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Experimental study on chloride ion leaching from the drilling core samples (2)

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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 (GS-SB-1) drilling at Shobu Town. 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 (27.5 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 9.8 mg/L to 761.5 mg/L.

Keywords: Kanto Plain, Leaching experiment, Chloride ion