PENDUGAAN KANDUNGAN BIJIH BESI DENGAN METODE GEOLISTRIK RESISTIVITY 2D, IP, DAN GEOMAGNET DI PT. ARIES IRON MINING

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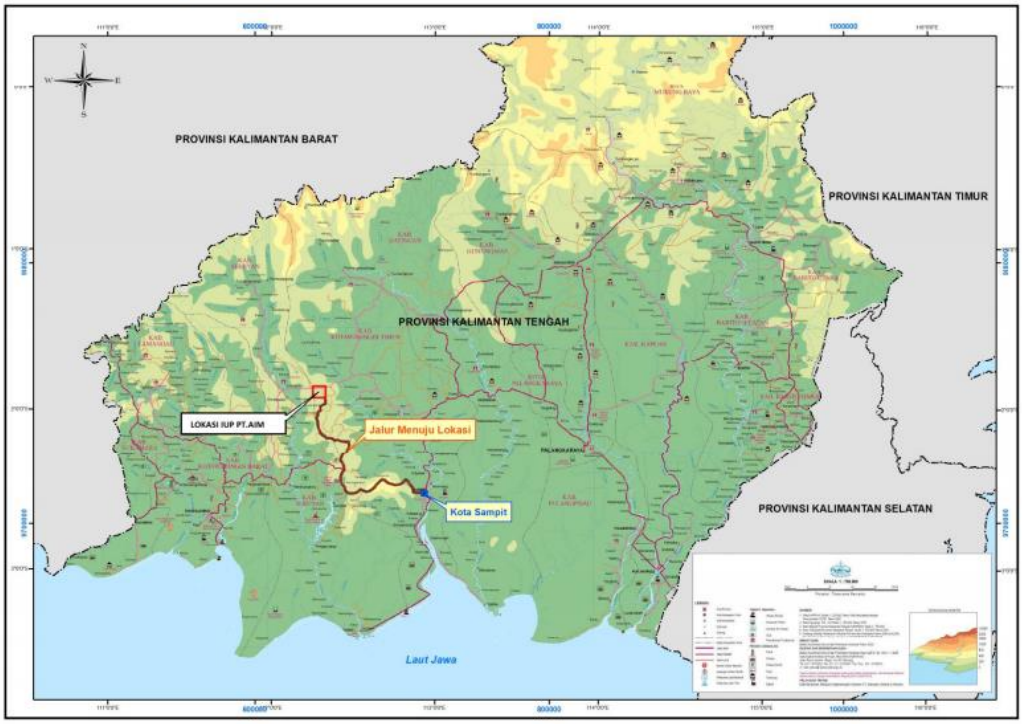
Abstract

The study was done at PT. Aries Iron Mining Tumbang Tilap Village, which is in the Kotawaringin Timur District of East Kalimantan Province. For exploration, the geomagnet method is used to find out how susceptible something is, and the geolistrik method is used to find out what the conductive and resistant qualities of iron ore are. A surfing program is used to process geomagnet data, and the output of that program is used to figure out geoelectric recovery. The geoelectric method, which uses the Geoscan Method (Resistivity 2D and Induced Polarization), can give a broad picture of what's below the ground without digging. This study into IP geolistrik uses a dipole-dipole setup and can only find out how ground underground resistance and chargeability change when moving vertically or horizontally. Using ARES (Automatic Resistivity), gather information about this exploration task. The RES2DINV Program works with the test data. Putting data into is how data processing is done. 2477-7870 is the ISSN number. As of April 2018, KURVATEK Vol. 3, No. 1 was 35–43. 36 It is then possible to get models in the form of resistance and chargeability in the form of geolistrik trajectory cross sections. Figure out what the model means and what each rock type's resistance value is in the cross section. For sulphide minerals, the value ranges from 9.89 to 1000 msec, from green to purple, and their resistivity value is between 0.1 and 10,000 Ohm.m, from dark blue to light blue. After collecting, analyzing, and making sense of the data, the path that could be explored further by digging (coring) is Line 01 point 12 to 33, Line 2 point 17 to 29, Line 3 point 30 to 40, and Line 13 point 12 to 27. It was found that the projected sulphide ore reserve was 1.055.000 m³ and 2,215,500 tonnes. This was found by interpreting the area that the nearest point rule affected.

