

Volcanic gas from the fumarolic area created after the eruption of Usu volcano in 2000

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Usu volcano Japan erupted on 31th March 2000. After the eruption a fumarolic area was created on the northwest flank of the volcano. We sampled volcanic gases and hot spring waters discharged at the fumarolic area in June, July, September, November 2000. Based on the chemical and isotopic composition of the gas and water, we modeled the process of the formation for gas and water. In the model, a high temperature magmatic gas was assumed to contribute the formation of gas and hot spring water. The CO₂ concentration in the high temperature magmatic gas was estimated to be 7440, 5790, 5880, 5270 ppm in June, July, September, November 2000. The high CO₂ concentration in June suggests that CO₂ had been remained in magma with high content after the eruption.