



**FIGURE 5** Possible thermal structure in D" (Hernlund et al. 2005). The CMB temperature may be higher than a silicate solidus and perhaps higher than a solidus temperature for MORB composition (Hirose et al. 1999), thus accounting for partial melting in the ultralow-velocity zone. The geotherm (dashed line) intersects a post-perovskite phase-transition boundary twice in D", except in hot regions, where post-perovskite may not be present.