

## Overview of Scientific Investigations of Gas Hydrate Occurrences at the Mallik Field, Mackenzie Delta, Canada

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### ABSTRACT

The JAPEX/JNOC/GSC Mallik 2L-38 gas hydrate research well was drilled to a depth of 1150m in February and March 1998, over the Mallik gas field in the Mackenzie Delta, N.W.T.. The scientific program was conducted through a collaborative agreement between the Geological Survey of Canada and the Japan National Oil Corporation with key participation by Japan Petroleum Exploration Company and the U.S. Geological Survey and a number of other university and government research institutes. A primary objective of the well was to undertake a comprehensive scientific research program to study an Arctic gas hydrate accumulation. Field research conducted as part of the Mallik 2L-38 program included collection of permafrost and gas-hydrate-bearing core samples, downhole geophysical logging and a vertical seismic profile survey. Laboratory and modeling studies undertaken during the field program, and subsequently as part of a post-field research program, documented the sedimentology, physical/petrophysical properties, geochemistry, geophysics and reservoir characteristics of the Mallik gas hydrate accumulation. Surface geophysical included an extensive deep sounding electromagnetic survey, a high resolution seismic field experiment and re-processing of industry seismic data. This presentation will include an overview of the geologic and gas hydrate setting of the Mackenzie Delta as well as a comprehensive review of the major scientific findings from the Mallik 2L-38 Research Well.