

The McCully Discovery: A New Albert Formation Unconformity Play, New Brunswick, Canada

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The Stony Creek Field was discovered in 1909 within the Carboniferous Albert Formation of the Moncton Basin, Atlantic Canada. The next major discovery was the McCully Field in 2000. Five wells have been completed within the McCully structure and all wells show a thick sequence of gas-filled interbedded lacustrine sandstones and organic shales deposited within lacustrine deltas, shorelines and fluvial systems of the Hiram Brook Member. The main sediment source appears to be from a large axial drainage system that enters the basin from the southwest.

A new 2D seismic program shows a large structural/stratigraphic trap that is confirmed by the overpressuring (gas column). The northern part of the field is trapped by a north-dipping "Weldon" Formation that truncates the south-dipping Albert strata. The southern portion of the field dips to the south where it spills into a regional syncline.

Most early exploration focussed on the southern margin where exiting hydrocarbons gave surface shows and where Albert outcrops allowed for some structural understanding. Despite the numerous shows, most southern margin structures lack a good trapping configuration. Very little exploration, in contrast, occurred beneath the Windsor evaporites the northern part of the basin due to poor seismic and little relevant outcrop. The McCully discovery shows that the thick "Weldon" Formation that lies beneath the Windsor evaporites provides the seal and trap that was lacking in the south. This indicates a good potential for many other traps in the relatively unexplored western and northern portions of the Moncton Basin.