

Organic geochemical studies of seafloor hydrothermal systems discovered from south Mariana trough

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Organic matters of the samples obtained from the hydrothermal fields in the south Mariana trough have been measured. The samples include surface sediments, chimneys, hydrothermal fluids, vent organisms, and cores sampled by the BMS. Results of elemental analysis indicated that the core samples consist of unaltered basalt were not contained noticeable amount of organic carbon, while a yellowish soft matter, which was observed during core sampling and recovered from the casing pipe as a stuffing, contained relatively higher amount of organic carbon (a few mg C/g dry basis). Although surface materials on the chimney flange (approx. 100 degree C hydrothermal fluid shimmering was observed) sampled from the Archaen site were also contained noticeable amount of organic carbon, the black smoker chimney (over 300 degree C) sampled from the Pika site lacked organic carbon. Stable isotopic compositions of vent animals (gastropods, anemones, and barnacles) were measured, accordingly we hope to discuss the source of the biophile elements in addition to those analytical results obtained from the geological samples.