

Fracture-related hot spring system and $^3\text{He}/^4\text{He}$ ratio of hot spring gases in the southern part of the Kii Peninsula, Southwest Japan

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Though the Kii Peninsula is not located within the region associated with Quaternary volcanism, many hot springs are distributed in the southern part of the peninsula. Lineament analysis of satellite image, field investigation of fracture systems and geochemical analysis of hot spring gas have been conducted to understand discharge mechanism of hot water not related to volcanism. The results of fracture system analysis indicated that the temperature and rate of discharge of hot springs depend on the system of underground channelways such as the deep fracture system. Furthermore, the origin of hot water will be inferred from the results of chemical analysis obtained soon after.