

Avo Attributes on 3d Data in Campos Basin

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AVO attributes are a well known kind of Direct Hydrocarbon Indicator (DHI). The importance of its application increases with advances in processing and a better knowledge of the expected kind of play. The application of AVO analysis on 3D seismic data gives more confidence to the process. Mapping AVO on 3D data comprehend the analysis of different volumes of seismic data. At least three volumes are made available for interpretation which are the conventional data, the near and the far offsets data. These volumes can be manipulated in order to generate different AVO attributes.

The case presented in this paper comes from a 3D survey recorded in Campos basin. One of the reservoirs present in the area is a deep water system of sandstones, characterized by pinch-outs in different directions and partial truncation by an erosion. This reservoir shows a class 3 AVO response, following Rutherford and Williams classification (1989). In most of the area, the sandstone bodies are superposed by a limestone layer whose seismic response may interfere with the reflection at the top of the reservoir. The effect of the overlying limestone layer, an important problem in conventional amplitude is almost unseen by using the elastic impedance concept as defined by Rosa et al. (1999).

Properly processed 3-D seismic data volumes increase the confidence on the results of AVO analysis. AVO analysis on 3D seismic data results in a better understanding of both the reservoir and hydrocarbon distribution when compared to conventional 3D interpretation, bringing important economical benefits to the application of the technique.