

Realities of Drilling that Geologists Need to Know

Sam Noynaert

Texas A&M

Abstract

The operations workflow in most E&P companies involves discipline-centric teams, drilling, completions, production and geology, working in isolated groups with limited communication occurring between the teams. While these teams typically act as if they were individual groups of consultants, the reality is they are working for a common employer with what should be a common goal: maximizing return on a portfolio of resources.

Unfortunately, it often does not look like a common goal exists at the implementation level, particularly when it comes to geosteering. Drilling engineers, geologists and field personnel seem to drill and steer wells in spite of companies' workflows instead of because of those processes. While different goals and measures of success will obviously exist from discipline to discipline, the fact that each group rarely understands the reasoning behind other teams' decisions leads to a fractured and inefficient drilling process. Each team has a reason for their basis of design and how they manage real-time processes and optimization of wells' performance. These reasons are generally not communicated or understood outside that particular discipline team.

This presentation discusses the dynamic between geologists, engineers and field personnel from a drilling engineer's perspective. It covers the common problem areas and dissimilarities in goals which are the root of most differences between these three groups. The typical goals or metrics by which drilling engineers and field personnel make decisions will be discussed. The presentation is not designed to be a lecture on drilling basics. Instead it will use the geosteering process as an example to foster a practical discussion on how to understand and subsequently utilize the differences that exist within E&P companies' operational teams to improve the well construction process.