

ABSTRAK

ANALISA *WET MUCK* MENGGUNAKAN METODE *RESISTIVITY* DI AREA TAMBANG BAWAH TANAH “DOZ” *PANEL 3 NORTH* PT. FREEPORT INDONESIA KABUPATEN MIMIKA PROPINSI PAPUA

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Telah dilakukan penelitian dengan metode Geolistrik *Resistivity* di area tambang bawah tanah “DOZ” *Panel 3 North* PT. Freeport Indonesia, Kabupaten Mimika, Propinsi Papua. Penelitian dilakukan dengan tujuan melakukan analisa *wet muck* (lumpur basah) mengenai keberadaan, pergerakan, dan potensi *spill out* di area tersebut.

Akuisisi data *resistivity* dilakukan sebanyak delapan kali pengukuran dengan panjang lintasan 275 m, jumlah elektroda 56, dengan spasi antar elektroda 5 m. Sebagai data pendukung digunakan data dari pengukuran metode *Self Potential*, dan data curah hujan. Pengolahan data *resistivity* dilakukan dengan *software Res2Dinv*, sedangkan data *self potential*, dan data curah hujan diolah dengan program *Excel*.

Interpretasi hasil pengolahan dilakukan secara kuantitatif dan kualitatif dengan membandingkan penampang *true resistivity* dengan grafik curah hujan dan *self potential*. Keberadaan *wet muck* dengan intensitas cukup besar di tambang bawah tanah “DOZ” *Panel 3 North Drawpoint* 1 sampai 15 terdapat di pengukuran ke 3 dan 4 yaitu pada tanggal 29 Desember 2012 dan 2 Januari 2013, dengan nilai *resistivity* 0.5 sampai 4 Ω m, dan nilai curah hujan berkisar antara 23 sampai 33 mm. Pergerakan *wet muck* dalam 8 kali pengukuran relatif kecil yang ditunjukkan dengan nilai *self potential* antara -5 sampai 5 mV. Sedangkan potensi *spill out* terdapat pada pengukuran ke 3 2013 di *drawpoint* 7 sampai 13.

Kata kunci: Metode *Resistivity*, Metode *Self Potential*, *True Resistivity*, *Wet muck*, *Panel*, *Drawpoint*, *Spill out*.

ABSTRACT

ANALYSIS WET MUCK USING RESISTIVITY METHOD IN UNDERGROUND MINING "DOZ" PANEL 3 NORTH AREA PT. FREEPORT INDONESIA DISTRICT MIMIKA PROVINCE OF PAPUA

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Has been observed by the method Geolistrik Resistivity in underground mining area "DOZ" Panel 3 North PT. Freeport Indonesia, Mimika District, Papua Province. The study was conducted with the aim of analyzing the wet muck (wet mud) regarding the presence, movement, and potential spill out in the area.

Resistivity data acquisition measurements performed eight times with 275 m path length, number of electrodes 56, the inter-electrode spacing of 5 m. As the supporting data used data from the Self Potential measurement methods, and rainfall data. Data processing is performed by software Res2Dinv resistivity, self-potential, while the data and rainfall data processed with Excel program.

Interpretation of the results of the processing performed quantitatively and qualitatively by comparing the true cross section of the resistivity with rainfall charts and self potential. The existence of wet muck with considerable intensity in underground mines "DOZ" Panel 3 North Drawpoint contained in the measurement 1 until 15 to 3 and 4 is the date of December 29, 2012 and January 2, 2013, with a resistivity value of 0.5 - 4 Ω m, and the value of bulk rainfall ranges from 23 to 33 mm. The movement of wet muck in 8 times the measurement is relatively small as indicated by the value of self potential between -5 to 5 mV. While there are potential spill out on to the measurement of 3 2013 at drawpoint 7 to 13.

Keywords: Method of Resistivity, Self Potential Method, True Resistivity, Wet muck, Panels, Drawpoint, Spill out.