



Editorial note on petroleum geology

Qazi Ahemad*

Department of Soils, Water and Agricultural Engineering,
Sultan Qaboos University, Muscat, Oman.

DESCRIPTION

Petroleum geology is a precise field of geosciences that reports the origin, spreading, study, progress, and manufacture of oil and natural gas resources. Petroleum geoscientists contain many types of specialisms such as petroleum geologists, exploration geophysicists, geochemists, sedimentary geologists, structural geologists, and paleontologists.

Petroleum geology includes the analysis of

- 1) Source rocks that are rich in organic matter-the source of oil and natural gas
- 2) Geological constructions and stratigraphic layers that permit build-ups of petroleum to procedure in the subsurface (traps and seals)
- 3) The features of absorbent subsurface rock formations that stock oil and natural gas (petroleum reservoirs).

Petroleum geology is interesting because one uses several numerous types of data such as rock cores from wells, well logs that give data about the rock and fluid possessions, and 3D seismic pictures, all of which are used to advance 2D and 3D maps and models of the subsurface and the distribution of petroleum resources, and to estimate volumes of oil and natural gas that occur in separate areas (petroleum reserves estimates).

Petroleum geology ideas have been developing in recent years with the growth of shale gas and tight oil. The ancient procedure for predictable resources that depend on assessing source rocks, thermal maturity, migration paths, and reservoir traps and seals has become typically irrelevant for continuous, unusual resources like shale. For these resources, certain level of production is conceivable from almost anywhere in the formation, although some sites typically harvest well than others. Finding these so-called "sweet spots" and understanding the geological parameters that create them have become the new focus of petroleum geology.

On a minor scale, petroleum geology is anxious with the technique in which layers may be distorted into folds, and how they may be broke and displaced by mistakes. Such physical deformation may form structures capable

of tricking migrating petroleum.

The four economic aspects are: (1) potential productivity of venture; (2) existing risk investment; (3) total risk investment; (4) aversion to risk. Computer imitation techniques may be used to help the choice of whether or not to board on an exploration venture.

CONCLUSION

Conventional stuck petroleum deposits are totally dissimilar from continuous petroleum accumulations in all aspect: trap, reservoirs, configuration of foundation rocks and reservoirs, migration, percolation, and accumulation. Petroleum geology is important for exploration and production and much more appropriate than random drilling. Petroleum geology and monetary evaluation are serious pieces of vision evaluation. Key geologic parameters in prospect assessment are presence of: (1) source rock; (2) reservoir; (3) trap; (4) cap rock; (5) adequate and non-destructive thermal history. The chances of each state being fulfilled must be addressed.