Geochemical features of rare-earth elements and yttrium-rich mud from north region of Minamitorishima EEZ

FUJINAGA, Koichiro\textsuperscript{1} ; KATO, Yasuhiro\textsuperscript{1} ; NAKAMURA, Kentaro\textsuperscript{2} ; SUZUKI, Katsuhiro\textsuperscript{3} ; MACHIDA, Shiki\textsuperscript{4} ; TAKAYA, Yutarō\textsuperscript{1} ; YASUKAWA, Kazutaka\textsuperscript{2} ; OTA, Junichiro\textsuperscript{3} ; HARAGUCHI, Satoru\textsuperscript{1} ; ARAKI, Shuhei\textsuperscript{2} ; LIU, Hanjie\textsuperscript{2} ; USAMI, Ryo\textsuperscript{2} ; MAKI, Ryota\textsuperscript{2} ; IIJIMA, Koichi\textsuperscript{3} ; NISHIO, Yoshiro\textsuperscript{3} ; USUI, Yoichi\textsuperscript{3} ; NOZAKI, Tatsuo\textsuperscript{3} ; MR13-E02 LEG2, Cruise members\textsuperscript{3} ; KR14-02, Cruise members\textsuperscript{3}

\textsuperscript{1}Frontier Research for Energy and Resources, University of Tokyo, \textsuperscript{2}Department of Systems Innovation, University of Tokyo, \textsuperscript{3}JAMSTEC, \textsuperscript{4}Department of Resources and Environmental Engineering, Waseda University

Recently, deep-sea sediment enriched in rare-earth elements and yttrium (REY) (called REY-rich mud) has been reported from a central part of the Pacific Ocean (Kato et al., 2011). Due to its great potential as a completely new REY resource, the REY-rich mud attracts particular attention from a wide field of scientists and non-scientists. In 2013, we have discovered the deep-sea sediments that are extremely enriched in REY (~6,600 ppm) from the south region of the Minamitorishima within the Japanese exclusive economic zone (EEZ) (Kato et al., 2013; Fujinaga et al., 2013; Suzuki et al., 2013). In 2014, in order to investigate the detailed distribution of REY-rich mud in the EEZ of Minamitorishima, we further conducted research cruises (MR13-E02 Leg. 2 and KR14-02) in the north region of the Minamitorishima. Here, we report the distribution, mineral composition, and geochemical features of the REY-rich mud from the north region of the Minamitorishima EEZ.

Keywords: rare earth elements (REEs), REY-rich mud, Minamitorishima, deep-sea mineral resource