

ANALISIS PERBANDINGAN METODE INTERPOLASI *INVERSE DISTANCE WEIGHTING* (IDW) DAN KRIGING DALAM INTERPRETASI GRADIENT POLA ALIRAN AIR TANAH PADA LOKASI PENAMBANGAN LEMPUNG PT. ETERNAL RICHWAY, KABUPATEN TABALONG, PROVINSI KALIMANTAN SELATAN

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ABSTRAK

Hidrogeologi mempunyai makna yang sama akan tetapi penekanannya lebih besar dalam aspek ke-geologian uraian tentang air tanah tidak akan lepas dari ilmu hidrologi, mulai dari kajian air tanah, pergerakan air tanah dan sampai mencapai laju jenuh di dalam aquifer serta pelepasannya dipermukaan tanah. Untuk interpretasi gradient pola aliran air tanah dapat menggunakan pendekatan Metode Interpolasi *Inverse Distance Weighting* (IDW) dan Kriging. Pengukuran dilakukan pada 5 titik bor dan 4 titik di dekat Daerah Aliran Sungai (DAS). Hasil dari pengamatan kemudian diolah menggunakan *ArcGIS 10.3* dengan menggunakan dua pendekatan yaitu Metode Interpolasi *Inverse Distance Weighting* (IDW) dan Kriging. Metode Interpolasi IDW menghasilkan nilai koefisien korelasi $R = 0,9751$ dengan pola aliran air tanah bergerak dari titik borehole 2 mengarah mengarah ke arah timur – selatan – utara memiliki laju aliran air tanah yang relatif lambat dan pola aliran air tanah yang bergerak ke arah barat memiliki laju aliran air tanah yang lebih cepat menuju ke titik borehole ke 5 setelah melewati titik borehole ke 5 laju aliran air tanahnya mulai melambat, sedangkan untuk Metode Interpolasi Kriging menghasilkan nilai koefisien korelasi $R = 0,9752$ dengan pola aliran air tanah bergerak dari titik borehole tertinggi yaitu pada borehole 2

**COMPARISONAL ANALYSIS OF *INVERSE DISTANCE WEIGHTING* (IDW) AND
KRIGING INTERPOLATION METHODS IN GRADIENT INTERPRETATION
GROUNDWATER FLOW PATTERNS AT MINING LOCATION
CLAY PT. ETERNAL RICHWAY, DISTRICT TABALONG,
SOUTH KALIMANTAN PROVINCE**

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ABSTRACT

Hydrogeology means the same thing, but the focus is more on the geological aspect. The description of groundwater will not be separated from the science of hydrology, starting from the study of groundwater, groundwater movement and until it reaches the saturation rate in the aquifer and its release on the soil surface. For gradient interpretation of groundwater flow patterns, the Inverse Distance Weighting (IDW) and kriging interpolation approaches can be employed. Measurements were carried out at 5 drilling points and 4 point near the drainage basin. The results of the observations were then processed using ArcGIS 10.3 using two approaches, namely the Inverse Distance Weighting (IDW) Interpolation Method and Kriging. The IDW Interpolation method produces a correlation coefficient value of $R = 0.9751$ with a groundwater flow pattern moving from borehole 2 point towards east - south - north has a relatively slow groundwater flow rate and groundwater flow patterns moving westward have The groundwater flow rate is faster towards the 5th borehole point after passing the 5th borehole point, the groundwater flow rate begins to slow down, while the Kriging Interpolation Method produces a correlation coefficient value of $R = 0.9752$ with the groundwater flow pattern moving from the borehole point. The highest point is at borehole 2 heading east - west - south - north having a relatively slow flow rate. This is due to the fact that the IDW interpolation method results in smoother and denser contours than the kriging interpolation method.

Keywords: Hydrogeology, IDW, Kriging.