

Preliminary report of Ghana Biriman Greenstone belt drilling project (GHB): Reconstruction Paleoproterozoic oceanic environment

\*Shoichi Kiyokawa<sup>1</sup>, Takashi Ito<sup>2</sup>, Minoru Ikehara<sup>3</sup>, Kosei E. Yamaguchi<sup>5</sup>, Tetsuji Onoue<sup>4</sup>, Kenji Horie<sup>6</sup>, Satoshi Yoshimaru<sup>1</sup>, Tsubasa Miki<sup>1</sup>, Tetteh M George<sup>7</sup>, Frank K Nyame<sup>8</sup>

1.Department of Earth and Planetary Sciences Faculty of sciences, Kyuushu University, 2.Dept. Education, Ibaraki Univ., 3.Kochi Univ., 4.Kumamoto Univ., 5.Toho Univ., 6.National Polar Inst., 7.University of Mines and Technology, Tarkwa, 8.University of Ghana, department of Geology

The Paleoproterozoic Birimian Greenstone Belt along the Cape Three Points area contains very thick volcanoclastic and organic rich sedimentary rocks which we now refer to as Cape Three Points Group in the lower part of Birimian Greenstone Belt. Recent field work in this area uncovered 1000m total thickness of volcanoclastic sedimentary sequence. Stratigraphically, the lower portion contains thick vesicular volcanoclastic rocks probably of sub-aerial origin. The middle portion is made up of well laminated alternation of volcanoclastics and black shale with the upper portion dominated by well laminated volcanoclastics with black shale sequence. Fining upward sequence and REE data suggest shallow to deep sea depositional conditions at oceanic island arc setting. New SHRIMP age data from porphyry intrusion in this sequence show about 2250Ma but sedimentation and volcanic activity is much older than this age. 195m continuous core drilling from Dec 3-12<sup>th</sup> 2015 at the upper part of the Cape Three Points Group intersected 30 m saprolite and 30 to 195m well preserved stratigraphy with graded bedding and lamination. Analysis of C, S isotopes would reveal deeper oceanic conditions and biogenic activity during deposition.

Keywords: Paleoproterozoic, Birimian Greenstone belt, oceanic island arc

