AVO Analysis on Shallow Gas Accumulations at the Marmara Sea

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Though different types of gas accumulations are observed in marine sediments, the most common gas as a hydrocarbon component is methane gas which stucked in pores of porous rocks. At the areas with gas accumulation it is possible to see bright spots which appears with reverse polarity and strong reflections and at this areas offset dependent decresing or increasing on reflection signal amplitudes from common depth points known as the amplitude versus ofset (AVO) effect. Method known as AVO crossplot which is an important step of AVO analysis, can reveal reasons of the anomalies on seismic section. In this study AVO analysis was applied to seismic data that collected in the Marmara Sea. AVO attributes were computed (Intercept, Gradient, Fluid Factor) for seismic sections, from here attributes shown as seismic section. Also 1D model was estimated to get a CDP gather for gas sand and brine sand. AVO crossplot responses observed for each model. Based on the results AVO crossplot method been applied to seismic data to determine which AVO class they belong.

Keywords: *AVO, crossplot, Marmara Sea, shallow gaz accumulations, intercept, gradient, fluid factor*