

DIAGENESIS OF THE WOLFCAMP SHALE, PERMIAN BASIN, TEXAS

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Studying shale diagenesis can provide data about reservoir quality, porosity occurrence, fractability and fluid movement within shales. These are all factors that are important to the oil and gas industry for locating and drilling the best well locations. The Wolfcamp Shale within the Permian Basin, Texas has not been subjected to many diagenetic studies to enhance the reservoir characterization of the unit. Through the application of Scanning Electron Microscopy and petrographic analysis, the mineralogy, fractures, and diagenetic features can be identified to develop a paragenetic sequence. The diagenetic history, in combination with the depositional characteristics, can help to identify fracture barriers, permeability pathways and porosity storage within the Wolfcamp shale.

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