

GONDWANA 14 - “East Meets West”

Field Trip DurGo-6 - Structures and magmatic episodes related to Gondwana break-up in the onshore basement of the Campos basin

The objective of this fieldtrip is to observe excellent exposures of basement structures, fault/fracture zones and mafic dykes in selected outcrops along the onshore basement of the southern Campos Basin and the Cabo Frio High. We will discuss the tectonic phases related to the opening of the South Atlantic at SE Brazil, and how basement rocks behaved during Mesozoic and Cenozoic brittle deformation. Based on the pre- to syn-rift and drift brittle structures and on the geometry of dike swarms, the dynamic tectonic scenario of this expressive example of a volcanic passive margin basin is addressed. The outcrops are located along the rocky coast of the Búzios Cape, famous for the beauty of its natural landscape.

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Day: September 28th, 2011

Participants: 10 (min) and 25 (max)

Registration deadline: May 31st, 2011

Registration fee: 100 USD (it includes transportation by minibus, lunch and the field trip guide)

SCHEDULE

08:00 h - bus departing from the hotel.

17: 30 h - arriving at the hotel.

Outcrop 1 – Conchas Beach

Highlights: Região dos Lagos Unit (Orthogeissess); Basement structures and lithological composition; Geometrical and Kinematical features of dykes; Syn- to post-rift faults

Discussion: Tectonic inheritance from the basement structures; Geodynamic scenario for the pre- to syn-rift structures: clues from the structures related to the emplacement of the Cretaceous Cabo-Frio-Búzios dyke swarm.

Outcrop 2 – Pai Vitório Point

Highlights: Pai Vitório Fault; Região dos Lagos Unit (Orthogeissess); Basement structures; Breccias and Cataclasites; Fault Reactivations;

Discussion: Post-rift Upper Cretaceous-Eocene tectonic reactivation and the SE Brazil Continental Rift System; Normal main fault zone of the Barra de São João graben. Dynamic scenario and tectonic reactivations.

Outcrop 3 – Focas Beach

Highlights: Búzios Sequence (Sill-Ky-Gr-Gneisses + Calcsilicate Rocks); Basement structures and lithological constitution; Extensional tectonics; Transtensional Faults;

Discussion: Tectonic inheritance from the basement structures; Dextral transtensional brittle zones of the accommodation zones of the SE Brazil Continental Rift System.



Basement Structures and Rocks



Basement Structures and Rocks



Dykes and associated structures



Dykes and associated structures



Faults and Associated Breccias



Faults and Associated Breccias



Faults and Associated Breccias



Faults and Associated Breccias