Keywords: iron ore estimation with geoelectric method

1.Pendahuluan

Seiring dengan peningkatan pembangunan di Indonesia yang lebih pesat, akan logam termasuk bijih besi. Improving the building process in this way encourages business owners who work in the construction industry to do exploration and exploitation. In line with what was said above, PT. Aries Iron Mining wants to do endapan bijih besi eksploitasi, the first thing that needs to be done is explorasi. Ini adalah cara mendapatkan informasi tentang letak, prospeksi sumber daya, dan kualitas bahan galian. Metode Geomagnet dan Geolistrik adalah cara mengetahui potensi endapan bijih besi yang berada di bawah permukaan bumi. The results of Geomagnet and Geolistrik exploration are almost always used to set the boundary for more detailed exploration.



Gambar 2.1.
Peta Kesampaian Daerah PT. Aries Iron Mining

Tujuan Penelitian

1. Mengetahui karakter lintasan hasil interpretasi
2. Mengetahui kandungan biji besi penyebaran
3. Mengetahui besarnya estimasi kandungan bijih besi

Batasan Masalah

Pengukuran dan interpretasi dilakukan pada wilayah IUP eksplorasi

1. PT. Aries Iron Mining.
2. Melakukan interpretasi terhadap potensi sumberdaya bijih besi.
3. Metode pengukuran dan interpretasi yang diterapkan adalah metode geolistrik induced polaritation dan geomagnet.
4. Menghitung sumberdaya tereka.

KURVATEK

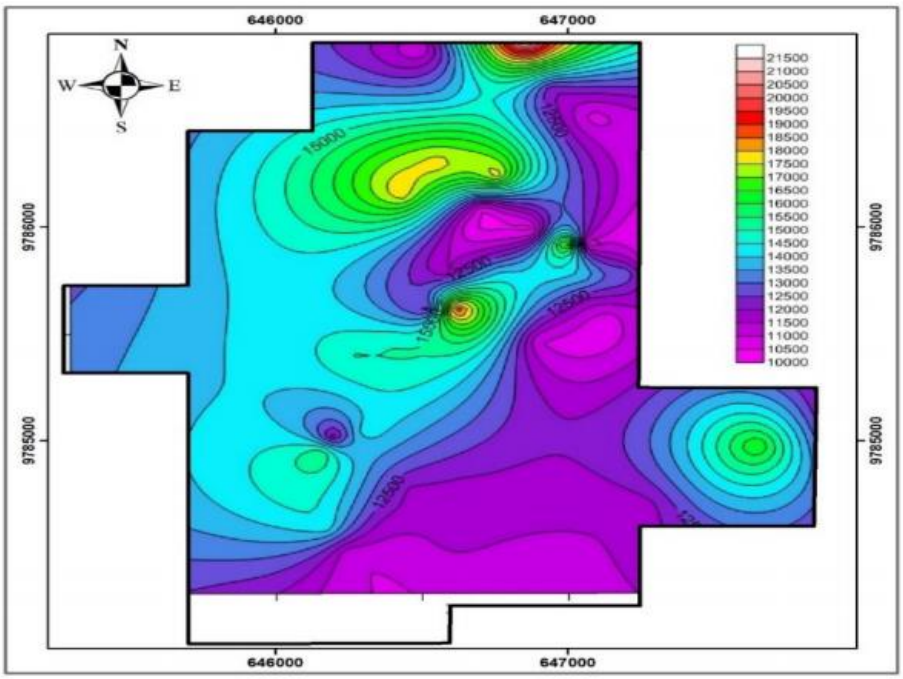
2. Metode

3. HASIL

3.1. Geofisika

Based on data collected from long-distance scanning in the area and continued with data cleaning, the following results were obtained:

Based on the results of testing the geomagnet at IUP PT. Bintang Mulia Prima, the logam has a value of 10,000 to 21,000 Nano Tesla (Gambar 3.1)



