

enstatite from  $En_{90}$  to  $En_{82}$ , and feldspar from  $An_{98}$  to  $An_{92}$ . The range in measured optical properties of clinopyroxene is small, suggesting only a small variation in chemical composition. Challis's (1965a) detailed mineralogical studies of rocks from the vicinity of the south-western contact showed similar slight variation in composition—olivine from  $Fo_{92}$  to  $Fo_{89}$ , and enstatite from  $En_{91}$  to  $En_{88}$ .

There is no significant variation in composition of minerals from rocks of the same type from different parts of the Complex; thus olivine and orthopyroxene in the harzburgites of the Basal (e.g., 10955, 10965, 10967) and Upper (e.g., 10957, 10966, 10970) Zones have a similar range in composition. However, the more iron-rich olivine and orthopyroxene and the more sodic feldspar (though still anorthite in composition) occur in the eucrites high in the Upper Zone. Mineral composition may be correlated with rock type therefore, but it shows no correlation with position in the Complex.

### *Rock Types*

The nomenclature used for rocks in the Red Hill Complex composed of olivine, orthopyroxene and clinopyroxene is summarised in the triangular diagram of Fig. 3. Subordinate amounts (less than 10 percent) of a mineral are indicated by

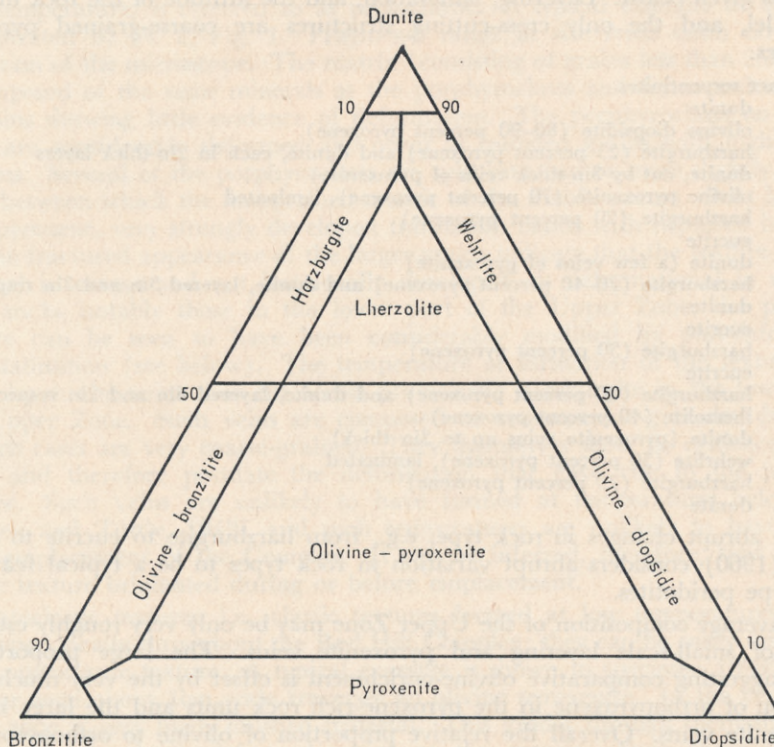


FIG. 3.—Classification used in this paper for rocks composed of olivine, orthopyroxene, and clinopyroxene.

adjectives, e.g., diopsidic harzburgite. Spinel is, however, a constant accessory in the peridotites and is not normally referred to. Rocks containing subordinate feldspar are distinguished as feldspathic. Rocks containing essential (greater than 10 percent) feldspar and clinopyroxene are termed eucrites (the feldspar is invariably very calcic). The eucrites generally contain some olivine and orthopyroxene and those containing a higher proportion of olivine than feldspar are termed olivine