

Lower Ordovician Ellenburger Karst Workshop: Sedimentary Lithofacies, Karst Development, Seismic Attributes, Regional Features, and Internal Architecture

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When: December 10th, 2025

Where: Bureau of Economic Geology, Pickle Research Campus, Austin, TX

STARR Program

Bureau of Economic Geology
Jackson School of Geosciences
The University of Texas at Austin

The STARR Program, with participation from the RCRL IA, has carried out local- to regional-scale investigations of the Lower Ordovician Ellenburger karsted carbonate interval in West Texas. The Ellenburger is well known for hydrocarbon production from karsted reservoirs, but in recent years attention has also shifted toward wastewater disposal and hydrogen storage.

Ellenburger reservoirs are strongly overprinted by karst processes, producing brecciated and fractured systems characterized by low porosity (generally <5%) but moderate to high permeability (up to 100 millidarcys). Internal architecture is highly complex and chaotic, resulting from homogenization and amalgamation of remnant host rock, cave fill (sediment and fine chaotic breccia), and large breccia blocks.

To better understand these reservoirs, this study integrates multiple 3D seismic surveys from the Permian Basin with six karsted Ellenburger cores from Upton County. This combined approach provides new insights into sedimentary lithofacies, karst development and associated facies, seismic attributes, regional-scale karst features and patterns, and internal reservoir architecture.

Workshop Format

The workshop includes:

- A series of lectures covering geology and seismic interpretation.
- A short exercise analyzing several 3D seismic lines.
- Core examination of six karsted Ellenburger cored sections (totaling more than 2,000 ft) from Upton County, two of which are tied to a 3D seismic survey.

This workshop is designed for geologists, geophysicists, engineers, and managers interested in karsted carbonate systems. Up to 30 people can be accommodated in the workshop.

For more information or to reserve a place, please contact Bob Loucks at bob.loucks@beg.utexas.edu.