ABSTRACT

COMPARISON OF DIPOLE-DIPOLE AND POLE-DIPOLE ARRAY ON INVERSION MODELING OF IGNEOUS INTRUSION

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A study comparing two existing array of geoelectric method, dipole-dipole and pole-dipole with synthetic data form of igneous intrusion. The purpose was to observe the response and compare the inversion results of dipole-dipole and pole-dipole array.

Model of igneous intrusion used have resistivity values 5000Ω·m that breaks of sedimentary rock layers with resistivity values 100Ω·m and the shallowest model at a depth of 15 meters. Initial three-dimensional geological models were made using RockWork14 program and a two-dimensional model of each study line using Res2DMOD program. While the inversion process using RES2DINV program.

The resistivity value of the research object from dipole-dipole and pole-dipole array ranging from 260Ω·m to 5410Ω·m that starting to appear from a depth of 15 meters. Maximum depth of the dipole-dipole array is 82 meters, while the pole-dipole array is 118 meters. The pattern of pole-dipole resistivity anomalies greater than dipole-dipole because it has a more data amounts. But dipole-dipole array is better than pole-dipole array in the delineation model of research objection.

Keywords: Geoelectric, Dipole-dipole, Pole-dipole, Resistivity, Intrusion models