
Unconventional Play Potential in Northern Mexico

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ABSTRACT

Prospecting area for an Upper Cretaceous gas-shale unconventional play with a close analogue from U.S. is located at the border in northern Mexico, which can extend toward south Tamaulipas state.

An Upper Jurassic gas play is a present an exploratory objective in the Sabinas Basin, but a Upper Jurassic La Casita gas-shale unconventional play is on early evaluation, an equivalent to Haynesville gas-shale from the southern U.S.

Updating the geological framework under a gas-shale approach was made considering subsurface data to know elements and processes of the Eagle Ford petroleum system and distinguish play segments to define an exploratory strategy. Same analysis is in progress for La Casita gas-shale.

U.S. Eagle Ford units are identified and mapped in Mexico based on stratigraphy, lithofacies, and geochemical characteristics. Petroleum system modeling and maturity data indicates generation windows in the U.S. project into Mexican territory. Exploratory targets are in the lower unit due to its high values of total organic content in the shale.

Risk analysis and mapping identified 12 play segments for the lower unit and nine play segments for the upper unit. Four sectors are the high potential targets to test commerciality of Eagle Ford gas-shale play.

The first gas-shale pilot well is under completion, with gas production from the lower unit of Eagle Ford. Final gas production will be used to estimate volumetric and uncertainty of gas-shale resources in this segment of the play.