

Reserch about Dokuzawa mineral spring on Shimouswa hot spring

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Only Dokuzawa mineral springs in Shimosuwa hot spring, Nagano prefecture, are strongly acidic, and there are doubts that there is a large difference in spring quality from weak alkaline hot springs in the same area, and it is hypothesized that the sources of both hot springs are different. We conducted surveys and measured oxygen and hydrogen stable isotope ratios.

From the geology and water quality survey near the Dokuzawa mineral spring, there are several locations where the pH is low due to water quality investigations, hydrothermally altered rocks, sulfur adhering to the surface are commonly seen, and at some points the odor of hydrogen sulfide is also confirmed did it. In addition, it was found from the geological map that the fault is underground. From this, it can be inferred that Dokuzawa mineral spring produced sulfuric acid by mixing volcanic gas with groundwater under high temperature and high pressure underground. In addition, from the measurement results of the isotope ratio, it turned out that the source of both hot springs is Rain water.

Keywords: Hot spring, Component analysis, Volcanic gas

