ABSTRAK

ABSTRAK (*ABSTRACT*) Indonesia merupakan negara penghasil mangan dengan kualitas mangan nomor 1 di dunia. Potensi cadangan bijih mangan di Indonesia cukup besar dan tersebar di berbagai lokasi antara lain di Pulau Sumatera, Kepulauan Riau, Jawa, Kalimantan, Sulawesi, Nusa Tenggara, Maluku, dan Papua. Hampir 90% produksi mangan digunakan sebagai bahan baku industri baja yaitu berupa feromangan dan silikon mangan. Kegiatan eksplorasi mineral ini menjadi sangat penting, yang salah satunya dilakukan dengan métode Geofisika. Eksplorasi mineral mangan dapat menggunakan metode Polarisasi Terinduksi (IP) karena mineral mangan merupakan mineral logam sehingga yang memiliki sifat menghantarkan arus listrik dan memiliki sifat kepolarisabelan. Daerah penelitian seluas 3km x 3km yang dilakukan pengukuran menggunakan metode IP konfigurasi *Dipole-Dipole*. Lintasan pengukuran berjumlah 17, dengan masing-masing panjang lintasan 300 m. Pengolahan data menggunakan *RES2DINV* untuk menghasilkan penampang resistivitas dan chargeabilitas 2D.

Hasil penelitian pada dua kavling menunjukkan persebaran nilai chargeability tinggi berada pada permukaan disemua penampang. Berdasarkan peta *slicing* tiap kedalaman, pada kavling A dan kavling B memiliki tipe pola persebaran yang sama yaitu berada pada kedalaman 4,18m hingga 12,2m. Semakin bertambahnya kedalaman, respon nilai chargeability semakin mengecil Mineral mangan di daerah penelitian memiliki tipe nodul-nodul dan tidak menyatu satu sama lain.

Kata Kunci: Induced Polarization, Resistivity, Chargeability, Mineral Mangan

ABSTRACT

Indonesia is a manganese-producing country with the number one manganese quality in the world. The potential reserves of manganese ore in Indonesia are large and spread across various locations, including Sumatra Island, Riau Islands, Java, Kalimantan, Sulawesi, Nusa Tenggara, Maluku, and Papua. Nearly 90% of manganese production is used as raw material for the steel industry, namely ferromanganese and manganese silicon. Mineral exploration activities are very important, and one of them uses geophysical methods. Manganese mineral exploration can use the Induced Polarization (IP) method because manganese minerals are metallic minerals, so they have the properties of conducting electric current and polarizable properties. The research area was 3km x 3km, and measurements were carried out using the Dipole-Dipole configuration IP method. There are 17 measurement tracks, each length of 300 m. Data processing uses Res2DInv to produce 2D resistivity and chargeability cross sections.

The research results on two blocks show that the distribution of high chargeability values is on the surface at all cross-sections. Based on the slicing map for each depth, Blocks A and B have the same distribution pattern, namely at a depth of 4.18m to 12.2m. As the depth increases, the response value of chargeability becomes smaller. Manganese minerals in the research area have a nodule type and do not merge.

Keywords: Induced Polarization, Resistivity, Chargeability, Manganese Minerals