



British Columbia Geological Survey Geological Fieldwork 1979

EXPLORATION FOR GOLD IN THE BLACK DOME MOUNTAIN AREA

(920/7E, 8W)

By B. N. Church

INTRODUCTION

The Black Dome gold prospect, 70 kilometres northwest of the town of Clinton, is accessible by motor vehicle on dirt road from the suspension bridge crossing the Fraser River near Gang Ranch.

The history of prospecting in this area began with the discovery of gold-bearing quartz veins close to the summit of Black Dome Mountain in 1947 by L. Frenier. Empire Valley Gold Mines Ltd. gained control of the property in 1952 and completed underground testing of the vein system. In 1953 Silver Standard Mines Limited secured an option and continued exploration by drilling and bulldozer stripping. Following marked increases in the price of gold in 1977, another period of activity was initiated by Barrier Reef Resources Ltd. and this continues to date under the consolidated ownership of Blackdome Exploration Ltd.

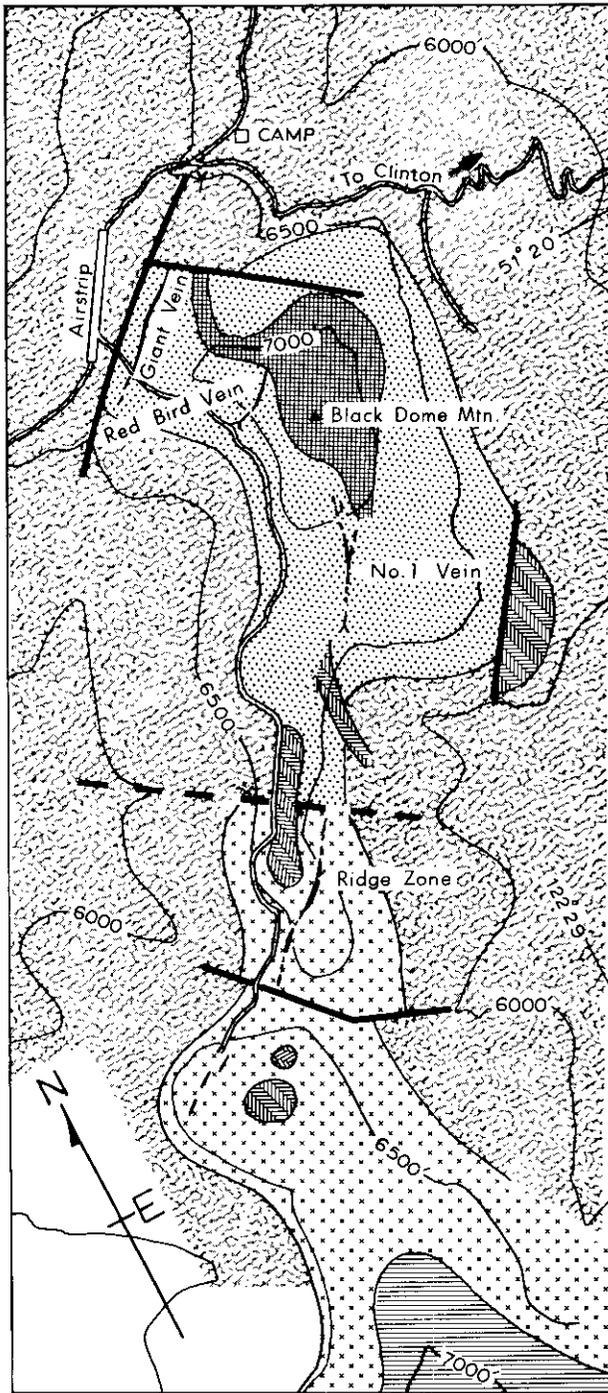
GEOLOGY

The rocks underlying Black Dome Mountain are almost entirely volcanic in origin and range in age from Eocene to Pliocene according to Tipper (1978). Host rocks for the mineralization are mainly hornblende andesite in the central and northern sections of the property and flow-banded rhyolite and breccias in the south Ridge zone (Fig. 14). Aphyric andesite and dacite lavas are peripheral to the map-area and form a thick base to the local Tertiary volcanic pile. Dacitic andesite lavas and dykes postdate the principal mineralized units in the southern part of the property. The youngest rocks are olivine basalt dykes, lavas, and agglomerate forming the summit of Black Dome Mountain.

