Chemicals and Chemistry; Study Data from University of Texas Austin Provide New Insights into Chemicals and Chemistry (Middle Platform Carbonate Depositional Systems and Lithofacies Patterns In the Lower Ordovician Ellenburger Group, Tobosa Basin In West Texas, Us A., ...)

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2023 APR 18 (NewsRx) -- By a News Reporter-Staff News Editor at Life Science Weekly -- New research on Chemicals and Chemistry is the subject of a report. According to news originating from Austin, Texas, by NewsRx correspondents, research stated, "A long, continuous core (1155 ft; 352 m) from the Ellenburger Group in Upton County, Texas allowed for a detailed reservoir description of depositional setting, lithofacies, pore networks, and impact of subsequent karst processes on the reservoir geology. This reservoir description furthers the understanding of the origin and characteristics of pore types relevant for waste-water disposal, carbon dioxide storage, and hydrocarbon reser-voir quality in the Ellenburger Group."

Financial support for this research came from Carbonate Reservoir Characterization Research Laboratory (RCRL) at the **Bureau of Economic Geology**.

Our news journalists obtained a quote from the research from the University of Texas Austin, "The Lower Ordovician Ellenburger Group in West Texas is a thick dolomite sequence that was deposited on a broad shelf over a 16 m.y. Time period in the Tobosa Basin. The shallow-water restricted depositional setting produced carbonate sediments that are dominantly composed of middle-shelf microbial thrombolite boundstones and inner-shelf laminated (stromatolitic) mudstones. Recognizable skeletal grains are rare. The lower two thirds of the cored section in the area of investigation in Upton County, Texas is dominated by microbial thrombolite complexes with associated stromatactis features. Interbeds of oolites and evaporites are associated with the complexes and may represent small-scale fluctuations in relative sea level. Up-section, lithofacies transition into a peritidal complex composed of stromatolites and laminated mudstones, some displaying evaporite nodules. The lithofacies stacking pattern is similar to the regional established stacking pattern where the most open-marine lithofacies are at the base of the stratigraphic section and the most restricted lithofacies are at the top of the stratigraphic section. This consistent stacking pattern suggests a stable structural setting for millions of years where constant environmental conditions existed. Following deposition and subse-quent lithification and dolomitization of the Ellenburger Group, the section underwent intense meteoric karsting (epigenic) during Late Middle Ordovician Sauk-Tippecanoe megasequence long-term exposure. The meteoric karsting affected the upper 700 ft (215 m) of the Ellenburger Group. The pore network in the studied core is composed of vuggy (small cavities) pores in the thrombolite lithofacies and crackle and mosaic breccia fracture pores and chaotic breccias interbreccia pores in karst-affected intervals."

According to the news editors, the research concluded: "These pore systems support hydrocarbon production, waste-water disposal, and carbon-dioxide storage."

This research has been peer-reviewed.

For more information on this research see: Middle Platform Carbonate Depositional Systems and Lithofacies Patterns In the Lower Ordovician Ellenburger Group, Tobosa Basin In West Texas, Us A., and Subsequent Sauk-tppecanoe Megasequence Boundary Meteoric Karsting. Marine and Petroleum Geology, 2023;150. Marine and Petroleum Geology can be contacted at: Elsevier Sci Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, Oxon, England. (Elsevier - www.elsevier.com; Marine and Petroleum Geology - www.journals.elsevier.com/marine-and-petroleum-geology/)

The news correspondents report that additional information may be obtained from Robert G. Loucks, University of Texas Austin, Jackson School of Geosciences, Bur Econ Geol, Univ Stn, Pob 10, Austin, TX 78713, United States. Additional authors for this research include Christopher K. Zahm, Kelly E. Hattori and Taylor Sanchez.

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