

The Geologist and the Engineer — In Need of Each Other More Than Ever

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Historically, earth scientists ponder maps, logs and other data in search of prospective hydrocarbon traps. A map with a carefully placed location would be provided to the engineering group. The well was then designed and drilled. The groups would exchange information to insure the target was hit in an optimal position and, if successful, completed in the target formation. Logs were run to estimate potential reserves, and to verify additional drilling opportunities. Although oversimplified, this was often the limit of communication between the rock focused earth scientist and the math focused engineer.

But this is no longer the case in the age of unconventional gas exploitation. While the basic needs for geologic analysis remain unchanged there is a significant increase in the need for communication and coordination between these two disciplines.

No longer relegated to placing a dot on a map and waiting to see if the engineer finds the target trapped, sourced and sealed as envisioned. Now the geologist's work continues, and in more detail than before. Rock mechanics, mineralogy, clay content, secondary mineralization, Young's Modulus and Poisson's Ratio, nano-darcy and pico-darcy have become every day terminology that all disciplines must work to understand for their well planning and completions.

Communication between these groups is essential to promote innovation and optimization in these technologically challenging unconventional plays. And both are necessary for success.