Gambar 3.1

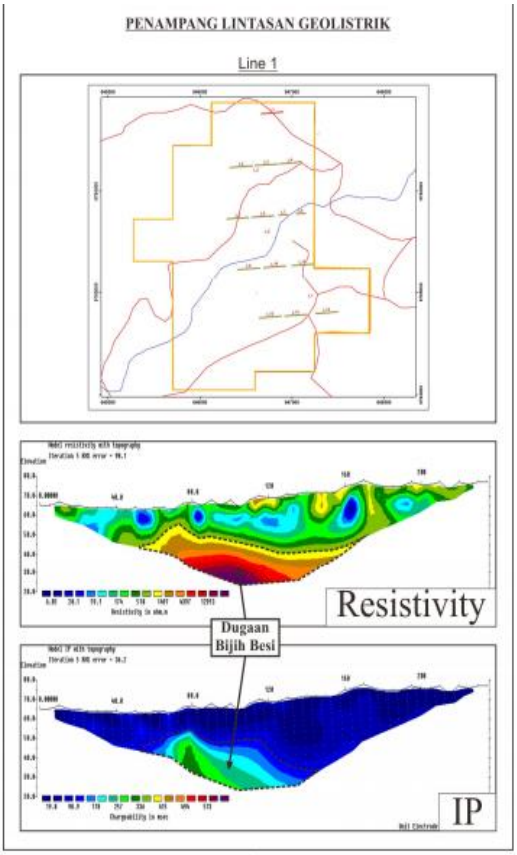
Peta Anomali geomagnet

3.2. Hasil Pengolahan Linatasan Geolistrik

As a result of this study, several lithological layers were found, along with several layers of besi or wood that contains besi that are located at IUP PT Aries Iron Mining.

Penampang Lintasan Geolistrik Line 1

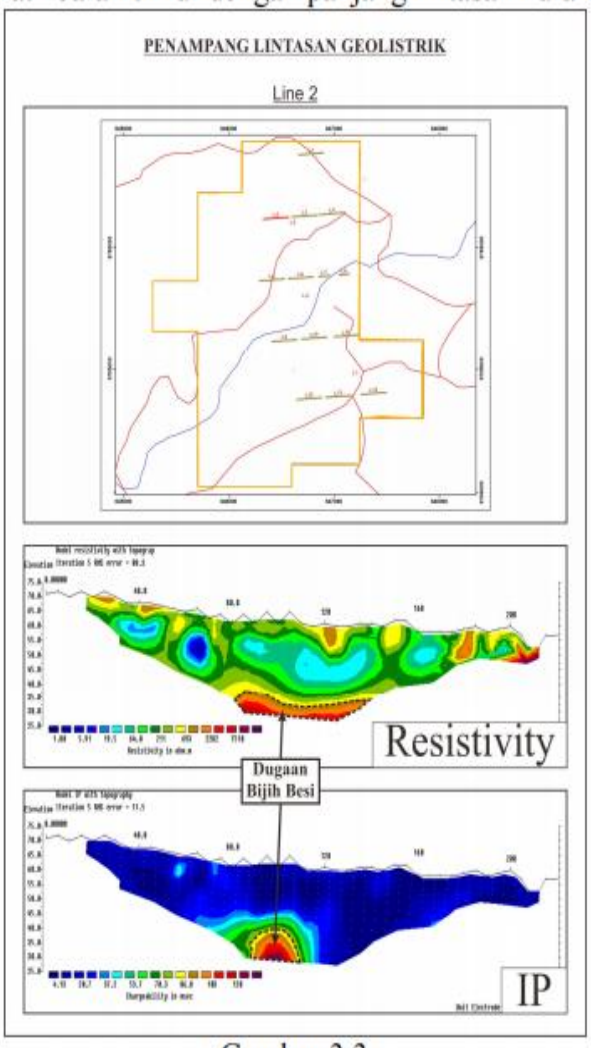
Lintasan 1 dibuat dari arah barat ke arah timur, dan antara panjang lintasan 240 m.



