

## Pore water chemistry of cold seepage in the Eastern margin of Japan Sea-Formation mechanisms of megabacterium mat off Mottamisaki

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A megabacterium mat has been observed (#485 dive of Shinkai6500, JAMSTEC) off Mottamisaki, the eastern margin of Japan Sea in 1999. In this study, in order to investigate the chemical characters of cold seepage and clarify the generation mechanisms of the bacteria mat, chemical concentration and isotopic composition of pore water in sediment under the bacteria mat were analyzed. During two submersible investigations (#624 and #631), a megabacterium mat with about 800,000m<sup>2</sup> of the area was observed afresh, which horizontally was 800m widths from east side to the west, and 900m from north to south. Depending on the sulfate reduction by bacteria in the sediment, the emission of methane and its flux were calculated which were similar with those from the *Calyptogena* community region off Hatsushima. It was guessed that, as the possible origin of methane, the ooze of methane hydrate and/or other hydrocarbon deposit feed the megabacterium mat.