

## Pressure-temperature-deformation path in the Muroto Formation, the Tertiary Shimanto accretionary complex, Eastern Shikoku

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The fossil of the fluid flow and the progressive growth process of the deformation within the accretionary complex is a well-observed in the Muroto Formation, the Tertiary Shimanto accretionary complex of Eastern Shikoku. The pressure-temperature-deformation history of the Muroto Formation has been elucidated by analysing fluids trapping in syn-tectonic quartz.

As a result, the fluid inclusion analysis indicates a geothermal gradient of 70 degrees centigrade/kilometer. The rocks were suffered the two stages of the extension stage and the shortening stage. In the extension stage, the rocks underwent higher temperature and higher pressure because that probably transferred from trench to decollement zone by underthrusting. The pressure-temperature condition of the rocks in the extension stage experienced about 250 degrees centigrade/83MPa. In the shortening stage, the P-T condition decreased to 230 degrees centigrade/76MPa by underplating. Later stage, the P-T condition increased to 345 degrees centigrade/118MPa. Consequently, it is likely the reason why temperature and pressure increased again that the higher temperature mass was uplifted above this formation by out-of-sequence thrust, or hydrothermal fluid flowed from deep underground.