

Beds and bands of greenstones, probably largely of pyroclastic origin, occur with the argillites and constitutes the country rock of the second ore body. Both argillites and greenstones are always more or less altered, and in places pass into mica, quartz mica, and chloritic schists. The bedding is coarse, and while a strong cleavage is developed in spots, the bedding planes over most of the area constitute the principal partings. The beds have been compressed into several folds, and, in places, dip steeply, but are seldom, in the section examined, overturned, and no large faults were observed. The strike, while generally east and west, shows considerable variation in places.

The argillites and associated rocks are exposed over an area about 9 miles wide, where cut by Observatory inlet. They are surrounded by the granite rocks of the Coast range and are considered to be an undestroyed and deeply sunken portion of the old roof of the Coast Range batholith. The basin they occupy is of great depth, as the sedimentary rocks of the inclusion are exposed from base to summit of mountains over 5,000 feet in height, and they must extend for a considerable depth below the present surface.

The argillites are cut by numerous dykes, one set being older than the mineralization of the region and genetically connected with the enclosing granitic rocks. These vary widely in character and include granitic, dioritic, quartz porphyry, aplitic and pegmatitic types. In addition to these, a second widely distributed set occurs, the members of which were intruded after the mineralization of the region. These are fine to medium grained basic dykes often of a lamprophyric character. Thin sections from examples cutting Mammoth bluff showed laths and occasional phenocrysts of feldspar, mostly plagioclase, with abundant brown hornblende in long prisms and occasional plates of mica. Rounded irregularly bounded quartz grains, possibly of foreign origin, are also present, and large calcite areas probably representing original olivine are of frequent occurrence. A second type obtained from a dyke crossing the main tunnel of the Hidden Creek mine between the two ore bodies, contained large olivine and augite phenocrysts in a fine-grained hornblende-feldspar base and is classed as an olivine basalt. A third type, represented by a dyke crossing the Relving, consists mainly of hornblende and plagioclase and possesses a well marked ophitic structure.

The later dykes may be connected with a basaltic flow which caps the hills south of Alice arm. They do not appear to affect in any way the ore bodies they cut.

WORKINGS.—A large amount of surface and underground work has been done on the Hidden Creek mine. The mineralized area is very large and was first outlined roughly by long