

AZIMUTHAL ANISOTROPIC NMO ANALYSIS FOR AMPLITUDE STRIPPING REMOVAL IN SUMANDAK 3D REPROCESSING

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Exploration and Production seismic interpretation relies on accurate seismic processing to make a good well proposal.

The removal of amplitude stripping and large vertical discontinuities artifacts, observed in the previous processing (Figure 1), in the crossline direction at the Morris fault down thrown in Sumandak 3D Block, was one of the main objectives of the current PSTM/PSDM reprocessing project.

In this paper, we present a reprocessing case study that applied the Azimuthal anisotropic concept to get a practical solution to this task. In seismic, Azimuthal anisotropic is referred to the apparent velocity dependence upon the azimuth of the shot and receiver geometry (Figure 3).

The study area is in Samarang/Sumandak development block; in a zone with a moderate complex tectonic led by a remarkable normal fault which split two different geological environments.

We will show, how using Azimuthal anisotropic NMO analysis helped to determine the appropriate parameters to correct the velocity field affected by azimuthal velocity anomaly.

Although this correction does not consider the cause of the anisotropy, it produced a good result as the one shown in Figure 2.

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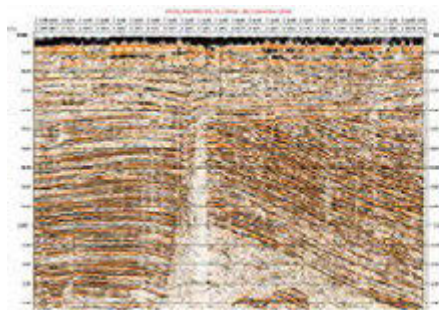


Figure 1: Vertical discontinuities artifacts.



Figure 2: Removal of artifacts using AZNMO.

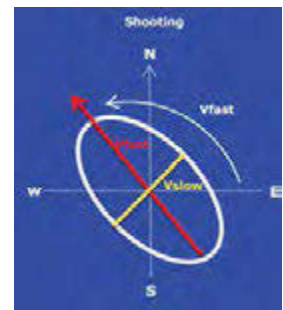


Figure 3: Azimuthal anisotropic analysis