

ABSTRACT

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Well in Oil & Gas field need to estimated the reserve and how long the well can be produced. This is to ensure the economical of the well and how to develop the well. Decline curve Analysis (DCA) one of many methods to determine hydrocarbon reserves by utilize the principle of extrapolation or continuing linear trend on the graph containing plot of rate vs time. This method is applied on "GLO" Field to determine its reserves and the time of the well still could be economically produced. By first identify the suitable type of DCA on "GLO" Field.

Type of DCA is identified by trial error and X^2 chisquare test. Start from filtering the well parameters data such as the open reservoir zone to ensure all the processed data already met the requirement of Decline Curve Analysis. Example: count of active well should be constant for DCA per field/ per reservoir/ per block. Then determine the decline period. DCA is carried out on historical production that has a relatively constant trend and does not have any changing completion. After that forecasting the oil rate on each b value (decline constanta) which is exemolified and compare it to actual oil rate (chisquare). Decline constanta with the lowest cumulative chisquare ti the selected type of DCA which representative actual data the most. To calculate the reserves, projection of the trend line untuk the rate economic limit. In this case is 15 STB/D atau 450 STB/M.

From forecasting production and reserve estimation with DCA from well of GLO-02 & GLO-04 "GLO" Field resulting type of DCA representing the most actual production data is exponential with decline rate (D) 0.018 per month or 21.6% per year for GLO-02 and decline rate (D) 0.019 per month or 22.8% per year for GLO-04 with estimated reserve 80.36 MSTB oil for GLO-02 and 46.69 MSTB oil for GLO-04 that could be produced until 1-Aug-2030 or 6 years 7 months later for GLO-02 and 1-Mar-2027 or 4 years 9 months later for GLO-04 in the same condition (no changes).

Keyword: decline curve analysis, reserve, economic limit