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Geological features of reservoir formation of Nagaoka CO2 injection Site, based on the sedimentary facies analysis

Shun Chiyonobu[1*], Yukihiro Yazaki[1], Ziqiu Xue[1]

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　Nagaoka CO2 ingection Site in the Niigata plain is the largest oil field in Japan. At present, the aquifer of this oil field in Miocene to Pliocene have been proven since the beginning of systematic evaluation and exploration for the carbon dioxide capture and storage (CCS). Nagaoka injection Site is located in the central part of the Niigata basin, where there is the favorable geological conditions for forming aquifers. The aquifers widely distributed in the Niigata basin was deposited widely the paralic to hemipelagic environment during the Neogene. The superimposed fluvial_delta to marine deposits distributed approximately from north to south have constituted the complex sandstone aquifer in Nagaoka area. Under the background on the end shape of anticline, the aquifer is lay lenticular formation. As a result, a large area lithologic trap for the CCS was formed in Nagaoka area. The core sample included high contents of medium to coarse sandstone and tuff as well as the dissolution and erosion of volcanic matters were useful for understanding the forming the high porosity and permeability reservoirs.

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Keywords: aquifer, porosity, particle size analysis, sedimentary facies