

Lindquist, 1988

Data Set 37

Reference: Lindquist, S.J., 1988, Practical characterization of eolian reservoirs for development: Nugget Sandstone, Utah-Wyoming thrust belt: *Sedimentary Geology*, 56, 315-339.

Author's affiliation: Amoco

Reference: Houseknecht, D.W., 1987, Assessing the relative importance of compaction processes and cementation to reduction of porosity in sandstones: *American Association of Petroleum Geologists Bulletin*, v. 71, n. 6, p. 633-642.

Age: Jurassic - Triassic

Formation: Nugget Sandstone

Location: Anschutz Ranch East field, overthrust belt, southwestern Wyoming and northern Utah, United States

Well: 10 wells

Depth range: 11,850 - 14,725 feet.

Lithology: Eolian sandstone (see bedding categories listed below). Houseknecht reports an average of 87% monocrystalline quartz and 11% feldspar, with illite, dolomite, calcite, and quartz cements (none pervasively abundant). Lindquist (personal communication) recalls little or no lithic fragments.

Grain Size: Houseknecht reports fine to medium grain size and moderately to well sorted grains.

Alteration: "A red hematite stain was probably ubiquitous to most of the formation early in its burial history, as per ideas of Walker (1979), but it is now most intense in, or in some places restricted to, finest-grained intervals of low permeability, many of which show evidence for the presence of water in the depositional environment. Presumably, oxidized iron may have been removed from the more permeable intervals by subsurface fluid movement." ... "Major diagenetic events include compaction and local pressure solution; cementation by quartz, ferroan and non-ferroan carbonates, illite and chlorite, dissolution of carbonates and silicates; and alteration of hydrocarbons. ... The most porous and permeable facies (dune and dry interdune deposits) contain quartz overgrowths and zoned, nodular sparry carbonate cements, as well as authigenic chlorite and illite."

Production: Retrograde gas condensate and volatile oils.

Core measurement conditions: plug samples (2.5 cm diameter and 2.5 cm length), standard conditions.

Data entry: Scanned from tabulated data provided by the author, S.J. Lindquist.

Bedding: Bedding character was assigned directly from examination of the plugs (S. Lindquist, personal communication).