

Geochemical characteristics of organic components deposited around hydrothermal field in the Myojin knoll caldera

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We carried out organic geochemical study of hydrothermal system in the Myojin knoll caldera. The caldera locate on the volcanic front in northern Izu-Ogasawara arc. Sediment samples were obtained from around chimneys. Hydrocarbons and fatty acids were analyzed, because hydrothermal alteration of organic matter derived hydrocarbon and fatty acids are useful source indicator as biomarkers. As a result, petroleum like hydrocarbons in hydrothermal origin were found in the sample sediments. Fatty acid compositions indicated predominance of aerobic bacteria and significant proportions of anaerobic bacteria were present in the sediment samples. Absence of polyunsaturated fatty acids suggested active bacterial alteration of organic matter in the sediment samples.