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REPORT ON TABLE MOUNTAIN, TELKWA RANGE, B.C.

by

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INTRODUCTION

The following report describes the results of a brief examination of the Table Mountain area, where extensive work was done during the 1969 field season (see report on Takla-Babine Project, 1968, by D.H. Brown for location and background. In particular, reported areas of Cu and Mo geochemical soil anomalies and a purported aeromagnetic anomaly were examined. A geological map of the area anomalously high in Cu was made.

GENERAL GEOLOGY

Table Mountain is underlain by essentially flat lying Hazelton(?) volcanic and sedimentary rocks. These can be subdivided into units similar to those recognized at Deny's Ck. (see report on Deny's Ck and Loring Ck. showings by U. and D. Kretschmar, 1969), but were sufficiently different to warrant separate description.

A thin sedimentary sequence occurs inthe stratigraphically and topographically high area on top of Table Mountain. This sedimentary section includes calcite cemented conglomerate, fossiliferous graywacke and a basalt flow with silicified fossil tree trunks. Two independent estimates of the age of this sedimentary sequence have recently been obtained. R.V. Kirkham (personal communication) reports a Lower Jurassic (Sinemurian) age, which agrees exactly with the estimate of R. Vicencio of McMaster University, who obtained a Sinemurian to Toarcian age.

The implications of this Lower Jurassic age are considerable. Briefly, the Hazelton volcanic rocks were considered to be Middle to Upper Jurassic age by Duffell and Souther in the Terrace map area and this has generally been the accepted age, whereever rocks mapped as Hazelton occur.

A lower Jurassic age for the rocks of the Table mountain area thus implies either that these rocks are not Hazelton Group, or that the Hazelton Group extends to Lower Jurassic Age. Furthermore, the quartz monzonite pluton at the core of the Telkwa range may then be older than previously suspected, which in turn may have considerable implication on metallogenetic and exploration.

Several small faults were found. The displacement of these is minor, but usually they show good topographic expression. The fault in the central portion of the map area, between the two adits is not projected to the East (as it was on R.H. MacMillan's 1968 map), since there is absolutely no topographic expression of it and also since there is a gradational contact between the fine-grained green andesite with calcite filled vesicles to the N and the red lapilli tuff to the S of this faullt.

About three ft. of fault gouge consisting of brecciated andesite with calcite cement can be seen very close to the southernmost adit, but the displacement also seems to be minor.

MINERALIZATION

Mineralization was noted in several pits, two adits and along the steep cliff on the W. side of the area covered by the accompanying map. Pyrite, magnetite, hematite and minor sphalerite and chalcopyrite were noted. These minerals are found almost everywhere on Table Mountain, but in somewhat greater concentrations in the pits and adits which are at rhyolite (or dacite) and fine grained green andesite contacts and near faults or dikes. As at Deny' Ck. and Loring Ck., the andesite seems to have been more susceptible to mineralization than the rhyolite. Magnetite, hematite, a little pyrite, sphalerite and minor chalcopyrite occur in epidotized andesite in pits 1, 2, and 3. Quartz and calcite in various proportions always accompany these minerals. In pit 4, massive cubic pyrite in a rhyolite or very siliceous limestone predominates. Dissemintated pyrite and minor chalcopyrite also occur. Several pelecypods that had been wholly or partly replaced by pyrite were found as the only evidence that the sequence in that location had a sedimentary affinity.

Small amounts of malcahite were found in most pits but goethitic iron stain was more common and very extensive.

In adit 1, small amounts of pyrite, red-brown shpalerite, chalcopyrite and magnetite with calcite, dark green actinolite and epidote can be seen. Pyrite, sphalerite and some magnetite are found in less epidotized andesite in quartz lined amygdules. Some calcite veinlets cut the rocks randomly.

Near adit 2, rhyolite and epidotized andesite are mineralized with pyrite, magnetite and minor cp. Fairly extensive iron oxide stain and minor malachite mark a zone of alteration ahd shearing which is probably associated with the faultebetwean adit 1 and 2.

DESCRIPTION OF THE ROCK UNITS

Vesicular Green Andesite

The rock s of this unit are fine grained, green and often limy. They contain elongated (eliptical) ve icles up to 30 mm long with pink and white calcite. Locally pyroclastic fragments may be present. as well as a few rounded pyroxene phenocrysts up to 1 or 2 mm in diameter. The weathering color is grey.

