

# **Ultrapotassic Peralkalic Syenites in the Borborema Province, NE**

## **Brazil: the Serra do Man Pluton**

<sup>1</sup>FERREIRA, M.A.F., <sup>1</sup>FERREIRA, V.P., <sup>1</sup>SIAL, A.N.  
and <sup>2</sup>PIMENTEL, M.M. 1-NEG-LABISE, Dept. of Geol.,  
UFPE, Recife, 50732-970, Brazil; 2- Institute of  
Geosc., UnB, Brasilia, 70,000, Brazil.

Ultrapotassic and shoshonitic plutonisms were very important during the Neoproterozoic in NE Brazil, especially within the Alto Pajeú terrane. The Serra do Man batholith is an important ultrapotassic intrusion in this area, emplaced into supracrustal schists and shoshonitic syenites. This syenite to quartz syenite pluton contains aegirine-augite and minor winchite, crystallized under high  $fO_2$  and low  $H_2O$  conditions. Al-in-clinopyroxene barometry suggests emplacement at low P, pyroxene thermometry indicates T of ca. 700°C, while whole-rock  $P_2O_5$  points to a near-liquidus T of 900°C. The syenites are enriched in incompatible elements, with high  $K_2O$  (6 -12 wt%) and  $K_2O/Na_2O$  up to 6. Clinopyroxene-corrected  $\delta^{18}O$  is of  $8 \pm 0.2$ ‰  $_{SMOW}$ ,  $Sr_{80} = 0.7108$  which together with  $\epsilon Nd$  (0.58 Ga) of -17 point to a derivation from an enriched mantle source.