

'Frozen' natural gas discovered at unexpectedly shallow depths

August 21 2006

An international team of research scientists has reported greater knowledge of how gas hydrate deposits form in nature, subsequent to a scientific ocean-drilling expedition off Canada's western coast.

A natural geologic hazard, gas hydrate is largely natural gas, and thus, may significantly impact global climate change. The research team, supported by the Integrated Ocean Drilling Program (IODP), published their peer-reviewed findings, "Gas Hydrate Transect Across Northern Cascadia Margin," in the Aug. 15, 2006, edition of EOS, published by the American Geophysical Union.

Contrary to established expectations of how gas hydrate deposits form, IODP expedition co-chief Michael Riedel, of McGill University, Montreal, confirms, "We found anomalous occurrences of high concentrations of gas hydrate at relatively shallow depths, 50-120 meters below the seafloor."

The science party used the drilling facility and laboratories of the U.S. research vessel, JOIDES Resolution, on a 43-day expedition in Fall 2005 during which they retrieved core samples from a geological area known as the (northern) Cascadia Margin. Gas hydrate deposits are typically found below the seafloor in offshore locations where water depths exceed 500 meters, and in Arctic permafrost regions. Gas hydrate remains stable only under low temperature and relatively high pressure.

IODP co-chief scientist Timothy S. Collett of the U.S. Geological

Survey states, "After repeatedly recovering high concentrations of gas hydrate in sand-rich layers of sediment, we're reporting strong support for sediment grain size as a controlling factor in gas hydrate formation." Prior to drilling, the scientists anticipated that gas hydrate would be more concentrated at deeper levels below the seafloor and more evenly distributed among the various grain sizes comprising the sediments.

Source: Integrated Ocean Drilling Program Management International

Citation: 'Frozen' natural gas discovered at unexpectedly shallow depths (2006, August 21)
retrieved 26 April 2024 from

<https://phys.org/news/2006-08-frozen-natural-gas-unexpectedly-shallow.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.