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**Abstract:** P>Reconstruction of the South Atlantic opening has long been a matter of debate and several models have been proposed. One problem in tracing properly the Atlantic history arises from the existence of a long interval without geomagnetic reversals, the Cretaceous Normal Superchron, for which ages are difficult to assign. Palaeomagnetism may help in addressing this issue if high-quality palaeomagnetic poles are available for the two drifting continental blocks, and if precise absolute ages are available. In this work we have investigated the Cabo Magmatic Province, northeastern Brazil, recently dated at 102 +/- 1 Ma (zircon fission tracks, Ar39/Ar40). All volcanic and plutonic rocks showed stable thermal and AF demagnetization patterns, and exhibit primary magnetic signatures. AMS data also support a primary origin for the magnetic fabric and is interpreted to be contemporaneous of the rock formation. The obtained pole is located at 335.9 degrees E/87.9 degrees S (N = 24; A(95) = 2.5; K = 138) and satisfies modern quality criteria, resulting in a reference pole for South America at similar to 100 Ma. This new pole also gives an insight to test and discuss the kinematic models currently proposed for the South Atlantic opening during mid-Cretaceous.

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