

Attempt to Self-potential in shallow groundwater area, Akita prefecture

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A study is one of the geophysical explorations. It has been used in the volcanic and geothermal areas in order to investigate hydrothermal water convections. The relationship between SP and groundwater flow still is not well studied. It is important to clarify the groundwater flow. It is because the use in groundwater management.

In this study, SP survey was carried out at the shallow groundwater field. And, we examined whether it is possible to observe what kind of SP. It was investigated in a place where there is a lot of groundwater level data and gradient data.

We have selected Rokugo alluvial fan in Akita prefecture, is because of the groundwater level data has been recorded. Rokugo alluvial fan has an area of about 4km from east to west, and approximately 5km from north to south. Its area is 14km². The study was carried out in September-November, 2015.

From the observation result, it was possible to find SP decreases section as the altitude increases. In the case of Rokugo alluvial fan, the topographic effect is -1.0 ~ -3.7mV/m.

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