each particular system and tool which will be used, especially if the data are to be computer processed, to improve accuracy and resolution of the logs.

Measurements must not be any longer purely relative. On the contrary they have to be quality controlled and each particular instrument's sensitivities and malfunctions must be, in a way, recognized, checked, compared with existing graphs and/or standards and immediately corrected, if possible on the spot.

In order to make determinations of the physical parameters that are existing, within a borehole, we studied a quide-line which is needed for an accurate quality control.

Parameters like vertical and horizontal resolution, tool and modal errors, depth-matching, calibration and metrology are all depended on the quality of the logs processing and must be controlled by high technical accuracy. The technical quality depends, mainly, on the downhole tool characteristics.

Testing of the stability and correspondance of the tools, according to the established quality control (mainly repeatibility and statistical cheching) is necessary during each job.

An overview of the different geophysical methods and parameters, as far as interpretation accuracy is concerned for comparison purposes, is presented in this paper.

It has been shown that the quantitative interpretation depends mainly on the technical quality of the logs and tools.

Finally we can express, with confidence, that borehole logging data offer interpreted results that are helpful in, almost, every geoexploration application.

NEW CONCEPTS ON THE EVOLUTION OF YEMEN BASALTS IN RELATION TO THE RIFT DEVELOPMENT

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This study was carried out to investigate the petrology, mineralogy and structural geology of Yemen volcanics.

Our study also covers both of Yemen Trap Series (Upper Eocene-Oligocene-Miocene), Yemen Volcanic Series (Upper Miocene-Recent) and their evolution in relation to the rift development. In general we are extending our investigation to cover the whole area of Yemen volcanics. But in this paper we will deal only with the basaltic rocks and their analyses concerning the chemical composition of the main constituents (olivine, pyroxene and plagioclase).

We are also correlating the generation and development of these volcanic complexes by using the data obtained from seismic and drilled wells through the coastal plains of the Red Sea and the Gulf of Aden.

By using microprobe, optical analyses etc. we attempt to evaluate the chemical characters and the magma evolution of the investigated volcanics.

STRUCTURAL STUDY OF THE RHODOPE MASSIF

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The integration of microstructural observations, strain analysis and petrofabric studies within the mylonitic gneiss of the Rhodope Massif leads to the following conclusion:

1) Strain analysis indicates that gneisses essentially deformed in plane strain or in the constriction field.

2) Essentially non-coaxial deformation is indicated by both microstructural and petrofabric studies. The principal extension X direction can be taken as a kinematic direction as strongly supported by quartz c-axis fabrics.

3) Variations in both subhorizontal X direction and sense of shear suggest that the Rhodope Massif is a region of large-scale nappe tectonics with consecutive extension.

4) Fundamentally different deformation and metamorphic histories lead to distinguish several terranes. The lower and upper terranes are characterized by piling-up and south to southwestward (outward) flow of large-scale nappes that involved eclogites and oceanic crust. These events mark initial collision between two units followed by crustal thickening.

5) East-northeast-vergent, flat-lying and synmetamorphic shearing associated with low-angle normal faults and metamorphic to granitic domes are attributed to extension that occurred to lateral spreading of the upward rising high-grade terranes.

6) The Rhodope facies (pre-metamorphic ophiolites, calc-alkaline plutonic suite and eclogites) and first order structures (large tangential thrust movements and gravitational collapse accompanied by diapirism from deep crustal levels) are the result of plate tectonics. We consider this was closure of Thetys that has involved northward subduction before deformation of an active continental margin.