

Great Vindhyan Basin: A Potential Field for Cambrian Oil in India

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Discovery of typical Cambrian heavy oil in Baghewala -1 well in Bikaner-Nagaur basin of western Rajasthan (Peters et al., 1995) has added an unprecedented new dimension for exploration of hydrocarbon in the *Purana* Basins of India. The oil producing Bilara Group is a typical Lower Cambrian microbial carbonate which belongs to the Trans-Aravalli Vindhyan, but is now better known as part of a separate succession known as the Marwar Supergroup, due to ambiguity in its correlation with the succession of the main Vindhyan Basin, east of the Aravalli Mountain Range (the Cis-Aravalli Vindhyan). It will be shown here that the Vindhyan Supergroup of the main Vindhyan Basin and the Trans-Aravalli Vindhyan are biostratigraphically as well as lithologically correlatable, even also with the Lesser Himalayan Vendian-Cambrian microbial carbonates, phosphate and salt deposit successions. Paleogeographically, the Indian Peninsular and Lesser Himalayan basins also go very well with the Cambrian oil producing Salt Range of Pakistan and the Huqf Group of Oman.

However, in contrast to the above view, recent geochronological results suggest that there is no correlation possible between the main Vindhyan Basin and the Trans-Aravalli Vindhyan. According to the latest geochronology, the Vindhyan Supergroup (VSG) ranges in age from the late Paleoproterozoic to near the end of Neoproterozoic (~1800 – 550 Ma) or its upper limit terminating even much earlier, by close of the Mesoproterozoic (~1000 Ma). However there is no disagreement as for the post-*Malani* age (~745 Ma) of the Trans-Aravalli Vindhyan (Marwar Supergroup) is concerned, and, in fact, a tentative Vendian (Marinoan-Ediacaran) to Early Cambrian age is acceptable to most of the workers.