Gambar 3.2
Penampang *Resistivity* Dan *Chargeability* Pada Line 1

Penampang Lintasan Geolistrik Line 2

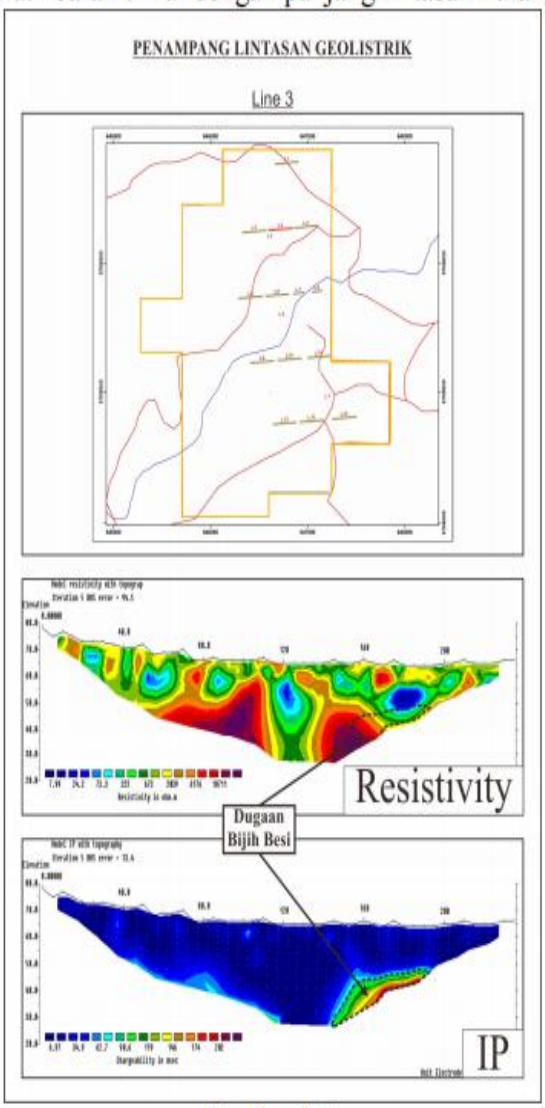
Lintasan 2 dibuat dari arah barat kearah timur dengan panjang lintasan kurang lebih 240 m.



Gambar 3.3
Penampang *Resistivity* Dan *Chargeability* Pada Line 2

Penampang Lintasan Geolistrik Line 3

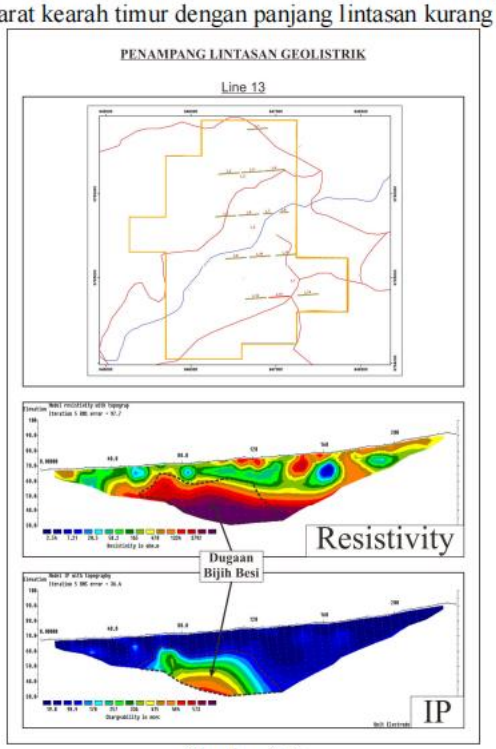
Lintasan 3 dibuat dari arah barat kearah timur dengan panjang lintasan kurang lebih 240 m.



