ABSTRACT

TITLE:	Facies Heterogeneity and Petrography of the Downdip Evaporitic Wedge in the Akah Interval of the Pennsylvannian Paradox Basin
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ABSTRACT: This outcrop-based research compares and contrasts the facies associations of downdip evaporitic wedges of the late Carboniferous Akah interval (Moscovian) along the east and west margins of the Paradox basin in southwestern Colorado and southeastern Utah. These wedges contain shallow marine carbonates, organic-rich dolomites and evaporites which were deposited along the margin of a temporarily restricted, rapidly subsiding basin subject to episodic desiccation and flooding. The stratigraphic sequences and downdip restricted geometries in each locale are generally similar, yet the facies are encased by siliciclastic deltaics on the tectonically active eastern margin, and shallow water carbonates on the western side ramp margin. The deposits in the western lowstand wedge are in the same sequence as highstand stromatolitic build-ups located 12 miles to the west on the shallow shelf. On both sides of the basin, laminations of organic-rich dolomite and gypsum underlie large packages of massive and laminated gypsum deposits. Associated with these evaporites, are microbial, dolomitic packstones that include oomoldic coated grains on the west and oncolites on the east. Facies from both sides characterize a restricted, organic-rich, shallow subaqueous, evaporative shoreline environment. Such facies exhibit characteristics similar to the modern intertidal and supratidal sabkha settings in Abu Dhabi U.A.E., lagoonal settings of the Holocene along the Red Sea, the modern intertidal salina settings in the West Caicos Islands and late Triassic Abu Ruweis Formation in Jordan.