Integrating Software for Improved Well Planning
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Abstract

Each company has its own method of capturing data during the Drilling and Well Construction process, and these methods will vary from simple spreadsheets to more complex systems that captures the live data and stores it. Each company will also have a method of capturing the lessons learned, usually in the form or an End of Well Report or wash up meeting with all of the service companies. Turning this data into useful information and thence to knowledge is at the moment a difficult problem.

This transition process had been brought about by combining two specialist pieces of software. The first has the ability to take in date from all sorts of sources ranging from spread sheets via daily reporting systems to historical log data or real time data stream, mud logs etc. and then to present that data in a form that is useful to the drilling engineer in designing a well. The software also allows storage of experiences, both positive and negative, and links them to wells, rigs, specific types of equipment or operations.

This central store of data and the ability to transition it into useful information gives the engineer designing a well the ability to identify the risks and also the spread of times taken for various operations.

The second piece of software uses probabilistic calculations and the ability to place branches into the process that take into account the risks identified using the data storage software. Once a risk is identified then the mitigation steps are identified: how it will be addressed, what is needed and when.

All this information is taken into account when calculating the time and cost, giving a spread from Technical Limit through to Worst Case. More importantly all of the steps, and assumptions are stored in one place rather than the traditional multiple spreadsheets that generate the “Excel Hell” scenario.

By following a simple process with only two pieces of software the accuracy of well costing and scheduling can be increased additionally the understanding and mitigation of risk improves and lessons learned are no longer lost as personnel move within the company or the industry.