

## Gas geochemistry of hydrothermal fluids from the Valu Fa Ridge, Lau Basin

# Hiroshi Hamasaki[1]; Junichiro Ishibashi[2]; John E. Lupton[3]

[1] Earth and Planetary Sci., Graduate School of Sci., Kyushu Univ.; [2] Earth and Planetary Sci., Kyushu Univ; [3] NOAA/PMEL

Hydrothermal systems in Valu Fa Ridge were studied during YK04-09 cruise using RSV SHINKAI6500. Several hydrothermal fluids were collected during 18 dives and studied in order to clarify geochemical characteristics of hydrothermal systems. In this presentation, we discuss geochemical signature of gas species dissolved in the hydrothermal fluid.

At Vai Lili field where significant decline of the hydrothermal activity since the first discovery at 15 years ago was notified, gas species concentrations of the hydrothermal fluid were low compared with those from Mariner field where vigorous fluid venting smokers (the highest temperature was 365C) clustered. Especially, depletion of hydrogen in the Vai Lili fluid was notable.

Compared with the hydrothermal fluids from Mid-Atlantic Ridge, the Valu Fa Ridge fluids showed high carbon dioxide concentration and low methane and hydrogen concentrations. This difference may reflect geochemical signature of the magma beneath the hydrothermal system.