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Donald L. Rasmussen¹, Dalton L. Rasmussen² (1) Paradox Basin Data, Denver, CO (2) Platte River Associates Inc, Boulder, CO

Pennsylvanian Hermosa Group Depositional Trends During Progressive Burial of Pre-Hermosa Terrain in the Early Structural History of the Paradox Basin in Utah and Colorado

Pre-Hermosa terrain in the Paradox Basin had low relief and was developed mainly on karsted Mississippian Leadville carbonates with local and marginal areas of Devonian, Cambrian, and Precambrian rocks. During early Hermosa deposition, the Uncompahgre, Defiance and Emery basement uplifts were already emerging along the respective margins of the basin and less prominent northwest-southeast-trending linear uplifts were already present at various positions within and along the margins of the basin. The Uncompahgre and Defiance uplifts and other nearby areas provided clastics in the (transgressive) interbeds between lowstand evaporites and marine highstand carbonates in many of the early Hermosa cyclic sequences. The oldest Hermosa strata (Morrowan) are in the deep trough along the margin of the Uncompahgre Uplift and in the northern basin where the strata may be a continuation of the Chesterian Doughnut strata widely present in the deep Uinta Basin. Pre-Hermosa terrain, including highs on long linear trends through the center of the basin, was gradually buried by sediment onlap during millions of years in the later Morrowan and Atokan, with some outer marginal areas not buried until in the Desmoinesian.