

**Objectives and Operation Overview of the JOGMEC/NRCan/Aurora Mallik Gas
Hydrate Production Test**

International Conference on Gas Hydrates,
July 6-11, Vancouver, B.C., Canada

M. Numasawa¹, S. R. Dallimore², K. Yamamoto¹, M. Yasuda¹, Y. Imasato³, T. Mizuta⁴,
M. Kurihara⁵, Y. Masuda⁶, T. Fujii¹, K. Fujii¹, J. F. Wright², F. M. Nixon², B. Cho³, T.
Ikegami³, H. Sugiyama³

1 Japan Oil, Gas Metals National Corporation, Technical Research Centre, Chiba,
Japan

2 Natural Resources Canada, Geological Survey of Canada, Canada

3 Schlumberger K.K., Fuchinombe, Japan

4 Japan Oil Exploration Company, Tokyo, Japan

5 Japan Oil Engineering, Tokyo, Japan

6 The University of Tokyo, Tokyo, Japan

The depressurization (pressure drawdown) method for the dissociation of the hydrate in sandy sediment is regarded as a promising method for the future commercial gas production from gas hydrate bearing sediments. Although the effectiveness of the technology has been demonstrated by others at core scale in the laboratory, its real applicability in natural sediments has been unknown due to their scale and heterogeneity, and technological uncertainties.

In the winter of 2007, Japan Oil, Gas and Metals National Corporation (JOGMEC) and Natural Resource of Canada (NRCan) jointly conducted a full scale depressurization test in a hydrate bearing formation below permafrost in the Mallik field in the Mackenzie Delta of NWT, Canada. The test is the second gas production attempt following 2002 test program in which heat stimulation by hot water circulation was the prime technology.

The production well and its completion is designed to give high drawdown magnitude by producing water with a high rate electric submersible pump. For the environmental protection purpose produced water was injected to an aquifer below the hydrate zone. In spite of several challenges on surface and in underground, the pressure drawdown of

the hole lead the first intended gas production from hydrate bearing sediments in the April 2007. A geotechnical problem terminated the testing in the early stage, but we could obtain valuable data including pressure and temperature histories, along with technical agenda to be solved.

(233 words)