

ABSTRACT

EVALUATION OF SQUEEZE CEMENTING USING CBL-USIT LOG AND DETERMINING THE PERFORATION ZONE OF ADEZA FIELD GER-01 WELL

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The GER-01 well is a production well that has a high WC value. Therefore one of the workover activities was carried out, namely squeeze cementing and reperforation operations. The purpose of this squeeze cementing is to close the perforation zone which is the cause of the increase in water production and the aim of reperforation is to maximize the productive zone of the GER-01 well. Based on the results of production performance analysis, oil production was 96 BOPD, water production was 1097 BWPD and %WC was 93%. This high water cut value is indicated to occur in the perforation zone. Therefore it is necessary to do a workover.

The methodology used in writing this time is to calculate the water cut value from production data, evaluate squeeze cementing operational technical calculations in the form of cement slurry volume calculations, additive volumes, TOC calculations, pressure calculations and maximum pump pressure. Then evaluate the results of the squeeze cementing work by reading the CBL-USIT log. Squeeze cementing was carried out at perforation intervals of 9700-9754 ftMD using the bradenhead method and the hesitation method using the low pressure squeeze cementing technique. Determination of the new perforation interval is carried out by reading the PNX log by looking at the remaining hydrocarbon reserves in the reservoir.

The total slurry cement used was 19.39 bbl. Based on the evaluation of the results of the squeeze cementing work, quantitative analysis was carried out at a depth of 9700-9754 ft and obtained an amplitude value of 6 mv, a CS value of 890 psi and a $BI > 0.8$ indicating good bonding cement. Qualitative evaluation of the results of the work can be seen from the reading of the USIT log which shows good bonding cement. New perforation intervals were determined by PNX logging readings. From the PNX logging readings it indicates the presence of hydrocarbons at a depth of 9645-9680 ftMD and a perforation interval length of 35 ft is obtained.

Kata Kunci : %WC, squeeze, perforasi, CBL-USIT log, PNX Log ,