

Sulfide minerals in ultramafic xenoliths from Takashima, Saga prefecture, Japan

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Some workers have investigated mineralogy and petrology of mantle xenoliths found from Takashima. These studies exhibited information of silicate minerals and P-T relationship of mantle xenoliths of this area. Furthermore, sulfide minerals have been also reported in the Takashima xenoliths (Kobayashi and Arai, 1981; Arai et al., 2001). However, these studies reveal little detailed description of sulfide minerals in Takashima xenoliths. This presentation shows occurrence and assemblage of sulfide minerals and discusses condition of their crystallizing temperature.

The ultramafic xenoliths of Takashima hosted in alkali basalt consist of pyroxenite, dunite, wehrlite and websterite. Samples used in this study, which are weakly hydrothermally altered, are dunite and wehrlite.

Sulfide minerals are mainly pentlandite (pn) and chalcopyrite (cp), and minor pyrrhotite (po) and bornite (bn). Occurrence of sulfide minerals is classified into two types: sulfide inclusions which are enclosed in olivine as rounded or bleb-like shape, and sulfides in veinlet which occur in thin vein altering olivine. The sulfide assemblages are pn-cp and po-cp-pn (sulfide inclusions) and pn-cp and pn-cp-bn (sulfides in veinlet).

Chemical compositional data will be reported and crystallizing temperature of sulfide minerals will be discussed in the presentation.