

## Geochemical study of hot spring waters and gases in Jozankei area, Hokkaido, northern Japan

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Jozankei hot spring area is located in the western part of Sapporo city, Hokkaido, northern Japan. In this area, hot spring waters >85 degree C. are springing out from the entire Toyohira river valley. Total discharge rate of hot spring waters is about 10 tons/min and the "heat energy index" is rank V (Fukutomi, 1965). Hydrogen and oxygen isotopic study clarified that the major origin of hot spring water is local meteoric water (Matsubaya et al., 1978)

To understand the other origin of Jozankei hot spring, analyses of chemical compositions, hydrogen and oxygen isotope ratios were carried out for hot spring waters from Jozankei area and its adjacent area. From the good correlation among chloride ion content, oxygen and hydrogen isotope ratio of hot spring waters in Jozankei area, it is clarified that one of the end member of hot spring waters of Jozankei area is originated from magmatic fluid and chemical composition of magmatic fluid is 3-5 NaCl wt%.

(References) Fukutomi(1961)J.Fac.Sci.Hokkaido Univ.Ser.VII, 315-330; Matsubaya et al.(1978)Papers of the Institute for Thermal Spring Research, Okayama Univ., 47, 55-67.

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