

Dutton and others, 2003

Data Set 22

Reference: Dutton, S.P., W.A. Flanders and M.D. Barton, 2003, Reservoir characterization of a Permian deep-water sandstone, East Ford field, Delaware basin, Texas: American Association of Petroleum Geologists Bulletin, v. 87, n. 4, p. 609-627.

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Age: Late Permian (Guadalupian)

Formation: Ramsey sandstone, Bell Canyon Formation, Delaware Mountain Group

Location: East Ford unit, Delaware Basin, Reeves County, west Texas

Wells: 12 cored wells distributed throughout field that is 2.5 miles north-south and less than 1.0 mile east-west

Depth range: 2705-2804 feet. The Ramsey 1 sandstone underlies the Ramsey 2 sandstone (Fig. 9 of reference).

Lithology: "well-sorted, very fine-grained arkoses" (based upon samples from one well; other cores were destroyed and hence not available for study.)

Depositional environment: "channel-levee system with attached lobes and overbank splays"

Alteration: "Cements constitute between 1 and 31% of the sandstone volume, with calcite and chlorite being the most abundant. Calcite cement has an average volume of 7% and ranges from 0 to 30%. Chlorite (average=1%) forms rims around detrital grains, extending into pores and pore throats." "Volume of calcite cement is the dominant control on porosity and permeability. In samples having less than 10% calcite cement, average porosity is 22.5%, and average permeability is 46 md. Sandstones having more than 10% calcite cement have an average porosity of 11.5% and average permeability of 3 md."

Production: oil

Core measurement conditions: conventional core analysis

Data entry: digital file from senior author.