LITHO, A Computerised Approach to Lithofacies Identification

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The fact that logs respond to the geological parameters such as mineralogy, texture and sedimentary features as well as to the petrophysical parameters of a formation is well demonstrated.

In recent years few modern logging tools have been designed and now run frequently measuring new physical parameters which add valuable information to describe the lithology of the formations.

The increase of measurements produced by modern logging techniques has necessitated the use of high-speed digital computers and analytical programs.

LITHO is a program which combines these modern wireline logging measurements with a lithofacies database to produce an automatic lithological description of the formation crossed by the well.

The database which is defined from petrographical knowledge and calibrated against intervals whose lithology is well known, currently uses density, neutron, sonic transit time, gamma ray, photoelectric cross section and thorium, potassium and uranium concentration log recordings. External knowledge can be taken into account using Artificial Intelligence methods.

The procedure has been tested in two wells in Malay Basin and are used as example in this paper.

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