

Bloch and others, 1990

Data Set 4

Reference: Bloch, S., J.H. McGowen, J.R. Duncan, and D.W. Brizzolara, 1990, Porosity prediction, prior to drilling, in sandstones of the Kekiktuk Formation (Mississippian), North Slope of Alaska: American Association of Petroleum Geologists Bulletin, v. 74, n. 9, p. 1371-1385.

Author's affiliation: Arco Oil and Gas Company

Age: Mississippian

Formation: Kekiktuk Conglomerate

Location: North slope of Alaska

Wells: Duck Island 1, Duck Island 3, West Mikkelsen 1 and West Mikkelsen 4.

Depth range: 10,000 to 15,000 feet

Lithology: "chert-bearing sublitharenites and quartzarenites characterized by a homogeneous composition of the detrital framework in the study area. Thus, mineral composition is not a major factor responsible for differences in reservoir quality. ... The advanced stage of mineralogical and textural maturity suggests the Kekiktuk sandstone originated as a recycled sediment accumulation."

Alteration: "A petrographic study indicated that in fine- and very fine-grained Kekiktuk sandstones, porosity was reduced primarily by silica cementation. Silica cementation, in turn, is related to burial history." A summary table of petrographic data based on 34 thin sections shows (averages in parentheses): quartz overgrowths, trace to 16% (4%); siderite 0 to 12% (<1%); ankerite, 0 to trace (<<1%); kaolinite 0 to 4% (1%); pyrite, 0 to 2% (<1%).

Production: oil and gas reservoir, Endicott Field.

Core measurement conditions: not given.

Data entry: manual entry from Figure 12 of the referenced paper.