The conceptual model of Wae Sano Geothermal field based on geology and geochemistry data

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Abstract	Wae Sano volcano is included in the inner Banda arc, Mount Wae Sano is a type C volcano and formed the Sano Nggoang crater lake. The magmatism activity produces geothermal manifestations such as; hot spring, rock alteration, and sulfur deposits, the hottest water temperature is 81 0C, with neutral pH, but the Sano Nggoang Lake water has acid pH. It becomes interesting to examine the characteristics of the geothermal system in that area. The research was conducted by Volcanostratigraphic studies to reconstruct the geological process and Geochemical sampling of hot springs, lake water, ground air, and the soil side to understand the subsurface characterization. The result showing some period of volcano products, with the youngest come from the product of Sano Nggoang 2 that spills its product to on the north-east side of Poco Dedeng volcano. The geochemical analysis shows all manifestations originate from one reservoir, chloride water type, NaCl type of the lake water with a few SO4 influence, presumably, the hot springs supply is influenced by seawater, the estimation of the reservoir has a temperature about ÃƒÂ,Ã‚Â± 230 0C, with dacite and the rich organic sedimentary rock, and located at ÃƒÂ,Ã‚Â± 1456 m from the manifestation, the isothermal section shows the rate of temperature increase at 97.07 m / 10 0C. The hypothetical resource is counted about 1,488.6 kWe.
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