

## **ABSTRAK**

### **Geology And Geochemistry Analysis To Determine Keprospekan Geothermal System Non-Volcanic Regional Amohola-Sumbersari And Surrounding Moramo District, South District Konawe, Southeast Sulawesi Province**

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Location Amohola-Sumbersari investigation is in Konawe South, Southeast Sulawesi Province. Regional tectonic order inquiry included in Mandala East Sulawesi and Buton with non-volcanic environment.

Southeast Sulawesi has a geothermal potential spread of Sulawesi mainland to the island of Buton. The geological environment of this region are associated with non-volcanic environment, the data and understanding the formation of earth heat system is still inadequate. This investigation aims to better understand the characteristics of the geothermal system in non-volcanic areas of Southeast Sulawesi.

The morphology of the investigation area are grouped into four units geomorphology, namely geomorphology unit steep hills, undulating hills, sloping hills and plains, classification (Van Zuidam (1989)). In geological stratigraphy of rocks in the area Amohola-Sumbersari dominated by Triassic aged metamorphic rocks and sediments of Paleocene age. Establishment of a geothermal system in Amohola-Sumbersari dipengaruhi by tectonic activity in line with the pattern of normal faults trending northeast-southeast Yeng horizontal fault and fault pull (tension).

Establishment of a geothermal system in the study area can be divided into one system. Geothermal systems in mainland Southeast Sulawesi is more influenced by the combined influence of geological structure patterns and residual heat from rocks activity pluton at depth, suspected source of heat (Heat Sources) thought to be related to the activities of the pluton beneath the surface around manifestation. Reservoir layer to form a geothermal system in the study area is estimated there are at depths greater than 500 m (CSAMT results, 1997) in the metamorphic rocks and sediments, while the rock is a rock penudungnya dip-erkirakan GCC has undergone hydrothermal alteration at a depth of 100-300 m.

Geothermal system is characterized by the emergence of manifestations in the form of hot water with a surface temperature of 37 to 50.5 ° C, pH neutral, and alteration of rocks with argillic alteration types. Geothermal manifestations in the investigation area Amohola-Sumbersari generally in the form of hot springs bikarbona chloride-bicarbonate type and are in the immature zone water that has been mixing with surface water, and formed in metamorphic rocks and sedimentary environments. Estimation of subsurface temperature indicates that the temperature of the reservoir is drawn through water geotermometer calculation Amohola-Sumbersari estimating subsurface temperature range between 100-200oC included in enthalpy zones of low to moderate.

**Keywords:** southeast Sulawesi, non-volcanic, geothermal systems, reservoirs, water geotermometer calculation.