

The stratigraphically highest podiform chromitite in the Oman ophiolite

Shoji Arai[1], Jiro Uesugi[2], Kazuyuki Kadoshima[3], Ahmed Hassan Ahmed Mohamed[3]

[1] Dept. Earth Sci., Kanazawa Univ., [2] Life and Earth Sci., Kanazawa Univ, [3] Dept. Earth Sci., Kanazawa Univ.

<http://kgeopp6.s.kanazawa-u.ac.jp/Arai/>

The stratigraphically highest podiform chromitite was found in the northern Oman ophiolite. It is associated with the late-intrusive wehrlite astride the uppermost isotropic gabbro and sheeted dike complex. The chromitite was formed within network-like pegmatitic gabbro, along the boundary with the wehrlite of crystal mush origin. Spinel is euhedral and relatively small in size, and has numerous mineral inclusions (mainly hornblende and phlogopites). The Cr# is around 0.6 and TiO₂ content is mostly around 0.5 wt. The mode occurrence suggests an importance of mixing of magmas, possibly gabbroic melt and interstitial melt of the crystal mush. The gabbroic melt was possibly derived from crustal materials captured by the mush.

The stratigraphically highest podiform chromitite was found in the northern Oman ophiolite. It is associated with the late-intrusive wehrlite astride the uppermost isotropic gabbro and sheeted dike complex. The chromitite was formed within network-like pegmatitic gabbro, along the boundary with the wehrlite of crystal mush origin. Spinel is euhedral and relatively small in size, and has numerous mineral inclusions (mainly hornblende and phlogopites). The Cr# is around 0.6 and TiO₂ content is mostly around 0.5 wt. The mode occurrence suggests an importance of mixing of magmas, possibly gabbroic melt and interstitial melt of the crystal mush. The gabbroic melt was possibly derived from crustal materials captured by the mush. It is concluded that the mixing of nearly primary melt (olivine-spinel saturated) and relatively Si-rich melt is essentially important for genesis of all kinds of chromitite (stratiform or podiform).