

ABSTRACT

IDENTIFICATION OF SEA WATER INTRUSION ZONE BASED ON THE RESISTIVITY METHOD OF SCHLUMBERGER AND WENNER-SCHLUMBERGER CONFIGURATION IN ANGSANA, TANAH BUMBU DISTRICT, SOUTH KALIMANTAN

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Water is the primary need for life on earth to be used for consumption and other necessities. Then, its availability is not contaminated with sea water. Therefore, this research was conducted to identify the seawater intrusion zone in order to get the depth and distribution of the sea water intrusion.

This study uses the geoelectric method of Schlumberger and Wenner-Schlumberger configurations with a total of 8 points and 2 lines of measurement. Data processing in the Schlumberger configuration uses IP2WIN software to produce curva matching and Strater5 software to create 1D depth profiles and correlate between these points using surfer software. Then for the Wenner-Schlumberger configuration, 2D inversion was carried out using Res2Dinv to produce a 2D cross section.

The results of the processing carried out the identification of sea water intrusion, which is preceded by a 2D cross section (Dimension) of the Wenner-Schlumberger configuration with a southeast-northwest direction, a depth from 0 - 10 meters and a depth of 48 meters. Meanwhile, from the 1D section (dimensions) of the schlumberger configuration at a depth from 60-140 meters, there is sea water intrusion. As well as the distribution of sea water intrusion at a depth of 5 meters to a depth of 10 meters on the west side of the map. At a depth of 48 meters on the northeast and south sides of the map. Geological control that affects seawater intrusion in the study area is lithological control, which is in the alluvium sediment formation, which is composed of gravel, sand, silt, loam, and mud scattered in the morphology of the plains and along river flows. This constituent material is loose and has not been packaged properly.

Keywords : Sea Water Intrusion, Geoelectric, Schlumberger, Wenner-schlumberger.