

Amthor and Okkerman, 1998

Data Set 2

Reference: Amthor, J.E. and J. Okkerman, 1998, Influence of early diagenesis on reservoir quality of Rotliegende Sandstones, Northern Netherlands: American Association of Petroleum Geologists Bulletin, v. 82, n. 12, p. 2246-2265

Authors' affiliation: Petroleum Development Oman and Norsk Hydro E&P

Age: Early Permian (Rotliegende)

Formation: Slochteren Formation

Location: northern Netherlands, onshore and offshore wells in Permian basin.

Wells: various

Depth range: 2600-4400 meters

Lithology: "96% of the rock samples are arenites, and the majority of samples in the arenite class are lithic arenites... Detrital quartz is the dominant component in sandstones in all wells, averaging between 63 and 85%. Feldspars are less abundant (<4%). Rock fragments are common to abundant in all wells, with volcanic and metamorphic rock fragments the most common constituents."

Alteration: "Dolomite, anhydrite, and authigenic quartz are the most abundant and most important pore-filling minerals...Dolomite is the predominant authigenic mineral in the studied sandstones... Poor reservoir quality is due mainly to the presence of pore-filling cements, dominantly dolomite and anhydrite."

Early diagenesis: "Shallow groundwater-related diagenesis is a major factor affecting Rotliegende reservoir sandstones. The precipitation of the main porosity-occluding cements (dolomite, anhydrite, and quartz) occurred early in the diagenetic history...An early diagenetic origin of the cements is also suggested by the fact that the majority of sandstone samples have lost more porosity due to cementation than through compaction....The relative abundance of dolomite and anhydrite cements can be correlated with depositional environments."

Production: gas.

Core measurement conditions: not given.

Data entry: Data file received from J. Amthor, senior author.