Geology - Sedimentary Geology; New Sedimentary Geology Study Results Reported from University of Texas Austin (Micropetrographic Characterization of a Siliciclastic-rich Chalk; Upper Cretaceous Austin Chalk Group Along the Onshore Northern Gulf of Mexico, Usa)

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2021 FEB 26 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- Current study results on Geology - Sedimentary Geology have been published. According to news reporting out of Austin, Texas, by NewsRx editors, research stated, "The Austin Chalk Group is a very fine grained carbonate mudrock composed predominantly of microorganisms. To geologically characterize such a unit, the components and depositional and diagenetic features must be examined at the nano- to microscale, using micropetrography."

Financial supporters for this research include Carbonate Reservoir Characterization Research Laboratory (RCRL), State of Texas Advance Resource Recovery (STARR) Program at the **Bureau of Economic Geology**.

Our news journalists obtained a quote from the research from the University of Texas Austin, "Analytical methods include scanning electron microscopy, energy-dispersive X-ray spectroscopy, and thin-section analysis. Through micropetrographic analysis, we determined Austin Chalk composition to be mainly a matrix of coccoliths and coccolith elements in 20- to 30-micron peloids (probably marine snow). The most common larger components are planktic foraminifers and bottom-dwelling inoccramids. Austin Chalk mineralogy is predominantly calcite and silicidastic components that are mainly clay minerals, quartz, and albite. Grain sizes of Austin Chalk components are generally in the clay- to medium-silt range. Four basic lithofacies define the Austin Chalk: (1) lithofacies 1: highly bioturbated, organic-matter-poor marly chalk, (2) lithofacies 2: highly bioturbated, moderately organic-matter-rich, marly chalk to chalky marl, (3) lithofacies 3: sparsely burrowed, poorly to moderately laminated, organic-matter-rich marly chalk, and (4) lithofacies 4: well-laminated, organic-matter-rich manly chalk to calcareous silicidastic mudstone. These four lithofacies are distinguishable by their different fabrics, as well as by ranges in mineral composition and TOC content. Mean of organic-matter content ranges from 032 to 2.56 wt%, and the kerogen is generally Type I and Type II, except in lithofacies 1, in which Type III is more common. The abundance and type of organic matter suggest that the Austin Chalk can be self-sourcing."

According to the news editors, the research concluded: "This investigation provides the basic nano- to micro-observations that will aid in other studies of the Austin Chalk Group and geologically similar formations relative to rock-strength/brittleness, source-rock potential, and reservoir quality."

This research has been peer-reviewed.

For more information on this research see: Micropetrographic Characterization of a Siliciclastic-rich Chalk; Upper Cretaceous Austin Chalk Group Along the Onshore Northern Gulf of Mexico, Usa. Sedimentary Geology, 2021;412. Sedimentary Geology can be contacted at: Elsevier, Radarweg 29, 1043 Nx Amsterdam, Netherlands. (Elsevier - www.elsevier.com; Sedimentary Geology - www.journals.elsevier.com/sedimentary-geology/)

Our news journalists report that additional information may be obtained by contacting Robert G. Loucks, University of Texas Austin, Jackson School of Geosciences, Bur Econ Geol, Pob 10, Austin, TX 78713, United States. Additional authors for this research include Robert M. Reed, Lucy T. Ko, Christopher K. Zahm and Toti E. Larson.

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