

## **Qualitative Core Data Management for Efficient Exploration and Exploitation Strategy Through Corrections in Laboratory/Field Generated Petrophysical Data.**

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The Petrophysical studies carried out in the Laboratories on cores/core plugs generate sets of data on Porosity, Permeability, Relative and Effective permeability for effective exploitation of the reservoir. The cores are cut by the rotating and chipping actions of the bit, each peripheral particle on the core/core plug experiences a tremendous frictional force due to the rotational effect of the bit resulting in generation of huge pressure and heat around the core. These phenomena with short duration may have a definite impact on the original orientation of the particle placed in the peripheral portions. Similar impact occurs when core plugging job is carried out. This again resulted in changing the original orientation of the particles lying in the peripheral part of the core plug. Under tremendous amount of frictional force/pressure and temperature of high magnitude these peripheral particles lose some of their original petrophysical properties as well as orientations. So during the petrophysical studies at the laboratories we never consider these changes made through the making of plugs. The petrophysical data generated there after is bound to be erroneous what ever may be the magnitude. Also similar type of effects will be felt on the grains/particles lying on the skin of the drill hole during drilling and coring operations. These skins are involved in numerous experiments and undergo formation evaluation and production tests during reservoir and production testing in the well.

So by using suitable constants during these processes, this can be calculated to the nearest approximation by considering the amount of frictional forces, amount of heat generated and the mineralogical composition of the skin/wall under investigations. These corrections will help for better representation of the petrophysical characters and efficient Reservoir exploitation.