The Itararé Group (southeast Brazil) is recognized as a potential basin for gas and oil. In this work we discuss the geometric characteristics of its marginal deposits and the factors controlling the genesis. Our objective is to produce a model of distribution of the marginal reservoir in the Itararé Group (IG). The detailed analyses of 20 km$^2$ about, near Porto Feliz (SP), allow delineating a variable depositional system in the upper part of the IG. From east to west, it is formed by: a) a shallow water area, wave-influenced, corresponding to an upper shoreface; b) an intermediate slope with pelitic deposition; c) a deeper part, corresponding to a deep-water coarse system. The shallow water area could represent a wave-dominated delta; during the storms, coarse sediment was reworked and flowed downslope as high-density flow. The gravitational mechanisms bypassed the intermediate pelitic slope, corresponding to a deltaic front and built up a sandy deep-water system. During the IG deposition, the study area is interpreted as a coastal area characterized by wave-dominated deltas feeder of deep-water systems. In this area the construction of potential reservoirs followed two different models: 1) bodies wave-controlled, parallel to the palaeocoast, more than 20 m thick, several kilometre wide and long, and with excellent petrophysical properties; 2) bodies more distal (toward west), characterized by medium - fine sandstone, alternated with very fine sandstone and pelites, east-west distributed, with excellent petrophysical characteristics, but alternated with pelitic slumping deposits fallen by a pelitic slope.