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Abstract - Note

Improvement of Time Section Quality Through Approaching Perfect Static Corrections

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PROCEEDINGS

The Plashniku region extends into the Berati tectonic belt of the External Albanides. Due to the discovery of two oil fields in the vicinity (Kucova and Marinza), the area is considered to be attractive for petroleum exploration. In order to improve the quality of seismic data, great efforts were made by careful processing with the present software. In the regions of more complicated geological structure, like Plashnik, additional procedures were applied to improve the static corrections. As a result, the top of the Molishti carbonates that appeared to be notched, came out in the time section as a serrated one. In this way corrections were made, and the seismic data were improved considering deeper levels than the Molishti.

The method is essentially based on the fact that upon processing with the Gath programme (plotting of the C.D.P. traces), the traces that form a Common Depth Point for a reflected wave group should be united according to a horizontal line. However, after having applied the Gath programme, we observed that the traces of the top of Molishti carbonates for each C.D.P. are not in a horizontal line. This anomaly is caused by two connected factors - firstly by the inadequate precision of the static corrections applied, and secondly by inadequate realisation of dynamic corrections (N.M.O.). That's why authors suggest the second step be avoided. To make corrections in this way is simple. Based on the average phase of correlation of the main horizon (top of the Molishti carbonates), for each C.D.P. a horizontal line is drawn on the time section across the bunch of traces which form this C.D.P. Each C.D.P. will thus have a corresponding line with time T_0 of an average correlation in the time section. This line is then used as a reference line to read-off the time-shifts for each trace. The data are registered in a table containing: C.D.P. numbers, stacked traces (1-48) and the correction applied to each trace. These values are then used to correct the time of each trace before the stacking procedure is realised.

After testing the procedure on a seismic section, an increase in the reliability of correlation of the Molishti limestone was noticed, while the wave form under this horizon remained the same. In other words, an increase of reliability was achieved without affecting the quality of data in deeper levels. The conclusion can be drawn that in this particular case, the absence of deeper reflections is not related to the uncertainties of the static corrections but rather to a very complex geological structure (Plashnik overthrust), which was confirmed by the later drilled well Pl-1.

Use of this method is advocated, especially in regions with shallow horizons that are not very strong. The method requires no additional field work/expenses, because all the operations are done in the processing centre.

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