

Gas Production Test from Methane Hydrate in Northern Canada

JOGMEC/NRCan/Aurora team succeeded the continuous gas production with a new production method

March 10 to 16, 2008, Japan Oil, Gas and Metals National Corporation (JOGMEC, The president, Mr. Isao Kakefuda) conducted a gas production test from 1100m deep methane hydrate bearing sediments below permafrost layers in the coast of Beaufort Sea, Northwest Territories, Canada (Extremely cold region above the arctic circle, and temperature often hit -30 deg C even in day time).

This test program is a part of “Methane hydrate development promotion project^{*1}” conducted by the Ministry of Economy, Trade and Industry of Japan. Confided the project by METI, JOGMEC leads the program under the collaboration with Natural Resources Canada (NRCan), and operatorship of Aurora College, an educational institute of the Government of Northwest Territories.

As one of the member of the METI project, JOGMEC is investigating the efficient technology to extract methane gas from the methane hydrate, a solid phase material in geologic formations. In 2002, Japan National Oil Corporation (JNOC), predecessor of JOGMEC and NRCan led a 7 agency international partnership,. conducted the world's first gas production from natural methane hydrate using heat stimulation method with hot water circulation in the same vicinity of the current program in the 2002. This time, the depressurization method that is expected to be a more efficient way to dissociate the gas hydrate is applied for the evaluation of its effectiveness, following the first year program taken place in April 2007.

During the program term, six days consecutive gas production with the depressurization method was achieved. That is the world's first continuous and stable gas production from the methane hydrate sediments. The obtained data during the test will be analyzed for the evaluation of the feasibility of the depressurization method.

Methane hydrate is an ice like material consisted with methanol and water molecules. In the east Nankai Trough region, total amount of the methane gas resource is estimated to be 40TCF. Gas hydrate have been found in other waters around Japan.

1 JOGMEC, National Institute of Advanced Industrial Science and Technology (AIST) Engineering Advancement Association of Japan (ENAA) organize the Research Consortium for Methane Hydrate Resources in Japan (MH21, project leader; Shoichi Tanaka, Professor Emeritus, the University of Tokyo), and drive the project.