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**Controls on Reservoir Distribution, Architecture and Stratigraphic Trapping
in Slope Settings**

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Turbidite reservoir distribution and architecture across slope and base-of-slope systems varies as a function of accommodation space, sediment flux rates, substrate mobility and sand-mud content. Presence of ponded accommodation and large amounts of mid- to upper-slope healed-slope accommodation distinguish above-grade slope systems from graded-slope systems. Large amounts of healed-slope accommodation in basin floor and toe-of-slope positions and absence of ponded accommodation distinguish graded-slope systems from above-grade slope systems.

Sheet sand deposition on above-grade slopes results from ponded basin "fill-and-spill" processes. Pinchout of ponded sands into slope drapes deposited around ponded basins form lateral seals for the onlap traps common in this setting. Sheet sands are also found in basin floor positions and at the toes of graded (unconfined) slopes associated with stable substrates. The break in slope onto the basin floor provides a key setting for the deposition of both sheet and channel sands. Pinchout of sands or onlap onto the slope form the updip stratigraphic components forming stratigraphic traps with the potential for large hydrocarbon accumulations.

Many recent turbidite discoveries principally on the continental slope of west Africa, and a great deal of the remaining deepwater potential in the global play is associated with stepped or terraced above-grade slopes that lack intraslope basins with ponded accommodation. Since reservoirs in these settings have yet to be developed, their performance characteristics are poorly understood. Many of them are associated with belts of highly sinuous ribbon and shoestring channel sands with locally scattered, thin, ponded fans. Highly discontinuous external and internal (subseismic) architectures associated with these reservoir types present development challenges not encountered with sheet sand reservoirs due to poorer reservoir connectivity resulting in reservoir compartmentalization and limited aquifer support.