Flake texture of Fe-Ni oxides and its terrestrial evolution

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The present study is summarized as follows:

1) Iron oxides and hydrates show polymorphism of three minerals on the Earth, where akaganeite with OH water and chlorine and Ni is found in mine of Iwate Prefecture of Japan.

2)Recent study indicates that the iron oxide with water OH and chlorine shows
radiated and flake texture with quenching
in natural and artificial samples.

3) Similar iron-flake texture with chlorine is found in Apollo 16 breccias (66095) and meteorites (Carancas in Peru, Nio, Kuga and Minohoseki in Japan) which are caused by chlorine explosion reaction to form flake texture due to considerable content of chlorine.

4) Artificial glass with radiated texture formed at high temperature can be found only part of chlorine content as mineral grain as localized space.

5) Elemental abundances of chlorine in meteorite are more than terrestrial crust, and found in impact materials. Chlorine-bearing minerals in fusion crusts of meteorite are considered to be first
shocked materials to become chlorine-resource of the Earth finally.

6) Due to many impacts of meteoroids and
first fall of rain with high-temperature,
these materials are separated in ocean water to chlorine in water and iron to the ground finally.

7) These materials with iron and chlorine are considered to be indicators of impacts on waterless Moon, and probable separation on Mars as impact at highland craters and relict minerals of paleo-ocean water.