Geochemical Modeling of long-term evolution for granitic groundwater

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To understand long-term geochemical stability at deep underground condition in Toki granitic area, we consider about water-rock interaction by thermodynamics calculation using typical granitic minerals, such as anorthite, calcite, quartz, albite and K-feldspar. pH ranges were estimated by the PHREEQC program using measured values for residence time of groundwater and mineral composition in the Toki area. This study indicates that pH values of the granitic-groundwater would be alkaline (ca. 8-10) when the meteoric water is the main source in the area.
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