

Deformation analysis of Wadi Tayin area of Oman.

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In the Wadi Tayin area where metamorphic sole crops out very well, we analysed deformation structures, especially mineral lineation and asymmetric porphyroclast systems.

We determined direction and intensity of the mineral lineation by a statistical analysis of the longest axes of the amphibole grain on the foliation surfaces. The mineral lineation strikes between N75E and N30E, intensity of which is weaker in higher grade amphibolites. The shear sense from asymmetric shape of porphyroclast systems, indicates a southwestward movement of the hangingwall.

Obduction of oceanic plate is one of the most mysterious tectonic event. The Oman ophiolite is the largest scale ophiolite in the world, extending about 100km wide and more than 400km long area on the Sultanate of Oman and United Arab Emirates, north-eastern Arabian Peninsula.

In the Wadi Tayin area where metamorphic sole crops out very well, we analysed deformation structures, especially mineral lineation and asymmetric porphyroclast systems. Mineral lineations were not found in high grade amphibolites at the outcrops and under the microscope, whereas they are presents in low grade amphibolites. We determined direction and intensity of the mineral lineation by a statistical analysis of the longest axes of the amphibole grain on the foliation surfaces. The mineral lineation strikes between N75E and N30E, intensity of which is weaker in higher grade amphibolites. The shear sense from asymmetric shape of porphyroclast systems, indicates a southwestward movement of the hangingwall.