ABSTRACT

Petroleum is of the non-renewable resources that oftenly used in our daily life. As the times progress, more and more people using petroleum for their daily life. In fact the oil production is decreasing every year. Based on the problem the correct method needs to be used to optimize the estimation of the oil production. This final project will disscuss geological modelling of oil production using universal kriging. Universal kriging can be used to approximate nonstationer data to without losing the influence of the drift or the trend. The purpose of this research is to estimate the oil resources using universal kriging method at geological modelling which can give visual information of the estimated oil production at researched area. The input parameters are x, y, z and oil production. The conclusion that can be taken from this research is the implementation of universal kriging on geological modelling by first determining semivariogram on each data. The result of the oil production estimation on the first data 1.602 – 7.184 Barrel, and on the second data 4.124 – 5.446. The RMSE on the first data is 0.4215 and on the second data 0.075. the smaller the variance and the RMSE, then the better accuracy of the estimation

Keywords : Universal Kriging, Petroleum, Semivariogram, Geological Modelling.