

Pryor, 1973

Data Set 52

Reference: Pryor, W.A., 1973, Permeability-porosity patterns and variations in some Holocene sand bodies: American Association of Petroleum Geologists Bulletin, v. 57, n. 1, p. 162-191.

Author's affiliation: University of Cincinnati

Age: Holocene

Formation: not applicable

Location: various locations in United States

Lithology: freshly deposited sand bodies, see table for some details.

Alteration: none

Sampling method: "samples were collected along profiles, on grids, and on trench faces. Samples were collected in thin-wall aluminum tubes by carefully pushing the tubes into the unconsolidated sediments. In the profile line and grid patterns, samples were taken at a regular depth of 6 inches below the depositional surface to avoid the effects of eolian reworking. Attempts were made to collect only undisturbed samples. ...The samples were oriented parallel with the direction of bedding and lamination inclination to obtain maximum permeabilities for the given sample site. An attempt was made to collect these sediment samples as soon as possible after they were deposited; in the case of river bars after flood periods, and in the case of beaches during the ebb phases of spring tides." The aluminum tubes were 2.5 cm o.d. x 5.2 cm.

Measurement methods: "Permeabilities of the undisturbed samples were measured in a commercially available constant head - falling head permeameter adapted to the dimensions of the thin-wall aluminum sample tubes. Water permeabilities, in Darcy units, were measured at relatively low head pressures (50 cm of water) to prevent disturbance of the unconsolidated sand samples by elutriation and repacking. ... Porosity was measured by a modification of Ludwick's Volumeter and basing the calculations on the core volumes and grain volumes of the samples."

Data entry: Data entry: Mean values from Table 1 and text of the referenced paper. Data from samples at six sites taken from figures 3, 4, 9, 10, 13, and 14 of the referenced paper. Data from trenches were not entered.