ABSTRACT

WELL INTEGRITY ANALYSIS AND PROPOSED OF TEMPORARY ABANDONMENT DESIGN IN WELL "IR-23" FIELD "FAN"

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The "IR-23" well is a well with suspended status which was drilled on September 26 2002, located in the FAN field, precisely in the X-C structure. The "IR-23" well experienced an H2S gas leak problem which appeared visually at the wellhead where two leak points appeared. Based on this, the "IR-23" well needs to be protected from leaks from below the surface and it is necessary to temporarily close the well.

This research began with data collection in the form of well data, and then a well integrity analysis was carried out on well problems using noise logging and spinner logging. This analysis finds the leak points in the well.

Based on the reading of the noise log and spinner log, the leak point in the well was at a depth interval of 950-960 mMD, and it was also found that channeling occurred in the well at a depth of 1700 mMD up to the leak point, then a temporary well closure plan was carried out to protect the well from leaks that occurred and protect the environment around the well from danger due to gas leaks.

The results obtained from this research were that the well was temporarily closed with the addition of 4 cement plug sections which had been adjusted to the applicable regulations and took into account safety factors in the well due to leaks that occurred. The "IR-23" well closure work was carried out for 10 days 17 hours with a cumulative work program for 20 days 17 hours including rig move and rig up and the total cost required was 504,684.34 USD or 7,900,757,716.59 billion rupiah with a tangible value of 79,388.41 USD and an intangible value of 425,295.94 USD.

Keywords: Well Integrity, *Noise logging*, *Spinner Logging*, *Plug and Abandonment*