

## **ABSTRACT**

### **METAL MINERAL EXPLORATION USE INDUCED POLARIZATION (IP) BY GEOPHYSICAL METHOD LUBUK LESUNG, NATAL, MANDAILING NATAL NORTH SUMATERA**

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Investigations carried out in the Lubuk Lesung, District of Natal, Mandailing Natal regency, North Sumatera. The investigation was conducted by using the Time Domain Induced Polarization geoelectric (TDIP) Dipole-dipole configuration with the objective to determine the existence of metallic minerals, especially iron ore below the surface resistivity and chargeability values based on the rock. TDIP data retrieval done at eighteen tracks, electrode spacing 20 m and the path length 480 m.

The results of advanced data processing TDIP is true 2D resistivity and chargeability of each path. The existence of metallic minerals in very various area of research there is on the zone of high resistivity and low resistivity, chargeability of the data while the presence of metallic mineral zones are at high (> 100 msec). In the study area found no existence of metallic minerals (iron ore) in large quantities. The results of the Processing obtained Geosoft Oasis montaj 2D the spread trending are southeast – northwest.

**Keywords:** metallic minerals, geoelectric, Time Domain of Induced Polarization (TDIP)