



Gashydrate exploration campaign using a novel rotary coring tool

Catalin Teodoriu (1), Kurt M. Reinicke (), Karl Eduard Winter (2), and Giorgi Phochkhua ()

(1) TU Clausthal, Germany (catalin.teodoriu@tu-clausthal.de), (2) ITE Engineering GmbH, Germany

The exploitation of gas hydrates is strongly dependant on the ability to drill and complete production wells in such reservoirs. Therefore, it is crucial to understand the structure and cementation of the gas hydrate sediment. In order to develop such knowledge, investigations are required on core plugs that have been undamaged during the coring process.

A new rotary coring tool has been developed to ensure acquisition of the cores under in-situ pressure conditions and with limited damage during the coring process. The process of drilling and coring is often described as a “brute force” application of technology: weight is applied to the drill bit, the drill string is rotated and the cuttings are subsequently circulated out of the hole. In the newly developed coring tool, the same methodologies are employed, but the dissipated energy at the drill bit is reduced to a minimum through sound engineering and unconventional solutions.

This paper presents the results of the first drilling campaign using a newly developed rotary coring tool at the Institute of Petroleum Engineering at Clausthal University of Technology.