Paper 15

Real Time Wellbore Stability using Drilling Data and Logging While Drilling Data

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Logging While Drilling (LWD) has been around for a number of years, developing from early, basic measurements to the present suite of LWD tools that give quality comparable to wireline data, and in certain cases, exceed what is possible with wireline–measurements before invasion takes place for instance or certain azimuthal measurements. Further advances in technology make it possible to transmit increasing amounts of data in real-time, including since 2001, azimuthal images from density or resistivity measurements.

Real-time LWD data have proven their value in applications such as real-time geological and petrophysical interpretations, geosteering and geostopping. Apart from LWD measurements, a large array of MWD measurements have been developed for use by drillers. Such MWD measurements include Downhole Weight On Bit (DWOB), Torque (DTOR), vibrations, drilling shocks measurements and Annular Pressure While Drilling (APWD). Exceedingly, it is becoming clear that LWD measurements have enormous potential for Real-Time drilling optimization and wellbore stability applications, especially when combined with aforementioned MWD tools. Such LWD/MWD drilling applications form the subject of this presentation.

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