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# Holocene Siliciclastic-Carbonate Facies Mosaics, Northern Belize: Exploration Analog to Some Midcontinent Pennsylvanian (Morrowan) Reservoirs: Abstract

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## ABSTRACT

Midwinter Lagoon is a large, shallow coastal lagoon, bordered on its seaward side by a barrier bar, along the mainland coast of northern Belize. As much as 19 ft of Holocene sediments, deposited on karsted Tertiary limestones during the Flandrian transgression, consist of a complex mosaic of mixed siliciclastic and carbonate facies. Basal transgressive marine, intra-lagoonal facies are variously siliciclastic-rich carbonates to carbonate-rich siliciclastics, locally with layers of shoreline mangrove peat. These facies shallow-upward to either siliciclastic or carbonate-dominated sands or muds. Lagoonal facies were deposited within a broad topographic low, locally punctuated by bedrock highs, on the underlying limestone. The seaward edge of the barrier bar complex, which was deposited on a linear topographic high, consists mostly of quartz sands, whereas the lagoonal side is a mixture of quartzose and carbonate sediments (sands and muds). The barrier bar appears to have accreted southward in response to southerly longshore drift as a tidal inlet-spit complex; quartz sands are being transported into the lagoon from its seaward side.

In terms of geometry, modem and buried, intra-lagoonal carbonate sands occur as lobes deposited proximal to extant and older tidal inlets. Either carbonate or siliciclastic sands variously occur as erratically distributed, anastomosing beach deposits around small mangrove islands and along the irregular mainland coast. In contrast, siliciclastic sands on the seaward side of the barrier bar define a narrow but areally persistent linear trend. Similar complex facies associations and geometries are typical of many Pennsylvanian (Morrowan) reservoirs in the midcontinent United States.

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