

Donald L. Rasmussen¹: (1) Paradox Basin Data

Gas-Bearing Sandstone Trends Within Pennsylvanian Strata Of The Paradox Basin, Colorado And Utah

Initial deposition of Pennsylvanian strata in the Paradox Basin occurred in the Uncompahgre Trough along the SW margin of the Uncompahgre Uplift. Siliciclastics first appear in the Morrowan in the area between Naturita and Ridgway in Colorado and east of Thompson in Utah, but their upland source area within the Ancestral Rocky Mountains is conjecturable and may not have been the ancestral Uncompahgre Uplift. Siliciclastic wedges during the Atokan and most of the Desmoinesian have limited trends within the Trough where accommodation space was high yet flowage of the underlying salt beds was still minimal. As seen in maps and sections, later wedges during the late Desmoinesian and continuing into the Permian Wolfcampian consist of multiple (cyclic) prograding cliniforms of fluvial, deltaic and turbidite sediments that filled and overwhelmed accommodation space and advanced out into the basin overloading and deforming underlying beds of halite and potash. Their upland source was unquestionably the tectonically active Uncompahgre Uplift, which reached its highest relief and erosion in the Leonardian as seen by the monstrously thick Cutler Organ Rock siliciclastics that over-road all previous strata greatly deforming the underlying salt beds into multiple salt walls (diapirs), anticlines, and remnant pillows and burying Pennsylvanian organic-rich horizons sufficiently deep enough to initiate prolific generation of oil and gas that migrated into multiple adjacent porous sandstone intervals.