Gambar 3.4
Penampang *Resistivity* Dan *Chargeability* Pada Line 3

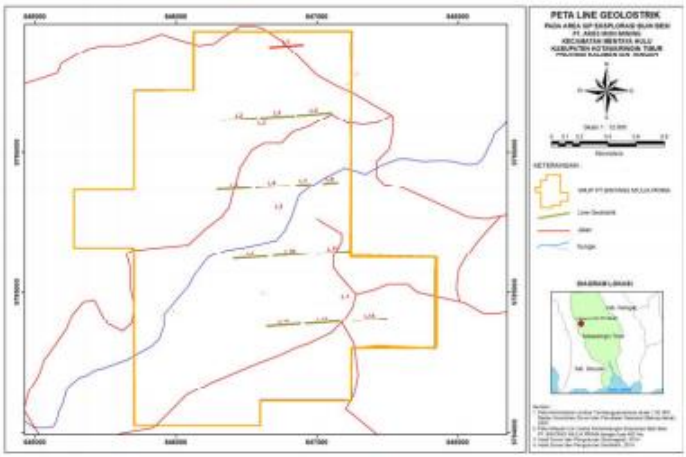
Penampang Lintasan Geolistrik Line 13

Lintasan 3 dibuat dari arah barat kearah timur dengan panjang lintasan kurang lebih 240



Gambar 3.5
Penampang *Resistivity* Dan *Chargeability* Pada Line 13

Pendugaan Kandungan Bijih Besi Dengan Metode Geolistrik Resistivity 2d, Ip, Dan Geomagnet Di Pt. Aries Iron Mining Desa Tumbang Tilap, Kalimantan Tengah (Valentinus Singgih Yudanto)

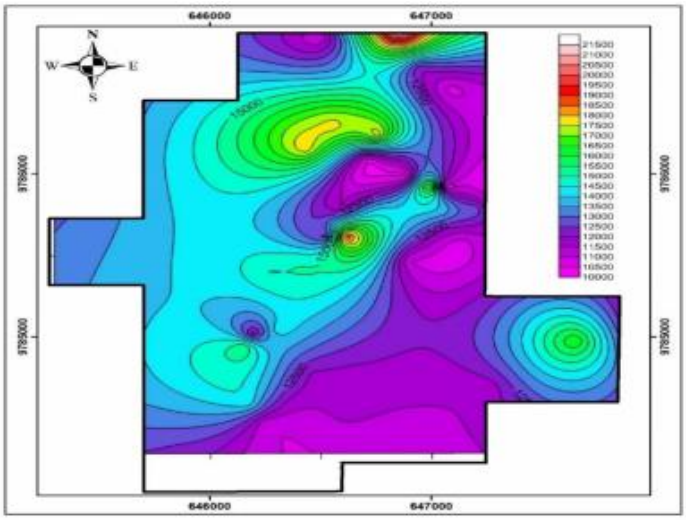


Gambar 3.6
Lokasi Pengambilan Data Geolistrik

4. PEMBAHASAN

4.1. Geofisika

Based on data collected from long-distance scanning in the area and continued with data cleaning, the following results were obtained

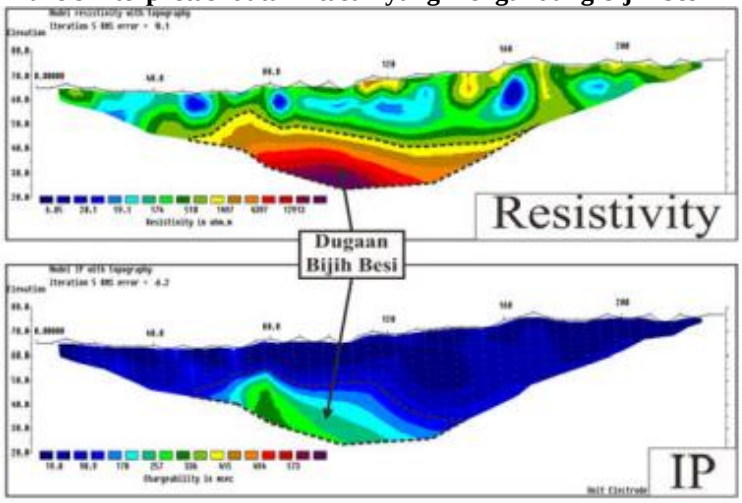


Gambar 4.1

Peta Anomali geomagnet

Based on the results of the geomagnet test at IUP, Aries Iron Mining has logam dengan nilai 10,000 – 21,000 Nano Tesla (Gambar 3.6). So, we can say that the mineral at the bottom of the lake is magnetite.

4.2. Analisis interpretasi data lintasan yang mengandung bijih besi



Gambar 4.2
Penampang Resistivity IP topografi
geolistrik line 1

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It was written by
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