

The Unconventional Resources in Argentina and Petrobras' Challenge in Vaca Muerta Formation

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Abstract

After EIA (U.S. Energy Information Administration) publication of June, 2013 ranked Argentina as home to the second largest resource of shale gas and the fourth largest resource of shale oil in the world, it becomes necessary to convert these resources into reserves.

Petrobras Argentina operates several exploration and development blocks in the Neuquen Basin with highly attractive prospects in Vaca Muerta formation. Ranked fourth in position among unconventional reservoir operators in terms of operated acreage, the company faces the challenge to apply the technology that has been successfully applied in tight reservoir projects, to shale gas and shale oil projects. Similarly, the technology which was developed by Petrobras in PROCAP, to successfully explore and develop deep-water reservoirs, is now used in the Pré-Sal project.

As a shale reservoir, Vaca Muerta formation shows features that distinguish it from similar formations, such as its thickness, equal to three times the average thickness of shale formations developed in the USA.

The importance that Petrobras attaches to Unconventional Resources is reflected by its Investment Plan, in which the CAPEX assigned to unconventional resources accounts for 32% of total investments.

Petrobras has undertaken an aggressive development of its tight gas reserves in the Neuquen Basin-centered play, thus acquiring an ongoing learning curve in regard to critical project parameters.

Petrobras will use and improve its experience with tight gas to face its shale oil and shale gas challenge. With this goal in view, drilling a shale oil exploration well was started in the Rincón de Aranda block and a shale gas exploration well in the Sierra Chata block, both having promissory results.

The key to this challenge is the optimization of aspects such as drilling, completion, and infrastructure.

Because of its significance in terms of unconventional reservoirs, the Neuquen Basin will serve as a school of learning for the Petrobras system.