

Distribution and characteristics of REY-rich mud in the Minamitorishima EEZ inferred by sub-bottom profiling

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In recent years, particular attention has been paid to the "REY-rich mud" (deep-sea sediment enriched highly in rare-earth and yttrium (REY)), because of its high potential as a REY resource. The REY-rich mud was originally reported from the central Pacific Ocean in 2011 (Kato et al., 2011). In January 2013, during KR-13-02 cruise, the mud was also discovered at southern part of the Minamitorishima within the Japanese exclusive economic zone (EEZ) (Kato et al., 2013; Fujinaga et al., 2013; Suzuki et al., 2013). Then, in the late 2013 and early 2014, we further conducted two more research cruises (MR13-E02 Leg2 and KR14-02 cruises) in the northern and eastern part of the Minamitorishima EEZ. During the cruises, we performed an acoustic survey using sub-bottom profiler (SBP), together with mud sampling by piston coring. In this presentation, we report the distribution and characteristics of the REY-rich mud in the northern and eastern part of Minamitorishima EEZ inferred by the SBP survey.

Keywords: rare-earth elements, REY-rich mud, Minamitorishima, EEZ, sub-bottom profiler