

Reservoir characterization of upper sand of Lower Goru Formation from core samples of north A-2 well by using geochemical and mineralogical methodology (XRD, SEM and thin section)

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Abstract

From the beginning of oil and gas discoveries petro graphic studies play vital role for development of economy of any industry. The lower Goru Reservoir (sand) has materialized as major hydrocarbon source from the middle and lower Indus platform. This area is demanding due to multifarious mineralogy. Reservoir characterization is very important properties of any Formation. We studied well named North A-2, which is located on latitude 24 34 17 N and longitude 68 36 22 E, on the southern Badin Block of lower Indus Basin Pakistan. The parameters required for this study such as wire line logs, conventional core and well cutting. The analysis of reservoir rock has investigated by core sample of lower Goru Formation from North A-2 well. In Megascopic core analysis, the core sample consist of friable and hard sandstone, fine to medium grained, medium to coarse grain and occasionally coarse grained. A variety of sedimentary structure has been observed. This sandstone mainly deposited in shallow marine environment; its meet the essential criteria of best quality reservoir that is upper shore face crossed sandstones. The remaining part exhibits relatively higher porosity evidence by the study of thin section and SEM. The major diagenetic event that affected porosity of reservoir rock is compaction, cementation, quartz overgrowth and dissolution of rock fragment. Through methodology we have dynamics result of 09 meter long core analysis, the core is courtesy by British Petroleum which is now as United Energy Pakistan.