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SCG059-P13

Room:Convention Hall

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## Study of submarine volcanic activity at the 17N Mariana Trough back-arc spreading axis

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This paper presents the results of detail mapping of volcanic products and tectonic features of the axial valley floor in the 17N segment, Mariana back-arc spreading axis based on the observations of Shinkai6500 submersible.

Submersible observations dive 1088 and 1089 are consistent with the interpretation of side scan sonar (SSS) image analyses. However, high-backscatter regions in the dive track of 1090 are underlain by pillow lava, indicating the intensity of backscatter does not always give consistent results with the lithofacies.

General trends of faults, fractures and cracks are 165E and 170E, which are subparallel to and oblique to the spreading axis, respectively. In addition to these, faults, fractures and cracks running at high (Type 1) and acute (Type 2) angles to the spreading axis are present.

Cross cutting relationships between these tectonic features indicate the order of formation from Type 2, Type 1 to Type 3. Type 3 is observed on the latest volcanic products.

Sheet flows do not exist on slopes steeper than 9 degree, where pillow flows dominate, indicating that lava morphology depends on the slope of the basement.