This unit is transitional to the red lapilli tuff over a distance of several feet, in one locality.

Epidotization of this unit is accompanied by magnetite, pyrite quartz and some sphalerite. Thin interbeds of fossiliferous tuffaceous grey dolomite were found locally.

Red to Grey Lapilli Tuff

This distinctive unit is andesitic in composition, but locally may be rhyolititc. Fragments have variable composition and are up to 25 mm in diameter. Generally they are angular and often greenish in color (chloritic) and soft. White, euhedral (K-spar) feldspar are the only phenocrysts. The weathering color is reddish brown to grey.

Purple Dacite

This unit is variable and contains beds of rhyolite and andesite. Locally it is epidotized. The matrix is fine-grained to aphanitic, dark grey to purple in color and is generally soft and andesitic. Quartz phenocrysts are everywhere present, but not abundantly. Locally there are euhedral feldspar phenocrysts and the unit may locally grade to a lapilli tuff.

Phyolite

This rhyolite is similar to the rhyloite of Loring Ck. It is very fine grained to aphanitic, has a dark grey to almost white lolor on fresh surface and weathers white. Locally there are epidote blebs and pervasive epidote alteration locally predominates.

Granodiorite

A granodiorite sill was found in only one location, near pit 4, but granodiorite dikes are abundant and form a dike swarm in the N. part of the map area. Feldspar, honblende, rare quartz phenocrysts are set in a fine grained white, locally reddish colored quartzo-feldspathic matrix.

Felsite

A fine grained to almost aphanitic white to cream colored felsite sill intrudes rhyolite and dacite for a considerable distance along strike. Locally it swells and pinches at its eastern end and cuts bedding to turn into a dike. Texturally it closely ressembles rhyolite, and is similar to the felsite dike encountered in Loring Ck.

GEOCHEMICAL ANOMALIES

Soil samples eith more than 200 ppm Cu and/or 40 ppm Mo were considered to be anomalous (Mo background approx. 3 ppm and Cu background approx. 20 ppm). The main anomalous area extended for about 3000 ft in a N-S direction between line 50 and 80 and to the W. of the base line and the steep cliffs at the rim of the mountain. This is the area covered by the geological map. Examination of this area and many of the exact locations where samples were taken during the 1969 survey shows the Cu geochemical to be due to:

1. proximity of bedrock to surface (i.e. insufficient development of soil)
2. proximity of slightly mineralized andesite-rhyolite contacts and faults
3. improper sampling (almost invariably samples were taken of the leached A horizon.)

The Mo geochemical anomalies can be partly explained by noting that they occur in topographically low areas where Mo might accumulate. The anomaly at the top of Table Mountain near the survey station, however, is not. The only similarity between the two anomalous areas is that they are near a sedimentary-volcanic contact. The sediments include somewhat more permeable

conglomerate beds which might have acted as channel ways for dilute Mo-bearing solutions associated with Mo bearing granodiorite which are found in Loring Ck.

A diorite or latite dike which spreads out into a sill at the top of Table mountain near the survey station contains calcite veins that are 1 to 3" wide and do not appear to carry any metallic mineralization. This dike-sill is the only intrusive in the are of the Mo anomaly and is seems worthwhile to assay it for Mo.

The areomagnetic anomaly

Near the eastern edge of the lines surveyd in 1968, around line 78, stretching for about 1800 ft. in a N-S direction is an aeromagnetic high. The area was briefly examined but no obvious reasons for the high could be discerned. No magnetite was found in the rocks, and no erratic complass behavior was noted. The area is underlain predominantly by a red lapilli tuff, which may have a somewhat higher Fe content than the adjacent a andesite.

CONCLUSIONS AND RECOMMENDATIONS

The immediate area of Table Mountain appears to have little economic potential. Further effort in this area should concentrate on the small granodiorite pluton in Loring Ck. valley below Table Mountán. as has been recommended in the Loring Ck. report.

McGill University
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Oct. 16, 1969

S.N. Charteris, Esq.
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Vancouver , B.C.

Dear Stan:

Rather than let it go any longer, I've put together the Table Mountain report as is, in the hope that it will still be of some use.

We would appreciate it very much if you would let us have copies of our maps, for personal reference only. We're also very interested in Ron's report on the seanson's activities, but perhaps it's too much to ask to see it.

Please thank Frieda for doing such a good job on forwarding our mail.

Best wishes,

Ulrich and Dianne Kretschmar

Please extend our
Greetings to Roy H. also