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TERNEB, the mother nebula of Terrestrial planets

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From the striking multielemental (Δ ^{17}O, ε ^{48}Ca, ε ^{50}Ti, ε ^{54}Cr, ε ^{64}Ni, ε ^{92}Mo, ε ^{100}Ru, μ ^{142}Nd, d^{15}N, dD) isotopic *identity* and the unique d^{30}Si isotopic *discrepancy* between EH Chondrites and the Earth, we describe the formation and evolution of TERNEB, a high temperature gaseous medium of d^{30}Si= -0.77 ±0.08‰ located in the early inner solar system, less than 1My after the formation of the Sun from recent e^{53}Cr data.

TERNEB formation results from classical solid-gas dynamics : TERNEB genesis results from the dehydroxylation of a centripetal solid CI material flux at ~400-500K, followed by its further devolatilisation to ~80% of the « dry » CI residue at 1550±50 K.

TERNEB gas major element composition (O, Mg, Si, Fe, Ni...) corresponds to a « RLE-free » EH composition. Its formation temperature is determined from d^{30}Si data to be 1550±50K.

TERNEB final condensation occurs by its reaction with a late 80% Ordinary Chondrite- 20% CI chondrite solid flux, whose RLE isotopic composition corresponds to the common EH-Earth composition. Between 1400 and 880 K this condensation to ~80% in mass produces the Earth and Venus material. Its occasional local 100% condensation produces very limited amounts of EH material, while the residual gas at TERNEB inner edge produced a Mercurian type material at ~1300K.

Terrestrial planets' accretion may then happen by any kind of classical mechanism.