GEOLOGICAL SURVEY OF CANADA

Open File 298

COPPER MINERALIZATION IN REDSTONE RIVER AREA, NORTHWEST TERRITORIES

The Copper Cap and Redstone River formations, which are part of the Proterozoic succession of the Mackenzie Mountains, are known to contain copper mineralization (see Geol. Surv. Can., Memoir 366, p. 113). During the course of field work this summer, an area (30 km by 3 km) underlain by these two formations was observed, an area that had not been recognized in earlier reconnaissance work. The Proterozoic stratigraphy of the region (i.e. north of Redstone River, west of the Plateau Fault) is shown in the following table.

Lower Rapitan Group - dark red-maroon siltstone, sharpstone conglomerate

Copper Cap Formation - dark grey, thin bedded limestone, limestone conglomerate, cherty laminated dolomite

Redstone River Formation - red carbonate conglomerate, red mudstone and siltstone, some gypsum veins

Little Dal Formation - dolomite, siltstones

Tigonankweine Formation - green siltstone and quartzite

The distribution of the hitherto unmapped Copper Cap and Redstone River formations is shown in Figure 1.

Copper mineralization was observed in a zone of fine grained, greenish grey clastic rocks interbedded with limestone along the basal part of the Copper Cap Formation between point A (127°05'W, 63°14'N) and B (127°01'W, 63°18'N) for about 6 km along the trend. Data are not available at present on the grade and thickness of the copper-bearing material and therefore there is no evidence that the occurrence is of economic value. Nevertheless the combination of the presence of a newly recognized area of the Copper Cap Formation and the observation that at least some copper mineralization occurs is worthy of note. It should be emphasized that the copper mineralization may have been examined by exploration geologists and prospectors, although no evidence of such activity was observed in the area examined by Geological Survey personnel.