

BAO001-04

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On the formation environment of the nano-bacteria fossil-like texture

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A characteristic formation environment of a fossil-like material related to life activity are summarized as follows.

- 1) The shape of the fossil solidified material shows a curved nano-texture at the time of the solidification from a fluid phase.
- 2) The compositions of fossil solidified materials are carbon-bearing minerals with cations (Ca, Fe, Mg) remained in seawater fluid phase environment. When it is formed with the surface crust rocks, it contains Si from silicate rocks with complex formation.
- 3) Impacted nano-texture with fossil-like curved features can be found in the air environment with a fluid phase compared with vacuum condition, though both textures are irregular crack textures.
- 4) The composition of the nanobacteria-like texture organization in the of the fusion crusts of the Kuga iron meteorite found in Yamaguchi, Japan is Akaganeite composition in minor size.
- 5) The present results indicate that the nano-bacteria textures of Martian meteorites with magnetite and carbonates separately are not formed at vacuum collision process, but carbonate formations with changes of positive ions (Ca, Mg, Fe) under fluid phase.

Keywords: nano-texture, fossil-like, formation environment, fluid phase, carbonate, irregular cracking