Mechanisms of deposition of modern banded iron analogues on Milos Island, Greece

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An Early Quaternary shallow submarine hydrothermal iron formation (IF) in the Cape Vani sedimentary basin (CVSB) on Milos Island, Greece, displays banded rhythmicity similar to Precambrian banded iron formation (BIF). Previously published data[1,2], together with new stratigraphic reconstruction, biogeochemical analysis and micro-nanoscale mineralogical characterization, confirms the Milos rocks as modern Precambrian BIF analogues. Local anoxia developed during periods of potential basin stratification, is implicated in the deposition of the BIF-type rocks. Collectively, the data suggest an intricate interaction between tectonic processes, changing redox, biological activity and abiotic Si precipitation, in the formation of the unmetamorphosed BIF-type deposits.

[1] Chi Fru, E. *et al.* (2013). Fossilized iron bacteria reveal a pathway to the biological origin of banded iron formation. *Nat. Comm.* 4, doi:10.1038/ncomms30502.

[2] Chi Fru *et al.* (2015). Biogenicity of an Early Quaternary iron formation, Milos Island, Greece. *Geobiology* 13, 225-44.