

Shear zones in the Atlantis Bank, SW Indian Ridge

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The Atlantis Bank is located 100km south of the Southwest Indian Ridge, between the Atlantis-II fracture zone and the Novara fracture zone. Mantle and lower crustal rocks are distributed in the bank.

Shear zones are analyzed on video observations and structural data of sampled rocks. The lower crustal rocks comprise non-deformed gabbro, protomylonite with weakly porphyroclastic structure, mylonite and ultramylonite. The mylonitic deformation is characterized by non-homogeneous one. It is suggested that the detachment is composed of many mylonite zones.

There are high angle dipping, N-S trending faults and N-S and E-W trending joints in the western side of the Atlantis Bank.

These derived from N-S and E-W trending normal fault systems after detachment.