

Petrology and thermobaric structure of the Kokchetav UHP-HP massif in the northern Kazakhstan, central Asia

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To investigate the thermobaric structure of the diamond-grade Kokchetav UHP-HP massif, mainly eclogites in the Kulet to Saldat-Kol region in the northern Kazakhstan, were examined. The highest grade eclogites are situated in the structural middle part in the UHP-HP massif, and metamorphic pressure and temperature decrease toward both the structural upper and lower parts. The UHP-HP massif is intercalated by the lower pressure units, and a distinct pressure gap exists along the boundaries between the UHP-HP massif and the adjacent units, suggesting that the highest grade rocks have been extruded from great depths within the massif during the exhumation process, and that the whole of massif has been tectonically intruded and juxtaposed into the adjacent units at the crustal level.