

Elastic Parameters of Rocks from Well Logging in Near Surface Sediments

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A b s t r a c t

Acoustic full waveforms recorded in wells are the simplest way to get the velocity of P , S , and Stoneley waves *in situ*. Processing and interpretation of acoustic full waveforms in hard formations does not generate problems with identification packets of waves and calculation of their slowness and arrivals, and determination of the elastic parameter of rocks. But in shallow intervals of wells, in soft formations, some difficulties arise with proper evaluation of the S -wave velocity due to the lack of refracted S wave in case when its velocity is lower than the velocity of mud. Dynamic approach to selection of a proper value of semblance to determine the proper slowness and arrival is presented. Correlation between the results obtained from the proposed approach and the theoretical modeling is a measure of the correctness of the method.

Key words: acoustic full waveforms, velocity of elastic waves, rock formation *in situ*.