

Preliminary report on KR04-14 cruise at western termination of the Central Basin Fault, West Philippine Basin

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The West Philippine Basin (WPB) represents the oldest back-arc basin in the Philippine Sea Plate. Although extensive geophysical and petrological investigation have been integrated on younger back-arc basins (like the Shikoku and Pares Vela Basins and Mariana Trough) to prove tectonic and magmatic processes operative in these arc-back-arc basin complexes along with a deciphering of basin history, the WPB holds many of obscure points.

To address unsolved question about its tectono-magmatic evolution, we conducted scientific submarine survey (JAMSTEC KR04-14 cruise; November 3 to 22, 2004) including dredging and regional mapping by marine geophysical survey systems of R/V KAIREI at the western termination of the Central Basin Fault in the western WPB.

Multi-narrow beam bathymetric survey revealed, though limited coverage relative to original plan, fine structure characterized by several overlapping spreading centers, a feature distinctive compared with the eastern WPB. The Central Basin Fault extended from the eastern WPB is cut by wavy spreading fabric at about 19N, 127.5E, thus suggesting that this part of basin represents the youngest part of WPB.

Dredge were performed at seven stations. Although doleritic basalts were recovered at one locality (NW of the Urdaneta Plateau), we failed to get basement rocks at the other dredge sites.