

TECTÓNICA DA REGIÃO DE SINTRA

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ABSTRACT

Photo-interpretation of aerial stereopairs of the Sintra region on the approx. 1/32 000 scale together with field work allowed the production of the present Tectonic Map of the Sintra region.

It is now possible to separate structures which resulted from two different tectonic events: one, corresponding to the intrusion of the Late Cretaceous Sintra igneous diapir, and the other the Miocene compressive event, the most important tectonic inversion phase of the Lusitanian Basin.

The former are present to the south, southeast and east of the intrusion and within the intrusion itself, affecting the peripheral granites and their contacts with the gabbro-syenite core.

These structures comprehend: i) faults and conical fractures striking parallel to the massif boundary, which were intruded by dykes, ii) vertical faults and fractures of two conjugate sets, dextral NNW-SSE and sinistral NNE-SSW. These faults are certainly associated with the E-W striking massif's northwards directed thrust and indicate a N-S oriented horizontal maximum compressive stress.

The Miocene compressive event reactivated most of the inherited structures as follows. The NNW-SSE faults located on the Sintra southern platform were reactivated as dextral strike slip faults and the E-W thrust along the northern boundary of the massif was also reactivated. This thrust propagated to the east. It also enhanced the asymmetry of the rim-syncline, uplifted the massif and reactivated the NNE-SSW faults as sinistral lateral ramps, which also accommodated vertical throw. The present Tectonic Map of Sintra together with the available geophysical data (MOREIRA, 1984, KULLBERG *et al.*, 1991, SILVA & MIRANDA, 1994) allowed reassessment of the models proposed for the emplacement of the Sintra, Sines and Monchique igneous massifs, which intruded during Late Cretaceous times along the deep dextral NNW-SSE oriented strike slip fault (RIBEIRO *et al.*, 1979; TERRINHA, 1998; TERRINHA & KULLBERG, 1998).