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GENERAL SYSTEMS ANALYSIS OF BASIC NUCLEAR ENERGY SOURCES IN OUR SOLAR SYSTEM AND THE CHAIN OF PROCESSES THEY TRIGGER TO SUPPORT LIFE ON PLANET EARTH.

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Abstract

A general systems analysis of our Solar System indicates two types of nuclear energy drive the processes on Planet Earth that make possible the development of life on the planet. These two sources are the nuclear fusion energy in the SUN and the nuclear decay fission source of energy in the EARTH'S core. The fusion energy in the SUN sends us light to carry out the photosynthesis in the leaves of plants, and the infra-red energy to evaporate 40 inches of water per year from the oceans to drive the EARTH'S irrigation system.

To make an effective and timely analysis a break with Aristotelian logic of (TRUE or FALSE; 1 or 0) must be made to include the "excluded middle" in our projections of the probability of different future scenarios. We must rate alternative hypotheses in terms of (TRUE, DON'T-KNOW, FALSE) or (1, fuzzy, 0). If we wan't to save the environment and human civilization, we must not accept the word of any scientist-specialist without checking step by step his data and his logic.

When we examine the path of soil nutrition for support of life, we find the most probable path is: The nuclear fission energy in the core of the EARTH triggers movement of the tectonic plates; pushes molten magma through cracks in the ocean bottom carrying the minerals (including a full complement of trace minerals) to the surface strata of the ocean bottom; in a period of 100,000,000 years the minerals have moved with the tectonic plate motion to subduct under the shoreline; volcanic activity distributes the minerals over the nearby earth surface; then a system is needed to grind up the rock so the minerals will be in a powder form for distribution over the agricultural plains; the only known natural process for rock grinding is the growth and melting back of glaciers; anlysis of ocean bottom drilled cores indicate that in the last 2.4 million years we have had 23 glaciation cycles of approximately 90,000 years of glaciation followed by 10,000 years of interglacial warm period; during the glaciation period of 90,000 years there would be partial extinction of plant and animal life, with oases for maintaining a sample

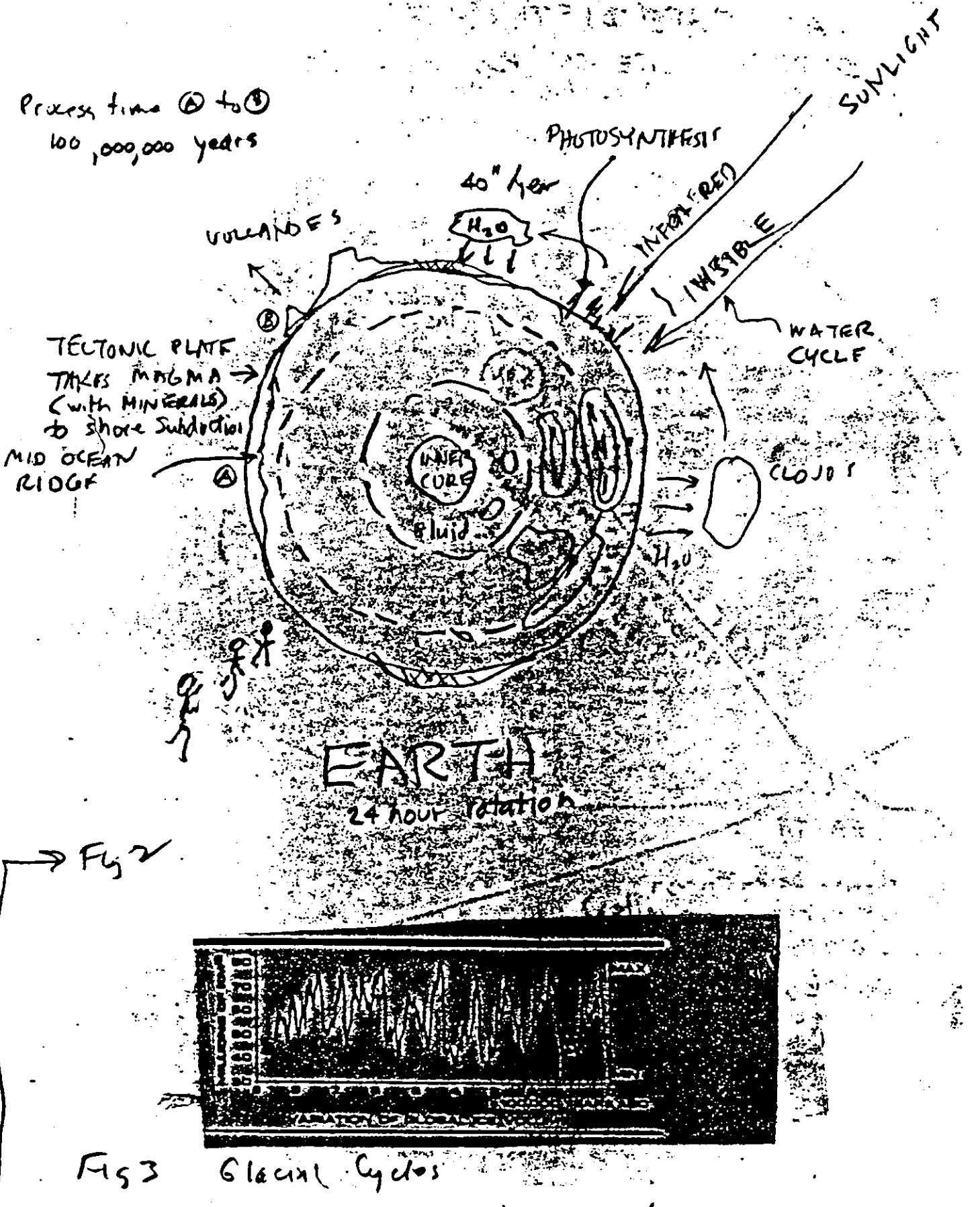
of the living species in spots near the equator, and around river deltas; the powdered minerals would be distributed over the plains areas by wind with half of the minerals falling into the oceans; with microrganisms chelating the minerals in the soil for absdorption by the plant roots, the minerals finally get into the plants metabolic process; since the minerals get used up or are carried away by soil erosion in 10,000 years, a feedback signal system is needed to turn on the glaciation when needed to grind another batch of rock dust; to turn on the glaciation, it appears the best first approximation is the thesis that the rising carbon dioxide in the atomosphere causes a greenhouse warming which evaporates more water from the ocean making more clouds available to be carried to the polar regions for potential production of glacial ice; the signal to end the glaciation is probably a synergetic interaction of the Earth getting closer to the SUN as in a component of the Milankovitch Theory with the amount of ice on the planet reaching saturation with the low value of the CO/2 cutting off the sourch of more ice, etc. The failure of the U.S. Government to support research on the above components during the period of 1977 to 1987 has given us a serious delay in our scientific testing of the above hypotheses.

