

Gaupp and others, 1993

Data Set 26

Reference: Gaupp, R., A. Matter, J. Platt, K. Ramseyer, and J. Walzebeck, 1993, Diagenesis and fluid evolution of deeply buried Permian (Rotliegende) gas reservoirs, northwest Germany: American Association of Petroleum Geologists Bulletin, v. 77, n. 7, p. 1111-1128.

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Age: Permian (Rotliegendes)

Formation: Schneverdingen, Slochteren, and Hannover Formations

Location: North German Basin, Germany

Well: porosity and permeability data are from 1500 core plugs from 75 wells.

Depth range: 3500 - 5000 meters

Lithology: "Mostly fine to medium-grained sandstones. The most abundant detrital grains are of monocrystalline quartz (16-50%). Feldspar grains, mostly composed of K-feldspar or albite, have variable abundance (0-15%). Rock fragments are dominated by polycrystalline quartz, although volcanic and plutonic grains are abundant (together 8-26%) in most coarser grained sandstones. Sedimentary grains are less common and are mostly intraformational (reworked mud flakes and carbonate-cemented sandstones and siltstones)." Figure 3 shows detrital mineralogy fields including quartz arenite, subarkose, sublitharenite, and litharenite with minor feldspathic litharenite.

Grain size and facies: "Grain size and facies are important controls on detrital mineralogy. Finer samples tend to contain more monocrystalline quartz, whereas coarser samples contain larger amounts of rock fragments. Eolian sandstones show good sorting and variable detrital mineralogies. Mud-flat and interdune deposits contain more quartzitic material, partly because they are finer grained. Fluvial deposits are poorly sorted and have more rock fragments. Fine-grained, well-sorted sandstones of the lake shore facies often have the highest amounts of monocrystalline quartz and feldspar grains."

Alteration: see list below.

Production: gas

Core measurement conditions: not given.

Data entry: manual entry from Figure 5 of the referenced paper. Data points are not given, the boundaries of the data fields are given by the values below.