

ABSTRAK

Work System Simulation of Measurement While Drilling on Determining The Value of Inclination and Azimuth in PT. Parama Data Unit

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PT. Parama Data Unit commonly referred to as PDU is one of the various providers of Measurement While Drilling or MWD measurement services in Indonesia. MWD becomes an important part in the drilling structure which is again on directional drilling or horizontal drilling which aims to improve recovery wells, avoiding fractures in the soil structure and is another reason to get directional drilling. The inserted MWD device is assembled together with other drill strings or called the bottom hole assembly (BHA). The equipment in the MWD section has sophisticated technology such as inclination and azimuth measurements. Inclination is the value of the drill bit or bit. Azimuth is the value of the angle of the drill bit. Inclination and azimuth are measured by accelerometer sensor and magnetometer sensor.

Inclination and azimuth values have a calculation method to get their respective values. Work system simulation of determining the value of inclination and azimuth using mathematical modeling with angular calculations based on literature studies conducted by the author. Work system simulation of determining inclination and azimuth values will be discussed and explained in this research.

In the elaboration of the work system for determining the value of inclination, the process and calculation of the inclination and azimuth sensor values can be seen in the MWD during drilling. The results of the work system simulation determine the inclination and azimuth values in the form of angular numbers that will be displayed on the user's toolface.

Key Word: Measurement while drilling, Inclination, Azimuth.