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**Energy - Oil and Gas Research; New Oil and Gas Research Findings Reported from University of Texas at Austin (Using a Segregated Flow Model To Forecast Production of Oil, Gas, and Water In Shale Oil Plays)**

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2019 SEP 6 (VerticalNews) -- By a News Reporter-Staff News Editor at Energy Weekly News -- Fresh data on Energy - Oil and Gas Research are presented in a new report. According to news originating from Austin, United States, by VerticalNews editors, the research stated, "Application of a segregated-flow assumption to a physics-based flow model simplifies decline analysis for multi-phase fluid production. The segregated flow model assumes that, during production, oil and water can be treated as taking different flow paths from the matrix to the hydrofracture network."

Funders for this research include Alfred P. Sloan Foundation, project "The Role of Shale Oil in the U.S. Energy Transition", State of Texas Advanced Resource Recovery (STARR) project, Bureau of Economic Geology's Tight Oil Resource Assessment industrial associates program.

Our news journalists obtained a quote from the research from the University of Texas at Austin, "This simplifies forecasting production of both the oil and water phases. Subsurface and reservoir property data for horizontal fractured wells are limited. As a consequence, attempts to estimate decline curves and ultimate recoveries utilizing full-physics, multiphase reservoir simulations are poorly constrained. In contrast, robust production forecasts can be made using a simple, physics-based model based on scaling laws. In this study, analysis of production decline has been carried out on 10,000 Permian basin, 12,000 Bakken and Three Forks, and 10,000 Eagle Ford oil wells. Additionally, 5000 Eagle Ford and 1000 Permian shale gas wells were analyzed. The approach enables estimation of the time to boundary-dominated flow and drainage volume for each well. In addition, the ultimate recoveries of oil, gas, and water were estimated. These can be used to compare wells drilled using different technologies or in different formations, plays, and geographic locations. Physics-based, segregated-flow models are broadly applicable to analysis of production from tight oil reservoirs. Empirical observations show that flow can be treated as segregated, where water and oil follow independent paths to the wellbore."

According to the news editors, the research concluded: "Therefore, this model can be used to perform reliable, fast, automated decline analysis for tight oil fields."

For more information on this research see: Using a Segregated Flow Model To Forecast Production of Oil, Gas, and Water In Shale Oil Plays. Journal of Petroleum Science and Engineering, 2019;180():48-61. Journal of Petroleum Science and Engineering can be contacted at: Elsevier Science Bv, PO Box 211, 1000 Ae Amsterdam, Netherlands. (Elsevier - www.elsevier.com; Journal of Petroleum Science and Engineering - www.journals.elsevier.com/journal-of-petroleum-science-and-engineering/)

The news correspondents report that additional information may be obtained from F. Male, University of Texas - Austin, Hildebrand Dept. of Petroleum & Geosystem Engineering, Austin, TX 78712, United States.

Keywords for this news article include: Austin, United States, North and Central America, Oil and Gas Research, Energy, University of Texas at Austin.

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