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南西インド洋海嶺35Eから39Eで採取された岩石類—白鳳丸KH-09-5航海速報—

Preliminary report of R/V Hakuhomaru KH-09-5 cruise: Dredged rocks along Southwest Indian Ridge, 35E to 39E

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We performed in total 9 dredge hauls during the KH-09-5 Leg 4 cruise along western segment of the Southwest Indian Ridge (SWIR) between Prince Edward and Eric Simpson Fracture zones. This segment is subdivided into three subsegments and two axial deeps.

Western Subsegment (DR01 & DR02): DR01 is considered to be axial volcano in "normal" spreading axis. One large (> 7 kg) nearly aphyric basalt and small pieces of basalt were recovered. They are fragments of pahoehoe to lobate sheet flow. DR02 is located at western tip of V-shape topographic height. Aphyric to olivine-bearing aphyric basalts were recovered. All samples appear to be clasts of folded sheet flow crust with pipe vesicles elongated perpendicular to the rounded robe surfaces, but no glass margin is preserved.

Western Axial Deep (DR03, DR04, DR05, and DR06): At this axial deep we already obtained basaltic glasses during KH-07-4 cruise (KH07-4DR01). They have slightly enriched chemical compositions. DR03 is located at caldera-like small seamount at western margin of the deep. Aphyric to sparsely olivine phyric basalt and basaltic glass were recovered. Crust of lobate sheet flow and pillow lobe. DR04 is located on northern margin of the deep. Peridotite breccia and small peridotite clasts with small amounts of dolerite and basalt were recovered. DR05 is small height in the deep. Only small amounts of flakes of basaltic glass chips were obtained. DR06 is located southern margin of the deep. Small amounts of basalt with felsic rocks were obtained. Felsic rocks are considered to be a sort of IRD because of their rounded shapes.

Central Subsegment (DR07 & DR08): DR07 is considered to be axial volcano in "normal" spreading axis. More than 100 kg of plagioclase phyric basalt with thin glassy surface were recovered. Most of samples are part of pillow lava. DR08 is located on southern part of older abyssal hill. Aphyric to plagioclase phyric basalt fragments were recovered.

Eastern Axial Deep (DR09): DR09 is located within axial deep. Unlike to the Western Axial Deep, topographic height with east-west strike is developed within the Eastern Axial Deep. Only small pieces of glass fragment were recovered. Some contains plagioclase phenocrysts 2 to 3 mm in size.

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