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> which grade by facies change into sabkha anhydrites. Shoreline reservoirs are dominated by porous and permeable, oolitic lime grainstones. Delineation of shoreline producing trends indicates that fields occur near the facies change from carbonate to anhydrite. Anhydrite and impermeable dolomudstone traps developed updip of shoreline trends and are slightly embayed across paleostructural and present day, southwest-plunging anticlines.

> Basinward of shoreline trends, carbonate shoals developed along paleo-anticlinal trends. Shoals are dominated by oolitic and pisolitic packstones and grainstones. Porous reservoirs are locally developed in these moderate to high energy deposits. Updip traps are impermeable lime mudstones and dolomudstones.

> Reservoir heterogeneity is controlled by variations in depositional facies, location along structural trends, fracturing, and diagenesis. Reservoir compartments are moderately to extensively separated by these components.

> Within fields, the cyclic and thin-bedded nature of reservoir facies produces limited interconnection of porous intervals. To exploit this level of heterogeneity, detailed core and wireline log studies must be conducted. Seismic data and subsurface mapping provide the means of unraveling structural control on reservoir development. Reservoir heterogeneity created by variations in diagenesis require detailed petrographic characterization. Incorporating these analytical techniques in field development reduces overall risk and sets the stage for enhanced recovery, lower cost infill drilling, and horizontal technology.

Sherwood Depositional Trends, Trap Configuration, and Reservoir Heterogeneity Along the Northeast Flank of the Williston Basin (U. S.)

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Mission Canyon Sherwood beds are important exploration targets along the northeast flank of the Williston Basin. Sherwood beds are near-shore and shoreline carbonates