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Gas hydrates - new source of energy and new Geotechnical hazards

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ABSTRACT
Constantly growing demand for energy carriers, limitation and irretrievability of their now in use resources have forced to turn in the end of XX century the close attention on searches of the no conventional sources possessing both more significant potential resources, and an opportunity of their constant completion. Sources of the energy carrier of organic carbon most widespread by the Earth resources of gas hydrates are prevailing and by different estimations on the order or exceed resources of hydrocarbon raw material used nowadays more.
Gas hydrates - the firm crystal connections formed water (liquid water, an ice, water vapor) and low-molecular waterproof natural gases such as carbohydrates (mainly methane), 2, N2 and others, whose crystal structure effectively compresses gas: each cubic meter of hydrate can yield over 160 m3 of methane.
Natural gas hydrates occur on earth in three kinds of environments: deep-water subaquactic regions, permafrost and glacier shields. The current estimates show that the amount of energy in these gas hydrates is twice total fossil fuel reserves, indicating a huge source of energy, which can be exploited in the right economical conditions.
Despite of appeal of use gas hydrates as the perspective and ecologically more pure fuel with possessing huge resources, investigation and development of their deposits can lead to a number of the negative consequences connected with hazards arising difficulties for maintenance of their technical and ecological safety of carrying out. Furthermore, these gas hydrates are a safety hazard to drilling operation, as they could become unstable under typical wellborn conditions and produce large quantities of gas. The decomposition of natural gas hydrates in porous media could also be responsible for sub sea landslides and global weather changes. Recent studies show that they might provide an opportunity for CO_2 sequestering. Scales of arising problems including Geoethical can change from local up to regional and even global.
Obviously, in the future, much greater dangers should be taken into consideration in many territories and a strong respect for them has to become a new priority in many activities including Geoetics.
Key words: Gas hydrates, Geoethical, geotechnical, hazard, methane.