

OPTICAL-GEOCHEMICAL CHARACTERIZATION OF THE JURASSIC AND CRETACEOUS ORGANIC FACIES IN THE SURESTE BASIN, MEXICO

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We analyzed nearly 1,800 samples of rock (core and cutting) to enable the characterization of organic facies present in the Upper Jurassic and Cretaceous of Sureste basin, Mexico.

For this purpose, were drawn cross sections, which included more than 60 oil wells. The study of these sections and their arrangement allowed for a type setting facies and thermal maturity (% Ro equivalent) of a total area of approximately 19.350 km².

To determine with greater certainty organic facies, were analyzed all samples optically, using transmitted light and fluorescent light techniques and confocal laser microscopy.

As an additional tool for a comparison, some samples were also analyzed (approximately 700 samples) by the Rock-Eval pyrolysis technique for obtaining parameters Tmax, HI, OI and TOC.

In general, were defined several organic facies, including organic matter of algae interspersed with amorphous bituminous horizons and sapropelic horizons of organic matter. In some samples, there is the presence of hydrocarbons.

The organic matter which has more evolution, has a thermal equivalent maturity equivalent Ro 0.69%, while less organic matter has evolved heat equivalent values Ro 0.28%.

Were recorded the results in optical-geochemical logs, which contain all the information of the analyzed parameters.

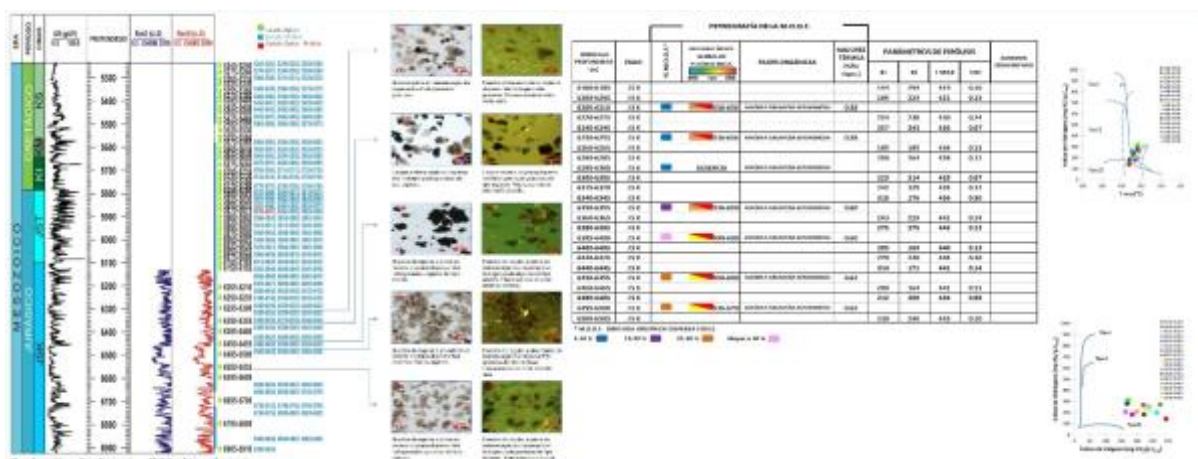


Figure 1 Optical-geochemical log

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