

## オマーンに産するリストベナイトの岩石学: 沈み込み帯の炭素循環の解明に向けて

### Petrology of Oman listvenite : Implications for carbon cycle in the subduction zone

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Listvenites obtained during the Phase 1 of the Oman Drilling Project can be generally divided into two main groups based on color: red series and green-white series. Although there is a clear color difference, the mineral assemblage is mainly composed of magnesite and quartz. Dolomite occurs as late veins and/or small patches. Opaque minerals are abundant in the red series which occur either as veins or disseminated grains which are commonly enveloped by carbonate minerals and quartz. The opaque minerals are hematite based on Raman spectrometry analysis. In the green-white listvenite series, opaque minerals are very scarce. Greenish portions in both listvenites were observed on a hand sample scale. In the green-white series, dark green and light green portions are present while only light green portions are observed in the red listvenites. These greenish features are interpreted as mainly polymineralic pseudomorphic replacement of orthopyroxene. In the same hole, pyroxene relics in serpentinites exhibit the same shape as with the previously described greenish pseudomorphs. The dark green portions in the green-white listvenites contain fuchsite (Cr-mica) around spinel relics. Silicified relic pyroxenes with fuchsite along relic cleavages are also present in the light green portions. On the other hand, the greenish portions in the red listvenite series are characterized by magnesite with intergranular fuchsite (?). Hematites in the red listvenites have similarities in form with the opaque minerals occurring as discontinuous veinlets in the serpentinite. The combined similarities in the petrographic features suggest that some listvenites were formed from serpentinites. Quartz veins with Ni-bearing magnesite were observed in the red series and were formed in the last stage.

キーワード：リストベナイト、オマーン掘削計画、オマーンオフィオライト、元素移動、炭酸塩岩化

Keywords: Listvenite, Oman drilling project, Oman ophiolite, elements mobility, Carbonation