between 800^{o}C and 1200^{o}C) for NM5 composition. However, we recognized the limitations of our data in defining accurate slopes for the phase boundaries and application of our estimates of precision in P,T measurement would allow slopes of 18-36 bars/^{o}C between 1000^{o}C and 1250^{o}C for the boundary marking the outgoing of plagioclase. Thus we did <u>not</u> take 27.5 bars/^{o}C as the slope of the plagioclase-out boundary and in fact devoted considerable discussion (Ringwood and Green 1966, p.399-402) to the extrapolation of our experimental boundaries to lower temperatures. We noted that both the incoming of garnet and outgoing of plagioclase are complex reactions involving solid solutions of plagioclase, pyroxenes, olivine and garnet. The net result of this discussion was the extrapolation of the plagioclase-out boundary at 24 bars/^{o}C - this is illustrated in figs. 1 and 4. Ito and Kennedy (1971) argue that the slope for the simple system reaction albite → jadeite + quartz is now well determined at 20 bars/^{o}C and that this slope is consistent with their data on the outgoing of plagioclase in NM5. Accordingly, the outgoing of plagioclase boundary for NM5 is extrapolated at 20 bars/^{o}C in Fig. 4. Ito and Kennedy's argument, that where the outoing of plagioclase is due to the pyroxene$_1$ + plagioclase → pyroxene$_2$ + quartz reaction, then the 20 bar/^{o}C slope should be applied, is only an approximation. Thus the plagioclase present is not pure albite and its disappearance involves coupled reactions. The anorthite component either reacts with enstatite solid solution in the clinopyroxene to yield garnet + quartz or alternatively breaks down to yield grossular solid solution + kyanite + quartz (as in the compositions studied by Green, 1967; see also Table 2).

The approximation suggested by Ito and Kennedy for extrapolation of the gabbro to eclogite boundaries has been applied in figure 4 as it is based on at least as good arguments as the 24 bars/^{o}C slope used in our earlier work. Thus the garnet-granulite → plagioclase eclogite boundary for NM5, which is equivalent to the disappearance of plagioclase in the rock composition of Table 1, column 2, has been extrapolated and intersects the temperature axis at 100^{o}C. Extrapolation of the plagioclase-out boundary for quartz tholeiite B (2 in Fig. 4) at 20 bars/^{o}C would give an identical lower boundary to the eclogite field. A similar exercise could be carried out for plagioclase disappearance in compositions 1-10 (Fig. 2, Fig.4). It is seen from Fig. 4 that the temperature on the garnet granulite to eclogite boundary at a pressure corresponding to the base of the normal continental crust (10kb) is 600^{o}C if the extrapolation at 20 bars/^{o}C from Ito and Kennedy's experimental data is followed* (compared to 670^{o} from the Ringwood and Green (1966) extrapolation). If the temperature at the base of the stable continental crust is <600^{o}C, then eclogite would be the stable mineralogy of quartz tholeiite B composition throughout the continental crust. Similarly, quartz + plagioclase eclogite or quartz eclogite (± kyanite) would be the stable form of NM5 basalt, the high alumina basalt (1) or andesite (9) throughout the continental crust. The discussion and argument of Ringwood

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* The temperature for the garnet granulite to plagioclase eclogite boundary is 530^{o}C at 10kb if the 18 bars/^{o}C slope of Ito and Kennedy (1971, Fig. 4) is used. However, this slope is arbitrary whereas Ito and Kennedy have presented a reasoned argument for the 20 bars/^{o}C slope. If this reasoned argument is not accepted then the only relevant experimental data are those on quartz tholeiite B (Green and Ringwood, 1967) i.e. 27±9 bars/^{o}C.