Abstract

Breaking Down Barriers - Enhancing Collaboration Between Remote Casing Control and Geosteering Teams through Innovative Workflows & Technology Integration

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Abstract

Objectives/Scope: This paper aims to discuss the successful migration of real-time casing and coring points identification process from legacy platform to an integrated solution in geosteering operations. The main focus is to address the lack of alignment and integration with mainstream platforms and business functions. The objectives are to enhance key workflows required for advanced geological interpretation and modeling, and to provide insights on the benefits of an integrated solution for efficient O&G field development.

Methods, Procedures, Process: To ensure a successful migration from legacy siloed platform to the new integrated solution, the process involved gaining a thorough understanding of the existing workflow components. This was followed by a massive data transfer and QC for 5000+ legacy wells and integration with a WITSML data store to feed the database with real-time data for active wells. Workflow development, testing, documentation, and full deployment were also included with a well-established change management process to manage risks. A comprehensive training program was developed and implemented to ensure that end-users could adopt the new technology effectively.

Results, Observations, Conclusions: The solution proved that the collaboration and process optimization between Remote Casing Control (RCC) and Geosteering teams help to streamline workflows and reduce manual intervention, freeing up team members to handle more wells or to focus on higher-value tasks. Technology migration was required to implement the integration, and to introduce new advanced geoscience workflows for better usability and performance. Examples of such workflows are: geological formation tops correlation and interpretation with lithology cutting curves, mapping with different industry standard algorithms, and dynamic updatability for structural models. By integrating WITSML real-time data feeds, the need for manual data entry is significantly reduced, leading to an improvement in data quality and a decrease in human errors. In addition, our effort identified the importance of integrating with other corporate repositories to improve data management and enable better decision-making process. This empowers various teams to access and share information more effectively. Overall, the solution was designed to ensure business continuity and 24/7 operations across different data centers to minimize downtime. The technology enabled better stability and enhanced performance which improves operation decisions and deliver better outcomes to the business.
**Novel/Additive Information:** This workflow sets the foundation for implementing advanced analytics using ML/AI algorithms that can process large number of wells in real-time. Lithology percentage curves, which represent the percentage of various rock types encountered at different depths, can also be utilized for other workflows like mineralogical and geochemical analysis. Furthermore, structural model updatability optimized drilling efficiency by identifying potential drilling hazards and guiding drilling trajectories based on up-to-date subsurface maps.