Detailed Differentiation of Oil Reserves in Oil-Gas Pools

M. N. Korostyshevskiy

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Forty percent of the oil reserves in the producing fields of South Mangyshlak are in oil-gas pools. Such reserves are hard to recover. This is not always so, however, because these pools contain oil zones, and the sub-gas zones may be quite thick. This problem is examined in the example of Zhetybay field, which has the largest number of oil-gas pools of the South Mangyshlak fields. Here 30% of the oil reserves are in two-phase pools.

The Jurassic productive section at Zhetybay is about 800 m thick and contains 13 horizons. A gas pool is present in horizon I, oil pools in horizons IV, VII, X, and XII, and oil-gas pools in the rest. Within individual horizons are recognized from one to five strata-reservoirs with independent oil and gas pools. A total of 46 independent reservoirs are recognized; these contain 30 oil and 16 oil-gas pools. See Fig. 1.

The distribution of oil reserves is as follows: 41% in oil zones, 29% in water-oil zones, and 30% are beneath gas caps.

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