

These two conclusions, using arguments developed previously (Ringwood and Green, 1966), effectively eliminate the gabbro-eclogite transition as an explanation for the existence of the M-discontinuity in oceanic or stable continental crustal environments and render it highly improbable that eclogite is the major constituent rock type of the upper mantle. In conclusion, the

REFERENCES

- Banno, S. Classification of eclogites in terms of physical conditions of their origin. *Phys. Earth Planet. Interiors* 3, 405-421, 1970.
- Cohen, L.H., K. Ito and G.C. Kennedy, Melting and phase relations in an anhydrous basalt to 40 kilobars. *Am. J. Sci.*, 265, 475-518, 1967.
- Engel, A.E.J., C.G. Engel and R.G. Havens, Chemical characteristics of oceanic basalts and the upper mantle. *Geol. Soc. Amer. Bull.* 76, 719-734, 1965.
- Green, D.H., Effects of high pressure on basaltic rock pp.401-444 in 'Basalts': The Poldervaart Treatise on Rocks of Basaltic Composition (H.H. Hess and A.E. Poldervaart, Eds.) Vol. 1, 1967. Wiley-Interscience (N.Y.)
- Green, D.H. and W. Hibberson, The instability of plagioclase in peridotite at high pressure. *Lithos* 3, 209-221, 1970.
- Green, D.H. and I.B. Lambert, Experimental crystallization of anhydrous granite at high pressures and temperatures, *Jour. Geophys. Res.* 70, 5259-5268.