Basic Rocks

The brecciated basalt containing gabbro clasts in a basaltic matrix, along the faulted eastern contact of the Serpentinite Complex, is extensively altered. In Costean 1000 it has been altered to a quartz-epidote-actinolite assemblage with veins of epidote, quartz and fibrous actinolite. In the Ring River the rock has been altered to a tremolite-chlorite-plagioclase amphibolite. Away from the contact zone, the basic rocks are amphibolitised with tremolite-actinolite-chlorite assemblages developed, along with minor quartz and epidote. The basaltic matrix to the volcanomict conglomerates is amphibolitised, while the argillaceous matrix is hornfelsed. Interbedded argillaceous rocks have been metamorphosed to flinty argillites. Axinite has been mapped in Costean 1000N and in the Ring River as a crystalline mineral in vugs within basaltic rocks.

At Grid 4, the gabbro and granophyre of the Basaltic Complex is seen to be extensively altered with tremolite, phlogopite and chlorite replacing the mafic minerals. The rock is almost dioritic in composition where quartz has been introduced and, where schistose, the assemblage is talc-chlorite-quartz. Hydrothermal alteration is extensive in this area although the assemblage of minerals is suggestive of low temperature solutions.

Sedimentary Rocks

Metasomatic phases comprise tremolite-actinolite, chlorite, phlogopite, carbonate, tourmaline and prehnite, sphene and sulphides. Generally the metasomatism is most marked in the relatively coarse grained layers, the beds of greywacke, sandstone, tuff and siltstone. The coarser layers were presumably more permeable for the hydrothermal fluids, and the detrital grains more chemically reactive. The ideal rocks are carbonates such as those at the Renison Mine, as such rocks, in addition to being permeable and porous, are also readily dissolved by acid solutions and are chemically reactive. No sedimentary carbonates have been mapped at GAP, but the carbonates formed from the process of

....33