GIS and Statistics Applied to the Analysis of the Distribution of Hydrocarbon Reserves by Fields and Formations in the Sureste Basin, Mexico

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ABSTRACT

The recent opening of the Mexican energy sector has given a broad window of opportunities for foreign investors to explore and develop hydrocarbon resources at the Sureste Basin. The application of statistical analysis and Geographical Information System (GIS) to the distribution of reserves by fields point out significant aspects about the oil and gas assets available in the basin. The use of Pareto plots shows that 80% of the reserves by fields and formations are monopolized by no more than 20% of these respective entities. The statistical review indicates the mode as the best parameter to represent the central tendency of the lognormal distribution of reserves by fields. This result gives small to medium-size reservoirs as the most abundant pools present (and a reference to the best ones yet to be found) in the basin. The combined analysis of the geological context with the results of the statistical research and the geographical distribution of reserves by fields give a firsthand criterion to identify and rank the scattering of hydrocarbon resources in the basin.

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