

Geochemical modeling for groundwater chemistry based upon minerals information

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To understand long-term geochemical stability at the deep underground condition, we considered about water-rock interaction by thermodynamics calculation based on mineral compositions of Toki granite and proposed an analytical method for estimation of groundwater chemistry. However, the feasibility of this method has to be improved to apply other rock types in generalization. We examined the viability of this method for groundwater in limestone area. As a result of the simulation by the proposed method, groundwater chemistry in limestone area was represented by accounting for CO₂ partial pressure and reaction of calcite.

Keywords: groundwater, thermodynamics calculation, limestone area