

南鳥島EEZの拓洋第5海山東方海域におけるレアアース泥の地球化学的特徴と分布状況

Geochemistry and distribution of REY-rich mud in the eastern off the Takuyo-Daigo Seamount within the Minamitorishima EEZ

*藤永 公一郎^{1,2}、安川 和孝^{3,1}、野崎 達生^{4,2,1,5}、町田 嗣樹^{1,2}、高谷 雄太郎^{6,2,1}、大田 隼一郎^{1,2}、矢野 萌生³、下村 遼³、田中 えりか³、見邨 和英³、堀之内 航一³、松本 賢治³、臼井 洋一⁴、山本 浩文⁴、中村 謙太郎³、加藤 泰浩^{2,3,1}、KM17-14C航海 乗船者一同

*Koichiro Fujinaga^{1,2}, Kazutaka Yasukawa^{3,1}, Tatsuo Nozaki^{4,2,1,5}, Shiki Machida^{1,2}, Yutaro Takaya^{6,2,1}, Junichiro Ohta^{1,2}, Moei Yano³, Ryo Shimomura³, Erika Tanaka³, Kazuhide Mimura³, Koichi Horinouchi³, Kenji Matsumoto³, Yoichi Usui⁴, Hirofumi Yamamoto⁴, Kentaro Nakamura³, Yasuhiro Kato^{2,3,1}, KM17-14C cruise members

1. 千葉工業大学 次世代海洋資源研究センター、2. 東京大学 大学院工学系研究科 エネルギー・資源フロンティアセンター、3. 東京大学 大学院工学系研究科 システム創成学専攻、4. 海洋研究開発機構、5. 神戸大学 大学院理学研究科 惑星学専攻、6. 早稲田大学 創造理工学部 環境資源工学科

1. Ocean Resources Research Center for Next Generation, Chiba Institute of Technology, 2. Frontier Research Center for Energy and Resources, School of Engineering, The University of Tokyo, 3. Department of Systems Innovation, School of Engineering, The University of Tokyo, 4. Japan Agency for Marine-Earth Science and Technology, 5. Department of Planetology, Graduate School of Science, Kobe University, 6. Department of Resources and Environmental Engineering School of Creative Science and Engineering, Waseda University

In 2013, we discovered deep-sea sediment containing 400 –8,000 ppm of total rare-earth elements and yttrium (REY), which was termed “REY-rich mud”, within the Japanese exclusive economic zone (EEZ) around the Minamitorishima Island (Kato et al., 2013; Iijima et al., 2016; Fujinaga et al., 2016; Ohta et al., 2016; Nakamura et al., 2016; Takaya et al., 2018; Yasukawa et al., 2018). To clarify the mineralogical/chemical characteristics and distribution of the REY-rich mud in the Minamitorishima EEZ, we conducted nine research cruises over five years. During the KM17-14C cruise by *R/V KAIMEI* from December 16th, 2017 to January 7th, 2018, we investigated the distribution of the REY-rich mud in the eastern off the Takuyo-Daigo Seamount within the Minamitorishima EEZ, one of the most promising areas for REY-rich mud development. We collected five sediment cores by piston/gravity coring, and implemented bulk chemical analyses by using inductively coupled plasma quadrupole mass spectrometry (ICP-QMS) for trace and rare-earth elements, and X-ray fluorescence (XRF) for major elements. In this presentation, we report the sedimentological and geochemical features of the deep-sea sediments including REY-rich mud, and discuss the distribution of the REY-rich mud in the eastern off the Takuyo-Daigo Seamount.

キーワード：レアアース、レアアース泥、深海堆積物、南鳥島、海底鉱物資源

Keywords: rare earth elements and yttrium (REY), REY-rich mud, deep-sea sediment, Minamitorishima Island, deep-sea mineral resources