

Experimental study on chloride ion leaching from the drilling core samples

Kazuhiro Amita[1]; Kiyohide Mizuno[2]; Takeshi Hayashi[3]; Masaya Yasuhara[4]

[1] none; [2] Institute of Geology and Geoinformation, GSJ/AIST; [3] Akita Univ.; [4] GSJ, AIST

The Kanto Plain is the largest groundwater basin in Japan. There is the groundwater area with high Cl concentration (from 10 to 150 mg/l) in the depth of GL-100 to -300 m of the central part of the plain. This ground water area is thought to be made by regional groundwater flow, from the viewpoint of three-dimensional observations of groundwater quality, stable isotopes, and subsurface temperature. We performed a leaching experiment of chloride ion which used bowling core block drilling at Kasukabe. In the experiments, powdery sample (20g) made from piece of drilling core and pure water (100 mL) are mixed at a plastic container. And 24 hours later, chloride ion is measured by electrode. The experiments provided interesting results as follow: (1) The sample which showed highest concentration (95.2 mg/L) of chloride ion is collected from the core piece about 330m depth. (2) Range of chloride ion concentrations in the pore water estimated by an experimental result is from 13.2 mg/L to 2113 mg/L.