NEW INTERPRETATIONAL CONCEPT FOR PRECASPIAN BASIN (BASED ON PRESTACK DEPTH IMAGING)

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The Precaspian Basin is the deepest sedimentary basin in the world: its depth in the center reaches more than 22 km. The sedimentary cover comprises three complexes: presalt, salt and postsalt. Salt presence caused development of saltdome tectonics - a major feature of the Basin. Both presalt and postsalt are highly prospective for oil and gas. The presalt contains major hydrocarbon reserves and such fields as Tengiz and Karachaganak are among the largest in the world.The postsalt fields are smaller and shallower and have a better oil quality. So far, over 200 postsalt fields have been discovered in the Basin. Carbonate platforms and reef bodies play a significant role in the hydrocarbons distribution in the presalt deposits. Underlying the saltdomes and due to their depth and shape complexity, they cause difficulties when identified and studied. Their seismic data - based wide scale study became possible only due to introduction of the prestack depth migration technique. The very first results allowed for identification of overthrust faults, the reef body edges and other peculiarities. The postsalt fields are mainly controlled by faults, steep salt flanks, overthrust structures. It has become possible to study all the elements due to prestack depth migration of seismic data. So, prestack depth migration has established the basis for the new interpretational concept. Its basic features are utilizing of thin details of carbonate bodies internal structure, accurate identification and tracing of faults, delineation of underoverhang events and other peculiarities provided by prestack depth imaging.