

rolite may cause the existence of a low velocity zone, the alternate explanation of a zone of incipient or minor partial melting is preferred. The presence of this zone is inferred to result from the presence of small ($\approx 0.1\%$) quantities of water in the mantle, and from the instability of the hydrous phase amphibole at depths greater than about 80 km. The presence of a fluid, water-rich phase in limited quantity produces incipient melting well below the anhydrous pyrolite solidus. Liquids produced in this way are highly undersaturated basanites and nephelinites.

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