



Influence of the development of hydrocarbon deposits on the state and dynamics of surface waters in subarctic areas.

Elizaveta Shapovalova

OIL and GAS RESEARCH INSTITUTE Academy of Sciences, Moscow, Russian Federation (esshap@gmail.com)

The studies showed that on the territory of Yamburgskoye oil field the value of extensive subsidence, which can be formed at the final stage of its development, will be about 0.6-0.9 m. These values will not affect the change in hydrological parameters of the rivers and transformation of the lake system in the territory. However, the greatest impact on the changes in the landscape structure and development of exogenous processes will have local subsidence of the earth surface in fractured zones induced by field development. The angles of gradient of the earth surface formed in the crushed zone, depending on the width and magnitude of subsidence can be estimated from 0,008 to 0,069 degrees during 5-10 years period. Thus, local subsidence in fractured zones under certain total of exogenous and endogenous factors may affect the structure of the hydrographic network, including the formation of new thermokarst lakes and emptying of existing lakes, increase or decrease the depth of thawing subsoils depth on the slopes, as well as a change in the geometric dimensions of lake basins.