

Thomson, 1978

Data Set 65

Reference: Thomson, A., 1978, Petrography and diagenesis of the Hosston sandstone reservoirs at Bassfield, Jefferson Davis County, Mississippi: Transactions Gulf Coast Association of Geological Societies, v. 28, p. 651-664.

Author's affiliation: Shell Oil Company

Age: Early Cretaceous (Aptian)

Formation: Booth Sandstone Member of Hosston Formation

Location: Bassfield Field, Mississippi Salt Basin, Jefferson Davis County, Mississippi, United States

Well: Florida Gas - Shell, Deen No. 1

Depth range: 15970 - 16050 feet.

Lithology: Quartzose alluvial channel sandstones. The finer grained, upper parts of channels (lower fine mean grain size, moderately well sorted) usually have low porosities and permeabilities due to excessive compaction and cementation. Coarser grained (lower medium mean grain size, well sorted), lower parts of channels, on the other hand, retain good porosity and permeability, in part because of early entry of hydrocarbons which retarded further diagenesis.

Grain size: from Figure 3 of reference: grain size decrease upward within individual channels. Even so, the overall grain size is highest in the B sand (medium grain size), intermediate in the A sand (roughly upper fine grain size), and lowest in the C sand (very fine grain size).

Alteration: "In thin section the sandstones in the Deen No. 1 well have a clean quartzose framework with little feldspar (all plagioclase) and practically no rock fragments. Secondary quartz occurs as overgrowths on detrital grains in most samples. The early introduction of large amounts of dolomite in some samples has inhibited compaction of framework grains. Kaolinite, in amounts up to 15%, is found in all samples. It occurs mainly as a pore-filling material and was apparently an alteration product of feldspar. A little illite is present in all samples."

Production: gas production from A and B sands.

Core measurement conditions: not given.

Data entry: manual entry from Figure 7 of the referenced paper.