

Interactions features between Serra Geral Fm. lava flows and Botucatu Fm. Sandstones (Salto do Jacuí, RS, Brazil)

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The Salto do Jacuí region is placed in the Serra Geral Formation, Paraná-Etendeka Continental Flood Basalt Province (Wilson, 1987). The area is formed by basaltic to dacitic lava flows interlayered with Botucatu Formation sandstone intertraps. Volcanic breccias and sandstone dikes are a particular feature that occurs above the Botucatu Fm. interflows. The volcanic breccia may show large elliptical boulders (2-7 m in diameter). The megaboulders occurs mainly above the 200 and 400m of altitude Botucatu Fm. sandstone interflow. These megaboulders are immersed in a weathered vesicular volcanic rock, or into a vesicular dacite. The most important boulder types are formed by 1) vesicular dacite, 2) sandstone (core) + vesicular dacite aureole + sandstone nodes (rim), 3) vesicular sandstone (core) + silicified sandstone (rim), 4) silicified sandstone, and 5) dark brown vesicular basalt + vesicular dacite rim. In the agate-geode host flow unit (HF), a different group of geological structures occurs: volcanic breccia lenses (sandstone and basalt fragments), sandstone dikes, and geode-like boulders of sandstone that are associated with dikes. The sandstone dikes are used as guide structures that control the agate-geode spatial distribution. Three types of dikes can cut across the agate-geode host flow (HF): 1) sandstone, or glassy material dikes laterally connected with geode-like boulders; 2) vertical sandstone, or glassy material dikes connected, in the base, with geode-like boulders; 3) dikes composed by red glassy material with sandstone lens. All these features imply an extensive interaction between the lava flows and the eolian sandstone interflows.