

J161-012

Room: 301B

Time: May 14 12:00-12:15

Interaction between microbes and minerals in small scale at the hydrothermal field of southern Mariana

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Stable isotope analyses of minerals and micro-organism were performed on the samples collected from the southern Mariana hydrothermal fields. In addition FE-SEM observations were performed on the same samples. It is found that thermophilic sulfate-reducing bacteria (SRB) were active even in the low temperature environments surviving in the microscale environment protected by minerals. In addition, amorphous silica mound created unique environments for aerobic and anaerobic microorganisms