QUENCHED GLASSY ROCKS TO LIFE-LIKE VOLATILE-BEARING SECONDARY MINERALS.

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Introduction: Minerals and life is discussed by mineralogy and biology respectively, with possibility of some fluid-related minerals for life developments The present paper is discussed by mineral formation from fluid-bearing quenched glassy rocks related to life connection as the main purpose [1-2].

Dynamic and active systems of Earth and life: Crystalline minerals in nature have five factors of chemistry, physics, geobiology (geology and biology), time and location as follows:

$$\mathbf{F}\,(\text{Mineral}) = f\,(\text{chemistry}) + f(\text{physics}) + f\,(\text{time}) + f\,(\text{location}) + f\,(\text{geobiology}) \quad .....(1)$$

Present life system is composed of five factors of chemistry, physics, geobiology, time and location as follows:

$$\mathbf{F}\,(\text{Life}) = \Sigma\, f\,(\text{Chemistry, physics, geobiology, time, location}) \quad .....(2)$$

The above equations (1) and (2) indicate that mineral and life has five factors with solid-state and solid-liquid-gas states, respectively, but that previous materials of life and mineral are continued to new states (as next generation of life or changed materials of planet's mineral-rocks, which are considered to be disappeared and limited information to the previous time factor of the old (or primordial) states of life and Earth's mineral-rocks..

Present information against the old activity: Life and mineral are described as "present time situation" used by many analyzed database. Significant characteristics of present products of life and crystalline mineral-rocks are "final products" of dynamic and active systems on the water-planet Earth. This suggests that life and mineral are compact materials with continuous time and location factors as shown in equations (1) and (2), so that the word of "cycle or continuity" expressed to life and mineral are not real expression but quasi-cycle with changes (as compact information packages [1-3]

Quenched quasi-life rocks changed to minerals: We discuss old rock or life (as fossil) from present knowledge of final crystalline mineral and life. However, at primordial age of starting materials are considered to be poor crystalline rocks and life-like materials with much volatiles not fixed in atomic site snugly. It is natural approach from poor crystal line to perfect crystalline minerals at Earth's stable reaction system [1-3].

Evidences of waterless mineral-rock interior: The following are evidences of poor water molecule in primordial mineral-rocks [1-3]:

1) Volatiles in mineral-rocks are completely evaporated to form atmospheric air and sea-water liquid.

2) Primordial mineral-rock with amorphous glassy grains are quenched from three states of air-liquid-solid during volcanic eruption and/or asteroidal impact events at extreme condition.

3) Volatile ions and elements are remained in solid interiors, to be melted and evaporated to be formed molecules including water fluids, which means water molecules are formed by extreme processes (without previous water molecules existed)..

4) Biomaterials of apatite group minerals have water (OH) poor and chlorine-fluorine-rich volatile in crystalline structure by EPMA and IMA probe analyses, which suggests poor water molecule (except ion or elemental states) in primordial samples of meteorites[2].

Water molecule in rocks formed by heating: When meteorite has been heated, water molecules are evaporated and liquid drops in test-tube by the laboratory experiment. This suggests that water does not exist in the meteorite in advance, but formed y extreme condition of heating process [1-3].

Life remnant of fossil grown to minerals: The present study suggests that life remnant as fossil with stone composition is grown to crystalline mineral with vapor atomic site [1-3].

Summary: The results are summarized as follows.

1) Life and mineral show five factors information with solid state and three states, respectively, which are shown in equations (1) and (2).

2) Primordial states with volatile's ion and elements are starting materials to grow as crystalline mineral.

3) Quenched rocks at extreme condition are developed to mineral.

4) Some experimental data and study indicate evidences for waterless in rock interior.

5) Water molecules are formed after heating process.

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