MINERALIZATION

Exploration to date has centred on three veins or vein systems known as the Giant vein, Red Bird vein, and Ridge zone—No. 1 vein. These are steeply dipping quartz and carbonate-filled fractures striking north-east between 030 to 040 degrees.

Empire Valley Gold Mines Ltd. has conducted much of its work in former years on the Giant vein and Red Bird vein which occur *en echelon* on the northwest shoulder of Black Dome Mountain. Giant vein, which has been exposed over a length of 800 metres, is mostly less than 1 metre wide and consists of quartz stringers, quartz and carbonate lenses, and breccia with minor amounts of auriferous pyrite. For the most part low values have been obtained on this vein, however, A. J. Skiber (Assessment Report 4549) quotes an assay result showing 5.8 ppm gold and 10.2 ppm silver from a narrow quartz lead which appears to be a continuation of Giant vein to the southwest. The Red Bird vein, located southeast of Giant vein, has a length of only a few hundred metres and is intersected by dykes at its northern and southern extremities. Red Bird vein is characterized by jasper accompanying milk quartz and carbonates in fillings and a small amount of visible gold.



LEGEND

PLIOCENE ?

 BLACK DOME VOLCANIC CENTER
OLV. BASALT LAVA, AGGLOM., ETC

MIOCENE ?

 APHYRIC DACITE

 DACITIC ANDESITE DOMES, ETC.

EOCENE ?

 FLOW BANDED RHYOLITE LAVA
AND SOME BRECCIA

 HORNBLLENDE ANDESITE

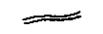
 MOSTLY APHYRIC DACITE,
ANDESITE, AND SOME BASALT

SYMBOLS

 FAULT, LINEAMENT

 VEIN SYSTEM

 PORTAL

 ROAD

 6500' CONTOUR INTERVAL

SCALE

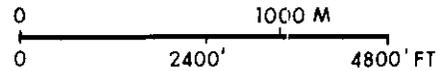


Figure 14. Geology of Back Dome Mountain.

Silver Standard Mines Limited has focused its attention in previous years primarily on No. 1 vein which is located on the southeast shoulder of Black Dome Mountain. This so-called vein is actually an assemblage of splayed quartz stringer, lenses, and silicified breccia which carry promising precious metal values. According to company reports, a section of the southern tail of No. 1 vein assays on the average 9.0 ppm gold and 64 ppm silver over an average width of 2.3 metres and a length of 130 metres.

At present the Ridge zone is the main target of Blackdome Exploration Ltd. This zone follows the southwest spur of Black Dome Mountain aligned more or less with No. 1 vein but separated from it by several hundred metres of rather barren andesite and crosscutting dacite dykes. The section of the Ridge zone of apparent economic potential and current prime interest lies within a pod of silicified breccia in rhyolite measuring 400 metres in strike length and from 1 to 30 metres wide. According to company reports 15 drill intersections here give an average grade of 18 ppm gold and 138 ppm silver across 2.3 metres.

It is anticipated that to define an ore deposit in this area, underground drifts may be required from a point lower on the flank of the Ridge zone to test the vertical continuity of higher grades, with the knowledge that previous work on the property has shown the veins to be of low economic potential beyond the rhyolite formation.

REFERENCES

- Minister of Mines, B.C., Ann. Rept., 1948, pp.92-95; 1954, pp. 98-100.*
B.C. Ministry of Energy, Mines & Pet. Res., GEM, 1973, p. 268; Assessment Reports 4549, 6692, 7161.
Tipper, H. W. (1978): Taseko Lakes (92O) Map-Area, *Geol. Surv., Canada*, Open File 534.