

The Possibilities of Hidden Geothermal Prospects in Indonesia

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Indonesia is located in the ring of fire area provides blessings with an abundance of geothermal energy sources. Indonesia currently has a geothermal energy potential of 28,579 MW consisting of 11,073 with resource status and 17,506 with reserve status (ESDM, 2017). These geothermal potentials were obtained based on geothermal manifestations occurring on the surface of the ground in 331 locations. Activity of the geothermal system beneath the surface will produce fluid flow system in the form of hot water mixed with chemical elements that have high temperature and pressure. The fluid will penetrate the surface if there is a gap or fracture. Forms of surface manifestations such as hot springs, fumaroles, sulfatara, geysers, hot mud and so forth will indicate the character of the geothermal fluid present in the reservoir. Geothermal system activities that do not manifest on the surface of the ground may occur due to the presence of new material products such as volcanic eruptions, flash floods or landslides that cover the surface of the soil that once existed geothermal manifestations. This hypothesis is corroborated by the number of locations around the heat source in this case volcanoes that do not manifest geothermal manifestations. In addition, the pattern of geological structures in Indonesia, especially on the islands of Java and Sumatra, there are large geological structures such as the Cimandiri Fault and the Semangko Fault are possible to become an agent for the developing of geothermal reservoirs. In this paper will discuss the stages and methods to conduct screening and exploration of hidden geothermal prospects in Java and Sumatra.