

# Pre-GOE platformal BIF from the Wester Iron Ore Group, Singhbhum Craton, India: Constraining the Age from Neoproterozoic Detrital Zircons

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Singhbhum craton in eastern India hosts some of the best-preserved Archean greenstones, collectively known as Iron Ore Group (IOG), with characteristic mafic-felsic metavolcanics and more than six-hundred-meter-thick banded iron formations (BIF) that host one of the largest reserves of high-grade iron ores of India. The greenstone belts primarily developed on the western, eastern and southern flanks (WIOG, EIOG and SIOG, respectively) of the TTG pluton. U-Pb ages from the S- and E-IOGs suggest their development at around 3.51 Ga (Mukhopadhyay et al., 2008; Hoffmann et al., 2022). The age of WIOG so far remained unresolved with reported U-Pb LA-ICPMS age of 3.39 Ga (Basu et al., 2008) which some workers believe is not in agreement with the stratigraphic succession of the WIOG that includes in ascending order greenstone metabasalts, manganeseiferous shale with locally developed dolomitic stromatolites, more than 600 m thick BIF and upper shale (Beukes et al., 2008). We recently collected samples of medium-grained sandstones within the lower manganeseiferous shale. The LA-ICPMS results from detrital zircons extracted from the sandstones yielded the youngest population at around 2729 Ma. Our new age constraints place the BIFs of the WIOG as one of the best-preserved *pre-GOE* Neoproterozoic BIFs primarily developed in a platformal setting comparable to much younger Lake Superior iron formations.

## References

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