

Technology in Mine Conditions. Mining of Mineral Deposits, 12(2), 68-75. <https://doi.org/10.15407/mining12.02.068>

17. Blinderman, M. S., & Klimenko, A. Y. (2018). Introduction to underground coal gasification and combustion. Underground Coal Gasification and Combustion, 1–8. <https://doi.org/10.1016/b978-0-08-100313-8.00001-3>

18. Petlovanyi, M. V., Lozynskyi, V. H., Saik, P. B., & Sai, K. S. (2018). Modern experience of low-coal seams underground mining in Ukraine. International Journal of Mining Science and Technology. <https://doi.org/10.1016/j.ijmst.2018.05.014>

19. Tabachenko, M., Saik, P., Lozynskyi, V., Falshtynskyi, V., & Dychkovskyi R. (2016). Features of setting up a complex, combined and zero-waste gasifier plant. Mining of Mineral Deposits, 10(3), 37-45. <https://doi.org/10.15407/mining10.03.037>

## GEOMECHANICAL PROCESS MODELING IN THE BLACK SEA SEALED SEALS AT THE DEVELOPMENT OF GAS HYDRATE DEPOSITS BY JET TECHNOLOGY

VLASOV Sergey & BABENKO Volodymyr  
Dnipro University of Technology, Dnipro, Ukraine

**Purpose.** Simulate physical and mechanical processes of the bottom layer, arising during at the development of gas hydrate deposits with using jet technology.

**Methodology.** The research was conducted by simulating of the bottom array behavior with methods of finite elements. The basic dependences in the thermobaric balance of the deposit are determined.

**Findings.** Software products on the basis of finite element methods for modeling the process of gas hydrate deposits development of the Black Sea are analyzed. The simulation of the basic geomechanical processes taking place in the gas hydrate-containing bottom massif with its developing jet technology is carried out. The basic technological parameters of the model in the array thermobaric equilibrium are established. The technological parameters dependencies of the jet technology on the bottom gas hydrate deposit development are determined. A graduation is made on the height of the hydrated deposit during the development, taking into account the hydrostatics of the surrounding rocks. The ecological assessment of the proposed solutions confirms the feasibility of their implementation of the Black Sea bottom, namely in the paleorossi river Dnipro.

They contain the researches, which were conducted within the project GP – 489, financed by Ministry of Education and Science of Ukraine.

**Key words:** gas hydrate, modelling, jet technology, Black Sea bottom.

## References

1. Bondarenko, V.I, Ganushevich, K.A, Sai K.S. 2011. To the question of the underground mining of gas hydrates, Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu. Scientific Bulletin of National Mining University, 1(121): 60-66.
2. Бяков Ю.А. Газогидраты осадочной толщи Черного моря – углеводородное сырье будущего / Ю.А. Бяков, Р.П. Кругляков // Разведка и охрана недр. – 2001. – № 8. – С.14 – 18.
3. Шнюков Е.Ф. Газовый вулканизм Черного моря / Е.Ф. Шнюков, В.П., А.А. Пасынков. – К.: Логас, 2013. – 384 с.
4. Шнюков Е.Ф. Гидраты природных газов / Ю.Ф. Шнюков, А.П. Зиборов. – К.: Наукова думка, 2004. – 280 с.
5. Vlasov, S.F, Babenko, V.E, Tymchenko, S.E, Kovalenko, V.L, Kotok, V.A. (2018): Determination of rational parameters for jet development of gas hydrate deposits at the bottom of the Black Sea. ARPN Journal of Engineering and Applied Sciences, 13(10), 3334-3339.

## TOWARDS THE UNDERSTANDING BETWEEN ENVIRONMENTALISTS AND CORPORATIONS

Denys Zhadiaiev & Ksenia Yurchenko  
Dnipro University of Technology, Dnipro, Ukraine

The academic area is full of ideas that suggest solutions on how to cope with climate change yet, the world of technology, corporations with big financial turnover, are slow to implement their solutions. Perhaps, the ecological civilization, towards which we aim, has the other side to consider and the solution must be cumulative, not just theoretical or financial.

The implementation of ideas, in our view, could be possible if we take into account that being (and ecological issues cannot have their origin only in particular reality – only in the whole context!) is considered as an aspect of epistemology – theory of knowledge. That is to say, it may not be enough to collect scientific data, conduct experiments and provide scientific evidence so that world of business followed advices from the part of environmentalists. We suggest that possible solutions can have more chances to be implemented if we focus on the other field – the discourse.

Any hard science is rather rational activity than empirical since it cannot avoid scientific discourse (in order to implement its innovations). Thus, in order to overcome any issues, we have to find proper terms which we use in order to make conclusions. And terms have also their conceptual origins, both, in the field of causal efficacy and in the realm of abstractions. That is to say, the world of business is the realm of activity, causal efficacy, immediate interaction and