

ハードロック掘削でのマッドガスモニタリングとその意義

Mud gas monitoring for hard rock drilling

*杉原 孝充¹、Moe Kyaw Thu²、青池 寛¹

*Takamitsu Sugihara¹, Moe Kyaw Thu², Kan Aoike¹

1.海洋研究開発機構 地球深部探査センター、2.海洋研究開発機構 海洋掘削科学研究開発センター

1.CDEX/JAMSTEC, 2.ODS/JAMSTEC

Mud logging in a riser drilling operation has been powerful tool in the scientific drilling. Since fast and safe drilling are minimum requirements in the deep drilling operation, it is generally difficult that continuous coring is carried out to obtain geological sample (rocks and fluid). Therefore, cuttings survey and mud gas monitoring in mud logging are essentially important in the riser drilling for scientific research. Some hard rock drilling operations by using the Chikyu have been planned (e.g., IBM, MoHole). Since continuous coring in the hard rock drilling is technically more difficult as compared with the drilling for sedimentary rocks and slow rate of penetration results in consuming much of operation time, the cuttings survey is a unique approach for lithological characterization in the hard rock drilling. In addition, fluid sampling from hard rock core is also difficult, even if core sample is obtained. Thus, the mud logging is especially important for the hard rock drilling, not only minimizing operation time but also maximizing scientific result. In this presentation, we will introduce current technology of advanced mud gas monitoring and discuss on potential of the mud gas monitoring for the hard rock drilling.

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