

IMPLICATION FOR VOLCANIC SUCCESSIONS AND HYDROTHERMAL ALTERATIONS OF PYROPHYLLITE DEPOSITS IN THE SHOKOZAN AREA, HIROSHIMA, JAPAN

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Pyrophyllite deposits of the Shokozan area occur in acidic volcanic rocks of late Cretaceous age. The Shokozan area (14km x 5km) is located at the northern margin of a basin with an semicircular-shaped structure which is called as the Kawakita basin plunging to the west. The geology around the Shokozan pyrophyllite deposits consists of the Houchigadawa, Kawakita and Sugawa Formations. Pyrophyllite deposits occur in the Kawakita Formation, which is composed of tuff with intercalated lithic lapilli tuff (Tl), pumice tuff (Tpl), thinly bedded tuff (Tbl), dacitic lava (Lm), vent breccia (Vm)tuff (Tm), spherulitic tuff (Tsm), medium bedded tuff (Tbu1), tuff with intercalating lapilli tuff and fine tuff (Tlu), thinly bedded tuff (Tbu2) and spherulitic lava (Lu) in ascending order. Thickness of the Kawakita Formation is more than 350 m, middle to upper parts of the Kawakita Formation have mainly undergone extensive hydrothermal activity. The Shokozan pyrophyllite deposits formed concordant with host rock consist of quartz, pyrophyllite, kaolinite, diaspore, alunite, sericite, and accompanying with corundum, andalusite, topaz. Rhyolitic tuff (Ts) of the Sugawa Formation directly overlying the Kawakita Formation is fresh. Pyrophyllite deposits intimately relate to bedded tuff of lacustrine origin, tend to occur as the layers just above the bedded tuff and as the layers intercalated between two bedded tuffs. Two horizontal formations of pyrophyllite deposits are recognized in middle to upper parts of the Kawakita Formation by the analysis of volcano-stratigraphy study. Pyrophyllite deposits of the Shokozan area were formed in near surface of