Ecological Engineering Theory

NATURAL NUCLEAR ENERGY SOURCES AT SAFE DISTANCES SUPPORT LIFE ON PLANET EARTH

– And global cycles distribute the needed minerals

Fig 1 - ORBIT OF EARTH AROUND SUN



→ Fig 2

Fig 3 Glacial Cycles

Fig 2. Processes in and on Planet Earth.

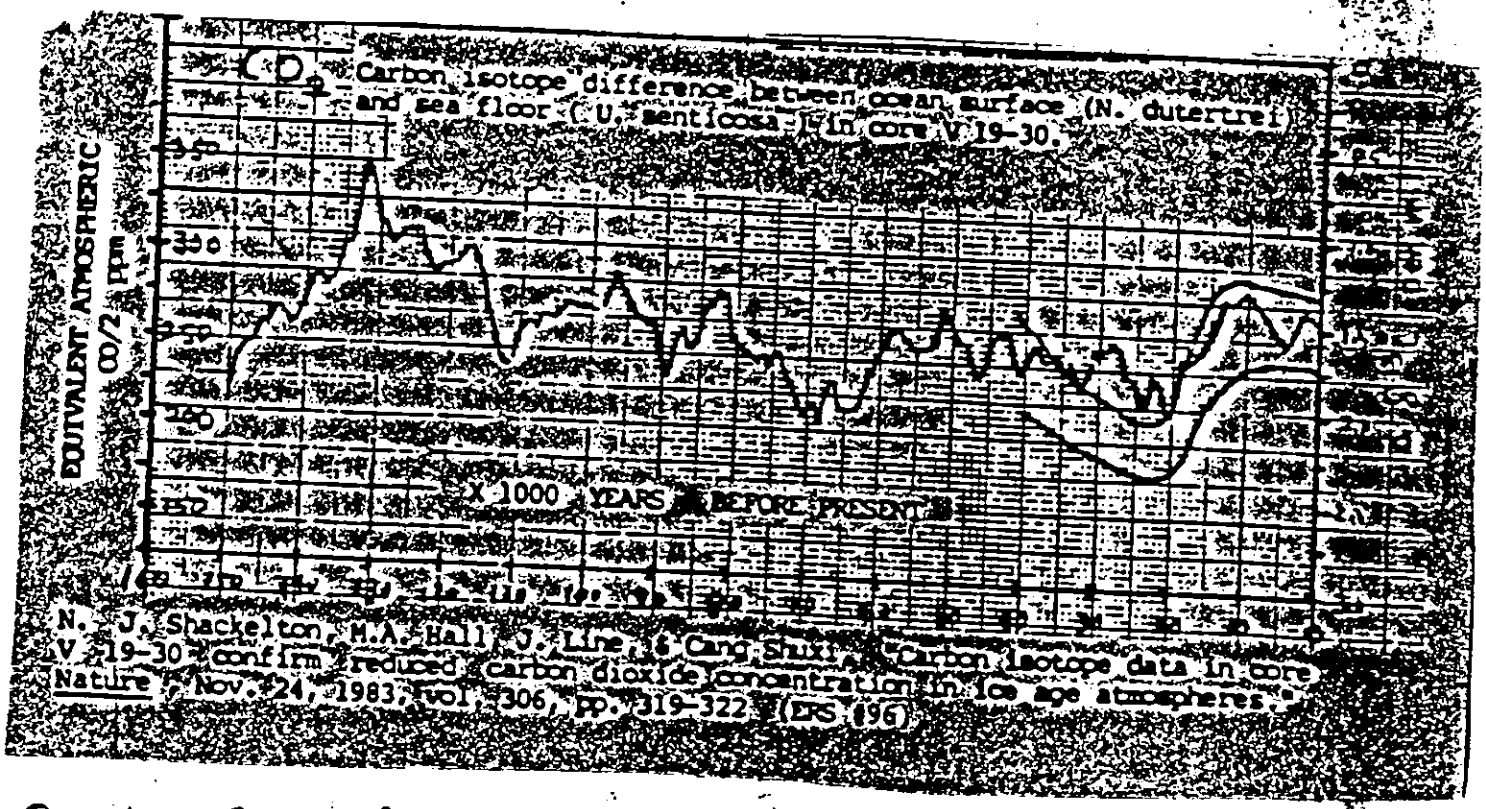


Fig 4- CO_2 level for last 160,000 years.