

RINGKASAN

Penelitian ini dilakukan untuk mengestimasi kuantitas sumberdaya yang ada di IUP PT. Jogja Magasa Iron yang berada di Desa Karangwuni, Kecamatan Wates Kabupaten Kulon Progo, Provinsi Daerah Istimewa Yogyakarta. Luas daerah penelitian sekitar 5.279.203 m².

Endapan pasir besi pada daerah penelitian merata dengan ketebalan sampai 15m dan ketebalan rata-rata 6m. Rata-rata kadar besi pada daerah penelitian sekitar 14% Fe dengan derajat kemagnetan mencapai 27,16%. Mineral utama yang dijumpai adalah magnetit, hematit, dan ilmenit serta mineral ikutan seperti kuarsa dan feldspar.

Hasil estimasi menggunakan metode *cross section* dengan pedoman *rule of gradual changes* diperoleh volume sebesar 76.346.407 m³ dengan tonase sebesar 136.660.069,16 ton sedangkan dengan pedoman *rule of nearest point* diperoleh sebesar 76.346.408 m³ dengan tonase sebesar 136.660.070,95 ton. Hasil perhitungan metode *cross section rule of nearest point* menghasilkan besar volume sumberdaya yang lebih besar dibandingkan dengan menggunakan pedoman *rule of gradual changes*. Pada estimasi metode *cross section* dengan pedoman *rule of gradual changes* nilai sumberdayanya lebih kecil karena dasar estimasinya adalah menghitung volume dari dua buah penampang sayatan. Metode *cross section* dengan pedoman *rule of nearest point* menghitung suatu volume dari masing-masing penampang sayatan yang mempunyai daerah pengaruh yang sama yaitu setengah jarak ($\frac{1}{2} L$) ke kiri dan kanan garis sayatan. Panjang $\frac{1}{2} L$ dipengaruhi oleh jarak antar sayatan satu ke sayatan lainnya.

ABSTRACT

This research is conducted to estimate of quantity of resources in mining permit (IUP) area of PT. Jogja Magasa Iron located in Karangwuni Village, Wates District, Kulon Progo Regency, Special Province of Yogyakarta. The research area is about 5,279,203 m².

Iron sand deposits in the study area were evenly distributed with thickness up to 15m and average thickness 6m. The average iron content in the research area is about 14% Fe with magnetism degree reaching 27.16% with minerals such as quartz and feldspar.

The result of calculation using cross section method with guidance rule of gradual changes obtained by volume equal to 76.346.407 m³ with tonnage of 136.660.069,16 ton while with rule of nearest point is obtained equal to 76.346.408 m³ with tonnage equal to 136.660.070,95 ton . The results of the cross section rule of nearest point method resulted in a larger volume of resources than the rule of gradual changes. In the estimation of the cross section method with guidance rule of gradual changes the value of the resources is smaller because the estimation rule is to calculate the volume of two cross sections. The cross section method with guidance the rule of nearest point calculates a volume each incision section having the same area of influence that is half ($\frac{1}{2} L$) the left and right of the incision line. ($\frac{1}{2} L$) length is influenced by the distance between the incisions one to the others.