
Transform Faulting—An Unseen Problem to Resource Plays

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ABSTRACT

The use of conventional geophysical 2D and 3D seismic in resource plays has created an unintentional consequence by their utilization as the only source of structural information. Traditional geophysical techniques, such as magnetic and gravity data interpretation, are now under appreciated and thus have become a lost art in much of the scientific community. Transform or wrench faulting is difficult to detect utilizing 2D and 3D reflection seismic because of its near vertical profile. In most instances, this type of faulting is biased against by computer seismic processing and may only appear as slim vertical distortion. Further and possibly the most important unforeseen problem within resource plays is destructive seismicity. The relationship of fracking technology to seismicity is well established; however, the mechanism is not. Locating transform faults prior to fracking activity may help reduce the seismicity damage by relocating these operations. This paper wishes to underscore the risk to the geophysical interpreter when not considering the presence of transform faulting. Many erroneous conclusions can be made when these features are not taken into account. Possible up to date data alternatives and technology are proposed here to underscore the use of all geophysical methods in making an accurate structural interpretation. The use of multiple geophysical tools will result in a better understanding of the petroleum systems model.