

organic-rich, high gamma peak from wireline logs. The strata gradually coarsen upward as the progradational system tract of the HST moves into the area. The progradational system tract is composed of smaller parasequences representing individual prograding deltas.

The thickest, coarsest grained, most productive (to date), and most laterally extensive reservoir sandstone is the fluvial sandstone of the LST. The "McCully A Sand" sits unconformably above the Frederick Brook Member shale, is medium- to coarse-grained, and appears to extend from the west of Sussex to the McCully Field (a distance of 14 km). It may represent a forced regression. The best production from overlying sandstone comes from thicker sandstone packages that are also good candidates for LST deposits. Parasequence sandstone units are thinner, finer-grained and more difficult to correlate between wells, but are numerous and may contribute significant reserves to the McCully Field.

A sequence stratigraphic interpretation of the McCully Reservoir sandstones

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The McCully Field lies within the Albert Formation of the Moncton Basin near Sussex, New Brunswick. These strata are interpreted within a sequence stratigraphic framework in order to anticipate hydrocarbon reservoir quality and distribution. While sequence stratigraphic analysis is more commonly applied to marine deposition, strata deposited within lacustrine environments should show similar patterns. Both show fluctuations in their sea- or lake-level that influence accommodation space, although the causes and the periodicity of the fluctuations may differ.

The Albert Formation may be considered a large order sequence or supersequence that is common to most lake systems and results from the basinal interplay between accommodation space and sediment input. This gives rise to three principal basin-centre members. The (lowest) Dawson Settlement Member consists of fluvial sediments that gradually become deltaic upward as accommodation outpaced sediment input. The overlying lacustrine Frederick Brook Member was deposited during maximum accommodation and contains highly organic condensed zones and (presumably) the maximum flooding surface. The upper Hiram Brook Member resulted from the progradation of delta systems that filled the accommodation space as sediment input outpaced accommodation.

New drilling in the McCully Field in the Hiram Brook Member allows the preliminary identification of sequences. The base of each sequence contains fluvial sandstone (LST) that fines upward into shale (TST). The strata fine upward until they reach the maximum flooding surface (base of the HST) that is interpreted as the