

CURTIS HAYS WHITSON

RESERVOIR RECOVERY METHODS

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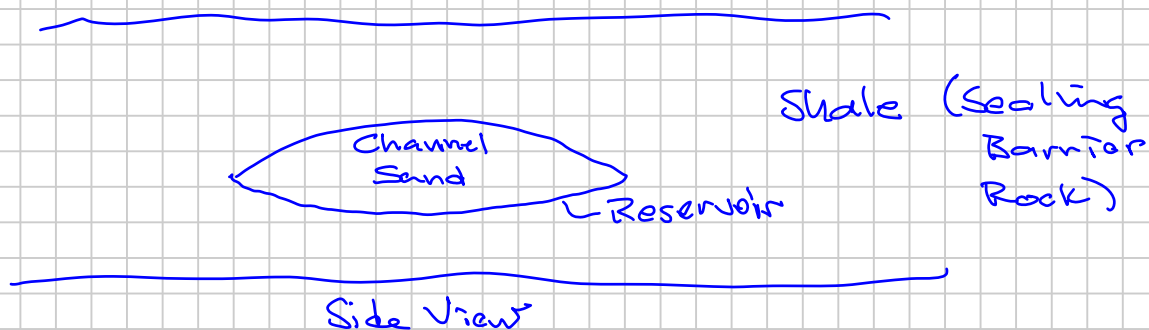
① RESERVOIR - What is it?

A ^{and permeable} porous rock containing fluid (e.g. hydrocarbons, etc) resources that can be accessed (and usually produced) by wells drilled from, connected and controlled at the surface by equipment and facilities such as pumps, compressors, separators, pipelines, and storage tanks.

(a) Geologic (and Petrophysical)

 $\phi, k, P_c \dots$

- Stratigraphic Container

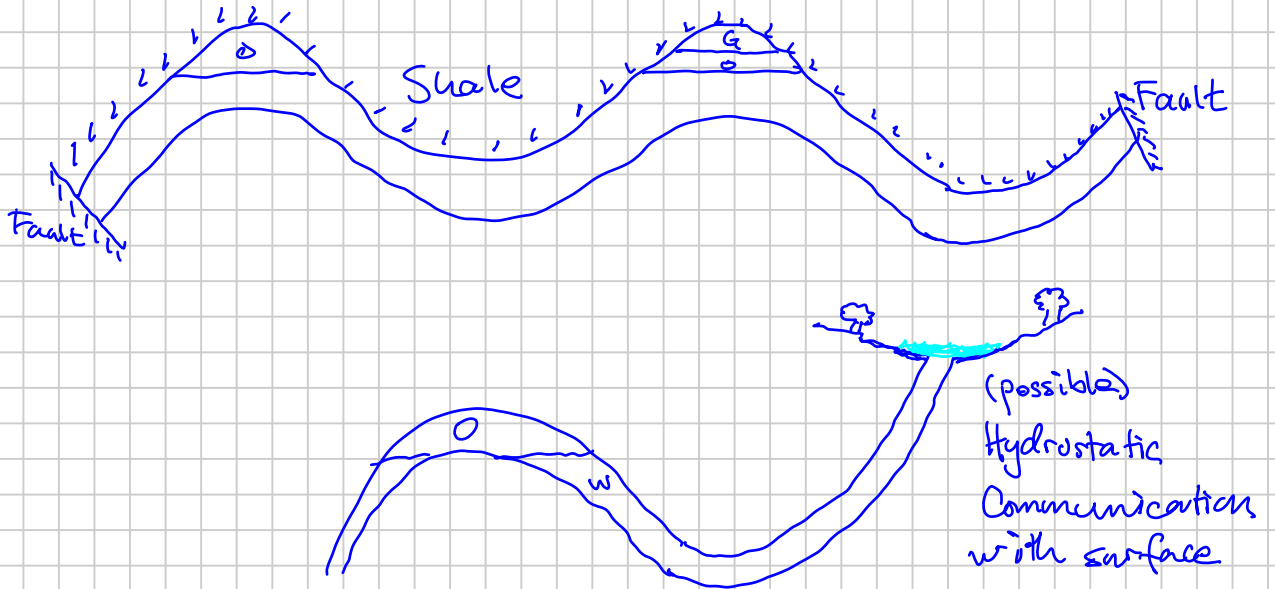


"HCs (and associated waters e.g. Aquifer A_Q) are sealed in all directions by ultra-low ($k \rightarrow 0$) permeability rock/effective barriers. Sealing barrier rocks are usually "neighbor" strata to the HC-bearing reservoir, most often "shale". The sealing rock, if organic rich, may be the source of HCs." CHW

- Structural Container

laid down ~ horizontally or flat at an angle

↓ transformed via folding, salt dome intrusion, faulting ...



overlying
"HCs trapped by impermeable barriers (e.g. shale layers or faults), often with significant deformation of the ~ flat strata laid down originally - e.g. by uplift (salt domes), folding, etc.

NEXT LECTURE:

• Barriers (No Flow)

- Types

- Importance (Flow Communication | Well Placement | Gravity)

• Mapping

- Structure

- Isopach

- ϕ , k , S_w , "Net" (NGR), P_c

- Initial Pressures & Temperatures (& Fluids)