

is observed the individual mineral foliae, composed of orthopyroxene or variable ratios of olivine and orthopyroxene, vary from several metres to a few millimetres in thickness. The layering strikes NW to WNW with medium to steep dips to the SW. In general the trend of this layering is transverse to the Ring River Fault (which defines the western margin of the complex) and to the basalt/dolerite contact in the east. Assuming that there has been neither repetition or elision through faulting, the ultramafics in the area under study have a thickness in excess of 900m.

The rock types exposed on the grid lines are now largely converted to various serpentine mineral species, probably dominated by the compositions lizardite and clinochrysotile (seq. Rubenach 1974, Table IV). Although largely serpentinised it has, from the point of view of field mapping, been possible to subdivide the rocks into dunite, harzburgite, and pyroxenite using the weathering characteristics of the rocks. In highly sheared or schistose zones the original mineralogy has largely been obliterated and the resulting rock has been mapped as serpentinised or sheared ultramafic. Two types of sheared ultramafic rock have been recognised:

dark green serpentinite (e.g. 2000N, 3500E)

bright medium green serpentinite (e.g. 2700N 00E)

The former type is probably derived from sheared serpentinised dunite, with in places the segregation of secondary magnetite on the foliation planes.

The second type is, at least in some cases, derived from pyroxene-rich rocks (see Rubenach, 1974 - Table II, No. 38806). One unusual specimen (T8630; TL 1105m) is a particularly tough dark green serpentinite, located on the contact with the Ring River Fault. In thin section the rock is composed of subspherulitic aggregates of serpentine (antigorite?) 10-50 microns across with accessory scattered sulphedral opaque grains 30-200 microns across. The presence of antigorite is suggestive of somewhat elevated temperatures of formation, possibly representing contact metamorphic effects from near by equivalents of the Pine Hill Adamellite. This suggestion receives further credence from the presence of quartz-tourmaline intrusive rocks along the Ring River Fault (see below). The NE extension of the Ring River Fault has been identified are L2600N 3510W by the presence of carbonated schistose serpentinite. This altered pyroxene bearing dunite (T8635) has a schistose appearance with prominent aggregates of granular carbonate scattered through the rock.

In some parts of the Serpentine Hill Complex feldspar is present and gives rise to feldspathic pyroxenites or microgabbros in more extreme cases, especially on the Ring River road on L2800N. These rocks as a whole, appear in the field as medium to pale green, fine to medium grained and granular. In some cases the microgabbros show faint layering as defined by thin whitish layers or patches of altered feldspar. Where measured, this layering in the microgabbros, strikes between north and ENE in sympathy with the strike of layering in the feldspar absent ultramafics. This observation alone strongly suggests a close genetic and temporal relationship between the microgabbros, pyroxenites, harzburgites and dunites. In thin sections where feldspar occurs (T8628, T8629) clinopyroxene is often also present and the rocks vary from feldspar-bearing websterites to two-pyroxene gabbros. Texturally many of these rocks are granoblastic. Alteration minerals include clinozoisite, sericite,