

Formation Evaluation in Shale Prospects, Experience in Argentina—Vaca Muerta Formation

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Abstract

Although the terms "formation evaluation" are equally applied to both conventional reservoirs and shale prospects, their objectives, log-based quantifiable properties, lab measurements, and processes are distinctly different.

This demands a change in workflows, mindset and paradigms of the Geoscience professionals, who had to walk through the learning curve at a fast rate, with the support of experience in the U.S.A.

In Argentina, with over three years of learning in the Vaca Muerta Formation, a workflow has been created to evaluate this formation. This workflow, which encompasses log analyses, lab measurements and calibrations is presented in this paper.

Relevant properties must be summarized following quantification to proceed to decision-making. This is aimed at answering some questions, such as: Which intervals should be hydraulically fractured and which intervals should not? Which is the best interval to navigate in a horizontal well?

It is worth mentioning that there are many properties that could be major drivers that determine the productivity of this prospect, being added and studied progressively and methodically as projects move forward.

Therefore, formation evaluation in unconventional prospects should not be deemed as the final product of a static science, because, as any process of knowledge creation, it evolves over time.