Eureka south anomalies. Otherwise they are

similar and, lacking knowledge of their geological setting, it would be difficult to classify one as more favourable than the other from an exploration standpoint.

As noted above, the Eureka north anomaly is much weaker than the other two and linear in form. (It would be of some interest because of its occurrence at the contact of sediments and volcanics.)

Respectfully submitted,

BACON & CROWHURST LTD.

A handwritten signature in cursive script, appearing to read 'W.R. Bacon', is written over a diagonal line that extends from the bottom left towards the right.

W.R. Bacon, PhD, P.Eng.