ABSTRACT

ANALYSIS AND RENEWAL DEPTH STRUCTURE MAP FOR THE DEVELOPMENT OF HORIZONTAL WELLS IN THE X FIELD CENTRAL SUMATRA BASIN

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The subsurface map is one of the main components to determine subsurface conditions so that the map accuracy is Very important in the analysis of the presence of hydrocarbons. In this study the depth structure maps on the X field analyzed in which an error occurs in the depth of the latest drilling conducted PT.CPI which real depth (actual) is deeper than planned, resulting in substantial losses for PT.CPI. After the cause of errors are known, then continued by making a more accurate new depth structure map for planning further horizontal wells.

Map structure results was created using zero wavelet-type phase with the frequency dominant is 25 Hz. Alpha sandstone result in the seismic data binding and well data are at minimum (trough).. Results of horizon picking is made into the time domain structure map. Converting structure map time domain to structure map depth domain done using the regional velocity that's has been made PT.CPI and the vertical curve function (time-depth) of chekshot in X field then compared. From the comparison can be obtained the depth structure map converted using the vertical function (time-depth) made from checkshot that has smaller mistie. The new depths structure map then compared with previous depth structure maps and the result were analyzed.

This research found that the cause of the error as Well Seismic Tie and there was a minor fault near the well, so has consequences in wrong put marker of formation, while causing an error picking horizon.

Keywords: Structure Map, Mistie, Wavelet, Well Seismic Tie, Time-Depth.