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Application of EWR-M5 Integrated Logging While Drilling service for Cost Efficiency, Formation Evaluation and Drilling Optimization from the West Absheron offshore field wells which were drilled in the Khazarian-Caspian Sea of the Azerbaijan Republic

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The West Absheron field is owned by Azerbaijan's state energy company SOCAR's Absheronneft Oil and Gas Production Department. The company in cooperation with Sperry Drilling Services drilled successfully several the brand new wells from the platform No 20, which located at the West Absheron field in the Azerbaijani sector of the Khazarian-Caspian Sea. The deviated wells were successfully drilled in order to increase the surface contact/drainage area with the reservoir layers, which increase the production rate.
The Sperry M5 Integrated LWD Service provides both formation evaluation answers from resistivity and azimuthal gamma ray sensors as well as drilling optimization answers from vibration and pressure sensors. These new fully digital sensors reducing the number of connections and yielding more reliable design.
The M5 service includes the following sensors: 1) EWR-M5 Resistivity, 2) Azimuthal Gamma Ray, 3) Mud Resistivity & Temperature, 4) Pressure While Drilling and 5) Dynamic Motion Sensor.
The EWR-M5 Resistivity sensor measures resistivity using three frequencies (high, medium and low) and 5 compensated spacings which were used for formation evaluation in West Absheron wells (all reservoir layers saturated with hydrocarbons were identified with high accuracy). The EWR-M5 sensor provided 30 unique compensated resistivity measurements, which characterized for depth of investigation to cover the widest possible range of formations and provide input to petrophysical analysis and reservoir characterization.
The Azimuthal Gamma Ray (AGR) sensor measured the natural gamma ray activity of the formation. This helped distinguish between reservoir and non-reservoir rocks. With imaging capability, the AGR sensor is ideal for most geosteering and casing point determination applications. The Mud Resistivity and Temperature sensors provided inputs to make real time environmental corrections for other sensor measurements. The Dynamic Motion sensor measured vibration, shock, and torsion (RPM fluctuation) while drilling the West Absheron wells. A proactive approach to mitigating these dynamics increased rate of penetration, improved reliability, extended bit life and reduced risk. The Dynamic Motion sensor incorporates tri-axial accelerometers and magnetometers for accurate stick-slip measurement.
The Pressure While Drilling sensor measured internal and annular pressures. Pressure data is critical and provides important information for monitoring and managing hole conditions. Leakoff tests and FIT results can be recorded in detail and pulsed up. Sensors are closer to the bit, helping to reduce reaction time, reduce the effects of borehole invasion and improve the quality of the measurement. Mud weight can be optimized for managed pressure drilling (MPD) and management of ECD for maximum ROP. Formation damage and mud losses due to swab/surge are reduced. So this M5 service eliminated risk, rig down time and cost associated with wireline logging.
By utilization of EWR-M5 Integrated Logging While Drilling service in West Absheron offshore field we successfully drilled many brand new wells and performed advanced petrophysical analysis, formation evaluation and drilling optimization. All West Absheron wells were drilled safely, faster, on a target and cost efficiently (delivering technology applications depends on our most valuable resource, our people). We are Leaders in Service Company Technology within the Energy Industry.