

Genesis of hot springs in the southern Kanto Plain

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Major and minor chemical constituents, and sulfur, hydrogen and oxygen stable isotope in thirty one river, hot spring and ground waters in the southern Kanto Plain were analyzed. Based on the analytical data, we discuss genesis of the waters, and water-rock interactions to make chemical properties of the waters. The fracture-type hot springs flowed through faults are divided into Na-Cl, HCO₃, Na, Ca-Cl, Na, Ca-SO₄, Na-SO₄ types, but the rock facies-type hot springs flowed through high permeable rocks such as sand stone are divided into Na-HCO₃ and Na-Cl types. The fracture-type, SO₄ rich hot springs in the Tanzawa mountainland were formed by dissolution of gypsum and anhydrite, and cation exchange of Ca-montmorillonite. On the other hand, the rock facies-type hot spring waters were formed by mixing of fossil brine, respectively) with meteoric water. The hot spring waters seem to be formed by mixing of the deep seated fossil brine with the meteoric water flowing from the Kanto and Tanzawa mountainlands to the northeastern Tokyo bay.