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9. BARYTES AND MANGANESE NEAR GUILDFORD

by K. L. Burns

LOCALITY

The prospect under consideration occurs in the A.P.P.M. forest on the Black Marsh Road immediately west of the "Hummocky Hills" and about 2 miles north of the Medway River and the old township of Burleigh.

GEOLOGY

The Hummocky Hills form a cuesta in Ordovician conglomerate dipping west. The mineralization occurs in Cambrian rocks underlying the conglomerate.

The Cambrian sequence includes, at the base of the section, at least 100 feet of purple keratophyre, with phenocrysts of plagioclase and green ferromagnesian minerals and zeolite filled steam holes. This is followed by about 500 feet of green siliceous rocks, considered to be mainly tuff, at the base of which is about 30 feet of highly feldspathic coarse tuff, overlain by laminated feldspathic mudstone. Above this the two rock types alternate, and are associated with a tough, coherent, fine grained rock, semi-translucent in parts, with a strongly developed fabric due to alignment of flakes of a green mineral. This rock may be an acid lava, and the fabric a flow structure. Conformably above the green tuff is at least 50 feet of black and white, finely laminated, fissile, argillaceous siltstone, resembling the siltstone interbedded with chert in other localities.

The Cambrian rocks form a stratified succession dipping conformably north at about 50 degrees. There is evidence of a swing in strike just east of the road, due to a fold or series of crossfaults.

The most prominent faults are shears with curving fault planes. They have very irregular surfaces, with a thin layer of possibly chloritized or serpentinized sheared rock along them where they pass through the green tuff. There are many other large joints or faults which have brecciated the rock without shearing.

MANGANESE MINERALIZATION

Manganese occurs as a bedding replacement within the laminated siltstone described above. The deposit is low grade.

BARYTES MINERALIZATION

A small vein heavily stained with limonite was observed in trench I. This is about 6 inches wide at the top of the trench, pinching out to nothing in five feet depth. The mineralization is replacement of gouge in a fault horse in the coarse feldspathic member of the green tuff. Twenty feet north, in higher beds, the mineralization has disappeared, the fault appearing as a barren surface with a little limonite dipping 80° NW and striking 217° magnetic.

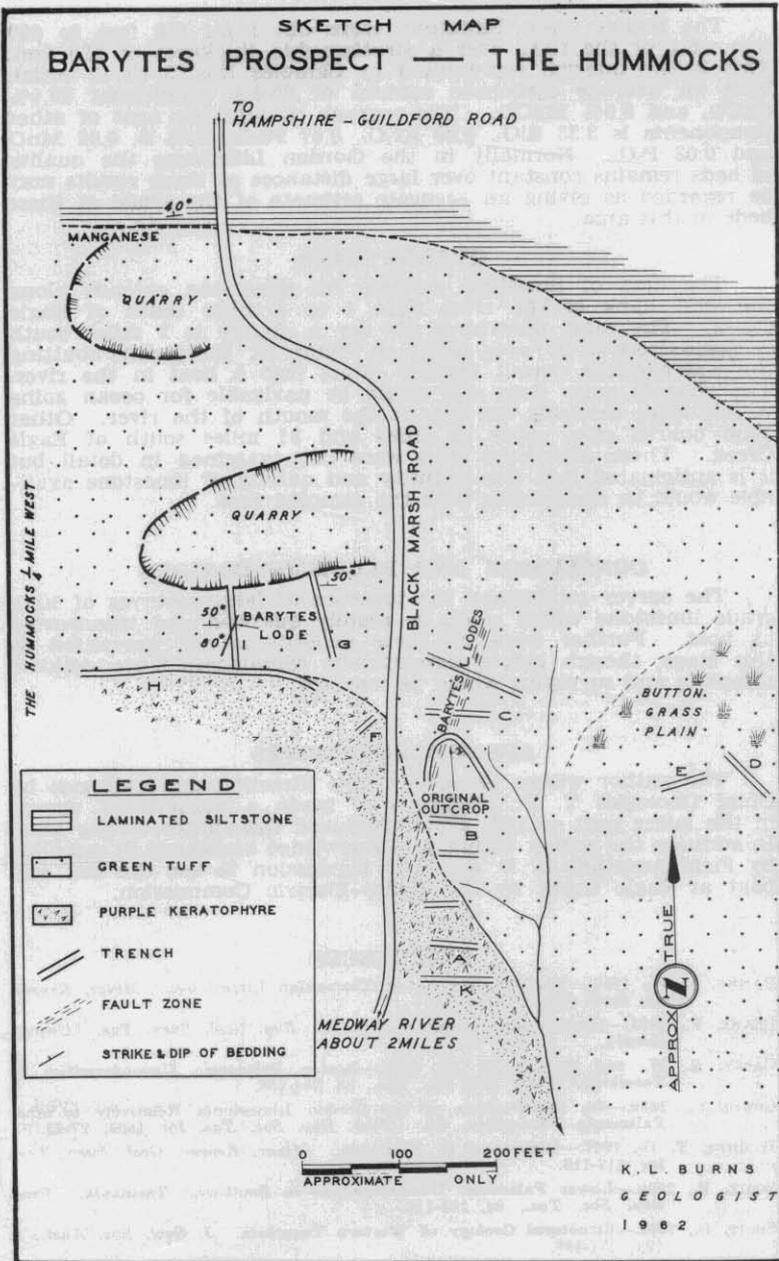


FIGURE 14.

5 cm

The major deposit occurs in a fault zone, fold hinge or both, striking near 215° , which lies just east of the road. The original outcrop consisted of boulders scattered over a small hillock. A trench was driven around the outcrop, in a horse shoe opening south, in early attempts to find the lode. The trench exposed a white friable soil derived from weathering of the coarse tuff, with plums of barytes, but was not deep enough to define the lode. Similarly with trenches A to B, and C, cut in the current exploration. (See Figure 14).

The deep trench No. J, about 100 feet long, cut three lodes which are the main deposit. The westernmost averaged 2 inches wide, and trends at 355° . The easternmost averages 8 inches wide, and trends at 350° . A cross lode of variable width up to 8 inches trends at 090° , terminating on the eastern lode. The lodes are vertical, and on a broad scale appear as an irregular stock-work infilling joints or small faults in a fault zone crossing the green tuff.

The barytes is transparent, coarsely crystalline, almost free of iron, with small specks of pyrite.

CONCLUSIONS

This deposit is of high grade, but of limited extent. Although the deposit is uneconomic, mapping of the deposit, and petrological examination of the green tuff, are warranted as guides to future exploration in this region.