

P6-1**TRUE VALUES OF THE ROCK SEISMICALLY DERIVED
PHYSICO-MECHANICAL PROPERTIES**

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Processing reliability of the geologic/geophysics data is dependent to a great extent on correctly defined lithologic features for the different depth and stratigraphic levels. In the absence of well control such kind of definitions are usually conducted based on seismic data. Generally, such values as Poisson's ratio relation existed between shear and compressional wave velocities are definite for this purpose. However, seismic data allow defining just effective (average) values of these parameters. Therefore lithology's derived from this data are rather presumable and requires additional information. In addition to these obstacles there might be some assumptions made despite it is a certain violation of a rule. The case is so, that theoretical linear characteristic of the stuff physico-mechanical properties have been introduced in a stick order to obey indispensable conditions. For example, Poisson's ratio has been introduced to describe physico-mechanical properties of anisotropic material that is slightly affected by strain (at about 1-2) case of linear stress-deformation dependence.

Poisson's ratio true value ν for all natural and artificial materials ranges as $0 < \nu < 0.5$. of cause this requirement can not be checked in-field conditions when seismic profiling is carried out. Infringement probabilities of this requirement are rather high. Efficient Poisson's ratio values defined based on this requirements (with applied dynamic technique and velocity values) indicate the same pitfalls. In many cases these values are negative, that also should not take place.

To define seismically derived physico-technical properties of the rock with Poisson's ratio inclusive, a 3-D non-classic base model is proposed to be used. Lamé constant true values have been defined based on the three vectorial velocity components and modified Murnaghan type elasticity potential, if the media is isotropic along with L. Tomsen modules, while transverse-isotropic approximations for some rock samples from Gulf of Mexico region. Acquired data are evidential, that effective values of these parameters are dependent on stress, non-linear and three-dimensional media and wave field features. So, true values of physico-mechanical media properties defined in a given way allow recognise lithology of the study section more confidently and precisely best on seismic data.