

In-situ Exposure Experiment of Manganese Oxide Precipitate at a Submarine Volcano, Shichito-Iwo Jima Ridge

*Akira Usui¹, Hikari Hino², Naotaka Tomioka¹, Shingo Kato⁴, Michinari Sunamura³

1. Marine Core Research Center, Kochi University, 2. Japan Oil, Gas and Metal Corporation, 3. Dept. Earth and Planetary Sciences, Univ. Tokyo, 4. Japan Marine and Earth Science and Technology Corporation

In-situ exposure experiment has been completed in 2013 and 2016 at two submarine volcanoes, Izu-Bonin volcanic arc, where 12 and 15-year experiments revealed significant evidence of modern precipitation of Mn oxide at about 1000 m water depth, within an oxygen minimum zone. The precipitates contain Fe bearing vernadite but not a typical hydrothermal manganese deposits, supporting the idea that Mn and Fe are precipitating at full water depths between 800 and 5500 meters (Usui et al., in press).

Keywords: manganese oxide, hydrothermal activity, submarine volcano, Kaikata seamount, Shichito Iwo Jima Ridge