

other foreland basins of southern Brazil. The 600 Ma crustal reworking of southern Brazil produced extensive batholiths and mineralizations of fluorite, Sn, Mo, and Pb. Fluids generated in the Brasiliano Cycle of 750-600 Ma were volumetrically large and crossed older lithologies and structures in many places. Thus, Au has been panned in many places, including the granulites of the three southern States of Brazil. Each of the tectonic events has been identified by precise SHRIMP dating of zircons from 35 rocks. These events are all potential generators of ore deposits, either pristine or during interaction with older crust.

The implications of these two major Precambrian metallogenetic events at 750 Ma and at 600 Ma reach far beyond our study area. The Precambrian/Cambrian terrains of southern Brazil extend to Uruguay and form the basement of the modern Andes. Investigations of Pb-Zn-Au deposits in Patagonia include the precise timing of inheritance and Mesozoic accretion and also the determination of isotopic controls of ore generation and deposition. The new models can lead to the discovery of new deposits in southern Brazil and other regions. — (November 4, 1998).

**EMPLACEMENT KINEMATICS OF THE GRANITE-DIORITE PLUTON OF ITAPORANGA (BORBOREMA PROVINCE, NE BRAZIL) AS INFERRED FROM ITS MAGNETIC FABRIC**

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The Itaporanga pluton was intruded along the lithological contact that separates the Upper Proterozoic pelitic metasediments from Paleoproterozoic basement rocks that constitute the Cachoeirinha belt (NE Brazil). Foliations around the pluton dip inward suggesting that magma emplacement occurred by displacement of host rocks. A detailed study of magmatic structures, mainly by means of anisotropy of magnetic susceptibility (AMS), was performed on the pluton. The magnetic fabric shows two typical domains: (i) a western lobe containing a lineation close to vertical and a foliation nearly parallel to the transcurrent Igarassi shear zone (ISZ); and (ii) an eastern lobe, showing a SE-trending lineation associated with a synformal magmatic foliation

situated in the center of the lobe. The magnetic fabric, mostly paramagnetic in origin ( $<0.4 \times 10^{-3}\text{SI}$ ), is yielded by crystallographic preferred orientation of biotite and hornblende. These data suggest that the pluton was emplaced in a magma chamber developed by local WNW-ESE extension induced by an overall N-S crustal shortening. Deep fracturing, probably triggered by movement of the ISZ, must have formed conduits favouring upward magma migration that intruded as a sill along a lithological discontinuity. Lateral flattening of the sill seems to account for the folding of the magmatic foliation and the inward-dipping wall rock structures. Magma emplacement developed a high temperature/low pressure metamorphic aureole characterized by sillimanite ( $\pm$  andaluzite). Faulting associated with crustal shortening may have led to unroofing of the pluton and the adjacent migmatic rocks of the Piancó dome. — (December 11, 1998).

**SEDIMENTAÇÃO RECENTE E PROCESSOS EROSIVOS NO ESPAÇO URBANO DE PONTA GROSSA (PR)**

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O substrato geológico de Ponta Grossa é constituído de folhelhos da Formação Ponta Grossa e arenitos do Grupo Itararé.

Sedimentos recentes (rampas colúvio-aluviais, leques e terraços aluviais) são comuns, indicando fase pré-atual de entulhamento dos talwegues. Estes estão entalhados pela drenagem e exibem processos erosivos ativos (boçorocas, *piping* e colapsos associados, solapamento e desmoronamento de bordas erodidas). Os sedimentos constituem depósitos delgados e descontínuos formados pela alternância de camadas decimétricas a submétricas de origem aluvial e gravitacional ou coluvial.

Análise granulométrica de duas amostras indicou a ocorrência de mais de 90% de finos (silte + argila).