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Seeking the 'Goldilocks Window' of the Austin Chalk

August 2020 | Heather Saucier, Explorer Correspondent

ourced in part by the Eagle Ford Group, the Austin Chalk has been a hot spot for operators on and off for a century. The rise of horizontal drilling and hydraulic fracturing brought a renewed interest in the formation, which has produced new discoveries in Texas and Louisiana.

Yet in parts of the Austin Chalk, extracting oil and gas can be extremely tricky. In this highly fractured reservoir, hydrocarbons are commonly present in nanopores and micropores, requiring extensive knowledge of the rocks for sweet spots to be identified.

Outcrop of the Eagle Ford and Austin Chalk contact off Kiest Blvd. a fifth of a mile east of Patriot Parkway in Dallas County. Photo by Joshua Doubek.

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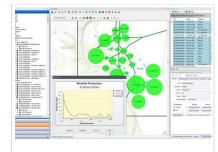
However, knowledge of such rocks is scarce, as many operators have relied mostly on seismic data in the past to successfully drill for the Chalk. To further exploit the reservoir at deeper depths, a major exercise in characterizing the geology is required.

Several years ago, the Carbonate Reservoir Characterization Research Laboratory at the Bureau of Economic Geology, Jackson School of Geosciences, University of Texas at Austin began a project to analyze approximately 40 cores from the Austin Chalk – the first group to do so.

Its goal is to make information available to extend the success of this unique play, as the Austin Chalk is not only sourced by the Eagle Ford below, but self-sourcing as well.

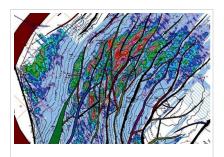
"Overall, until one knows the geologic characteristics, they cannot understand the data they collect from seismic, wireline-logs, production volumes, etc.," said AAPG Member Robert Loucks, a senior research scientist at the BEG. "A solid understanding of the rock characteristics is necessary to understand how to explore for and exploit the Austin Chalk."

History of the Chalk



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Austin Chalk Play Research

Very good update on the Austin Chalk. Thirty years ago 2D seismic mapping of the Austin Chalk highlighted the Cretaceous shelf edge, faults, and structural noses to locate the high potential naturally fractured Austin Chalk horizontal wells. That was before hydraulic fracturing completion technology and finding natural fractures was the key to profitability. Initial flow rates on good wells were in the thousands of barrels of oil and millions of cubic feet of gas per day. Standing on location next to a good producing well you would hear Austin Chalk rock fragments banging the against the steel tank battery, cha-ching!

8/26/2020 9:57:33 AM James Huggard

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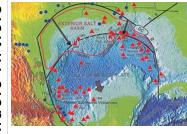
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