

## Tectonic of BIF sedimentation to strike-slip basin formation at Cleaverville area of the coastal Pilbara terrane, Western Australia.

\*Shoichi Kiyokawa<sup>1</sup>, Tsubasa Miki<sup>1</sup>, Yuhei Aihara<sup>1,4</sup>, Shuhei Teraji<sup>1,3</sup>, Mami Takehara<sup>2</sup>, Kenji Horie<sup>2</sup>

1. Department of Earth and Planetary Sciences Faculty of sciences, Kyuushu University, 2. National Institute of Polar Research, 3. Nippon Steel and Smitomo Metal, 4. IMPEX

Cleaverville Formation is one of the important iron formation containing the Mesoarchean oceanic environment messages. Cleaverville area of the coastal Pilbara terrane is formed by 1) low grade greenstone belt; Regal, Dixon Island, Port Robinson basalt, Cleaverville formations to the top; 2) cover sequence (Lizard Hills Formation); 66 Hill and 44 Hill members of unconformable shallow water sequences; and 3) Fortescue volcanics at 2780Ma. U-Pb ages by SHRIMP are as follows; felsic volcanoclastics of the upper Black Shale Member of the Cleaverville Formation is about 3106Ma, detrital zircon from quartz rich sandstone of 66 Hill Member contains 3060Ma, and detrital zircon from red sandstone of the 44 Hill Member shows 3020Ma. Based on the metamorphic grade, it is different from Prehnite-Pumpellyite facies to upper greenschist facies at rhombic area at the Cleaverville area to surrounded complex. This deformation and distribution of shallow water sediments are formed by pull apart basin during the strong sinistral slip deformation. This sinistral deformation may be also related as exhumation of the 3270Ma Karratha Granit. This deformation identified as extensional core complex at around 3060-3020Ma which age is shown after 3100-3060Ma island arc-continent collision.

Keywords: Mesoarchean, banded iron formation, strike-slip basin, SHRIMP U-Pb age, core complex