

Geochemistry of High Temperature Hydrothermal Activities at the Suiyo Seamount, Izu-Bonin Arc

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Suiyo SeaMt. is one of submarine volcanoes in Izu-Bonin (Ogasawara) Arc. Within a crater caldera at the top of Suiyo SeaMt., vigorous hydrothermal activities are observed. High temperature (up to 311C) fluid venting is associated with Cu, Zn-rich sulfide deposits. Fluid geochemistry is characterized as 1) no obvious time series change during these eight years, 2) high-Cl content suggesting phase separation beneath the seafloor, 3) enrichment in Ca and CO₂ implying interaction with an island arc type magma, 4) little contribution from organic matter in sediment. In summary, fluid geochemistry of Suiyo SeaMt. is attributed to hydrothermal interaction with magmatic activity in island arc.

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