SEQUENCE STRATIGRAPHY AND SEDIMENTOLOGY OF THE TERRY (SUSSEX) SANDSTONE IN A PORTION OF THE DENVER BASIN COLORADO

by

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ABSTRACT

The 180 ft (60m) thick Upper Cretaceous Terry Sandstone in the Denver Basin area, Wattenberg Field, was studied to evaluate its origin and depositional environments. Based on analysis of physical and biogenic sedimentary structures in nine cores, seven sedimentary facies were distinguished in the Terry Sandstone in the study area: 1) bioturbated mudstone; 2) storm sandstone with bioturbated mudstone; 3) burrowed to bioturbated muddy sandstone; 4) hummocky cross stratified sandstone without burrows; 5) rippled sandstone; 6)glauconite sandstone with rip up clasts; 7) interbedded sandstone and shale. The different associations and succession of the facies make possible the interpretation of Terry Sandstone as a shoreface depositional system. The sharp, erosional base of the Terry Sandstone is a forced regression sequence boundary.

Applying sequence stratigraphic principles to the cores and to 120 well logs, the Terry Sandstone is divided into three parasequences. Facies tracts boundaries between successively younger parasequences step landward, indicating an overall transgressive system tract. A fourth, offshore parasequence underlies the base of the Terry Sandstone (Sequence Boundary).

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