With a surface area of 400,000 km2, the Triassic Province in Algeria represents a vast Saharan territory in which significant hydrocarbon layers are exploited at the Triassic and Cambrian–Ordovician levels. The Saharan Triassic consists of sediments of varied continental environments; namely, fluvial, floodplain, lake, sebkha, and wind. At the top of Formation I, the lower series of the Triassic, there are intercalations of volcanic rocks represented by dolerites. Sedimentation interspersed with periods of nondeposition is thought to have occurred during the period of the development of the Triassic continental; resulting in the development of more or less intense pedogenesis, along with associated sediments. These episodes of pedogenesis, significantly influenced by climate, are the source of important discontinuities, which can be used for sequential subdivision. Formation II is characterized by the eruptive units at the base of the lower member IIa and they consist primarily of dolerites. The top of that unit is defined primarily by a channel in a fine sandy fill. Member IIb is characterized by fluvial facies of channels, changing upward into a complex of playas or evaporites. This complex is characterized, in comparison of neutron/density curves, by a negative polarity at the bottom, with a broad separation of the curves. Formation III is characterized primarily by an evaporite facies, of sebkha-type halite, with weak gamma ray (lower than 10 API). The sonic value is relatively constant-- around 70 µs/ft. The various expressions of pedogenesis have been well documented; they include marmorization slits of desiccation features, root traces, polyhedron structures (slickenslides), ferruginizations, and Liesegang rings. In the Saharan Triassic there are also expressions of silcrete, gypscrete, dolocrete, and calcrete. The suggested models of electrosequences are varied at Hassi R'Mel, with several models representing sequences-second, third, and fourth order. The models recognized in wells at Hassi R'Mel field are representative primarily of units filled with siliciclastic, eruptive sediments, and evaporite-type saliferous shale deposits. The top of stratigraphic sequences is represented by discontinuities, modifications related to pedogenesis and not characterized in the old models. This work therefore attempts to refine the above models by using a well-log-based modeling approach (gamma ray, neutron, sonic, density, and resistivity) to examine the evolution of successions, along with facies analysis in Hassi R'Mel field