Strata Bound Reversal Stratigraphy in the Middle and Upper Semri Group of the Lower Vindhyanchal Basin (India): Preliminary Paleomagnetic Results

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The Lower Vindhyanchal basin (Semri Group) in India preserves a sequence of sedimentary and volcanic ashfall deposits that formed in the interval from 1800 to 1200 Ma. This sequence includes a 2500 meter section of strata that were deposited in the 45 million year interval from ~1630-1590 Ma. Paleomagnetic samples are collected from two sequences of Lower Vindhyanchal Basin of peninsular India, Eastern Son Valley (Mirzapur, Deonar, Kheinjua and Rohtas Groups) and Rajasthan (Satola, Sand, Lasrawan and Khorip Groups), respectively. Our preliminary paleomagnetic data show strata bound series of normal and reverse polarity directions observed within the Lower part of the Semri groups (Mirzapur-Satola Groups through the lower Kheinjua-Lasrawan Groups). In the upper part of the Semri Group (Rohtasgarh Limestone, Son Valley and the Nimbahera-Suket Limestone at Rajasthan) we also observe a strata bound reversal stratigraphy.

The preliminary paleomagnetic data also suggest that this part of peninsular India occupied intermediate latitudes (~45 degrees) during the onset of Vindhyan sedimentation (~1800 Ma) and then drifted to lower latitudes during Middle Semri time (1630 Ma). Data from the uppermost Semri Group indicate that India moved to high paleolatitudes (~60-70 degrees) at around 1200-1400 Ma. This suggests either a period of rapid motion during the interval from the end of Kheinjua (Middle Semri) deposition into the Rohtas-Khorip (Upper Semri) time or a hiatus in sedimentation between these Groups.

1. Chapman Conference on Timescales of the Geomagnetic Field 2. Contributed 3. (a) E. Tamrat Department of Geological Sciences, University of Florida, 241 Williamson Hall, Gainesville, FL 32611; (b) ph. 352-846-3710; (c) fax 352-392-9294; (d) endale@geology.ufl.edu 4. No