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Modern and Antecedent Topography: Focussing Agents for Reservoir Sands—Central and Western Scotian Basin

Modern and antecedent topography are good indicators of areas where potential reservoir sands should occur in the western and central Scotian Basin. Core sections and cuttings from ten wells are compared with onshore Triassic/Jurassic outcrops and gravity and magnetic data to evaluate sediment dispersal pathways. Long-lived structural highs, such as the Montagnais structure, should have provided favorable conditions for sand deposition along the southeastern and southwestern margins. Late Cretaceous emergence of the highs would form barriers to continental sediments shed from the northwest. Additional erosion of the highs would occur as uplift progressed; porosity should be preserved in basins that are far enough away from the core of these structures to negate the effects of metamorphism.

Each of the wells has similarities that point to areas within the basin where sands should have accumulated: 1. they occur within grabens or areas fed by canyon systems; and 2. they are adjacent to structural highs which enhanced sediment focusing and contributed to sediments shed into the grabens/channels through erosion. These predictive tools utilize modern depositional principles and analogues to predict the spatial distribution of late Jurassic and Cretaceous reservoir formations.