

Influence of circular pumping method on aquifer and dissolved gas in groundwater

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We have been developing the continuous observation technique of dissolved gas in groundwater by a quadrupole mass spectrometer. Pumped groundwater is returned to an aquifer after extracting gas from groundwater in order to measure the water level change and the discharging rate simultaneously. This method caused a lot of bubbles in a ductwork, and the increase of pressure in the ductwork broke an extraction module. We reported the influence of the circulating pumping method on aquifer temperature and water level without solving such problem in last year. We solved the problem in last December. Then we will report the influence of the method on not only aquifer temperature and water level but also gas composition and gas concentration in groundwater under the stable observation condition.