

Indian National Gas Hydrate Program Expedition 02 Technical Contributions

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Abstract

The Indian National Gas Hydrate Program Expedition 02 (NGHP-02) was conducted from 3-March-2015 to 28-July-2015 off the eastern coast of India. The primary goal of this expedition was the exploration and discovery of highly saturated gas hydrate occurrences in sand reservoirs that would be targets of future production testing. The first 2 months of the expedition were dedicated to logging while drilling (LWD) operations with a total 25 holes being drilled and logged. The next 3 months were dedicated to coring operations at 10 of the most promising sites. With 5 months of continuous field operations, this was the most comprehensive dedicated gas hydrate investigation ever undertaken in the world.

NGHP-02 was planned, executed, and managed by the Oil and Natural Gas Corporation Limited (ONGC) on the behalf of the National Gas Hydrate Program (NGHP) and the Ministry of Petroleum and Natural Gas (MoP&NG), Government of India. The drilling platform was the research D/S Chikyu, operated by the Japan Drilling Company (JDC) and the shipboard science program was managed by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC). LWD, wireline logging, and formation testing services were provided by Schlumberger. Pressure coring tools were provided by JAMSTEC and shipboard pressure core operations and analyses were provided by Geotek Coring. Additional operational and scientific support was provided by the U.S. Geological Survey (USGS), the U.S. Department of Energy (US-DOE), the National Institute of Advanced Industrial Science and Technology (AIST), and the Japan Oil, Gas and Metals National Corporation (JOGMEC).

NGHP-02 downhole logging, coring, and formation pressure testing have confirmed the presence of large, highly saturated, gas hydrate accumulations in coarse-grained sand-rich depositional systems throughout the Krishna-Godavari Basin. Post-expedition studies are underway on the unprecedented number of core samples and data sets collected during NGHP-02. Preliminary work is also underway on the planning for a future gas hydrate production testing program that will likely involve one or more of the gas hydrate-bearing sand reservoir systems discovered during NGHP-02. This lecture gives an overview of the operations and the technical outcome of NGHP-02.