Peculiarities of structure of the osinsk productive horizon of the Talakan field (Siberian platform).

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The Talakan gas and oil bearing field, the largest in the territory of the Republic of Sakha (Yakutia), is located in the central part of the Nepa-Peleduy arch of the Nepa-Botuobin anteclise, Siberian Platform.

The main gas and oil bearing field is confined to 0-I layer (Lower Cambrian). A depth of the Osin horizon field is 1100-1200 m.

The Osin horizon is composed of dolomites and limestone, often of massive lumpy structure. Such wavy-layered texture is representative of algal and microphytolite varieties. Petrographic studies stated that various by microstructure dolomites and limestones prevail in 0-I layer composition. 11 microfacies were distinguished. Their distribution was controlled by the following morphostructural elements: low algal structures of bioherm-biostrome type, subaqueous accumulative basins situated between the organogenic structures, small basins of higher salinity and small closed evaporite basins which periodically dried up.

Algal structures zone includes the microfacies of cryptoalgal and algal biolitites. The zone of subaqueous accumulative basins is represented by microfacies of pelsparites and sparites. The zone of small basins of higher salinity is mainly built of microfacies of laminites, intraclastites, micrite limestones, chemical silica and lopherites. The zone of closed isolated water basins includes one microfacie, i.e. evaporites.

Comparison of the filtration and capacity properties of the 0-I layer rocks at the microfacies level showed that pelsparites and sparites are notable for the best filtration and capacity properties, and those of biolitites are the worst. Therefore, due to specificity of the inner structure of the Lower Cambrian organogenic structures (absence of the carcass-forming organisms), the opposite (in respect to classical) distribution of reservoir rocks in the "organogenic structure-containing rocks" system is essential for the Osin horizon.