CONCLUSÃO

A utilização integrada de ferramentas estratigráficas não-convencionais como quimioestratigrafia e a análise da ciclicidade no registro sedimentar, no contexto da estratigrafia de seqüências, permite alcançar resoluções geocronológicas da ordem de 105 anos. Apreciações holísticas deste tipo, possibilitam compreender muitos dos parâmetros controladores do processo sedimentar, além de desvendar um pouco mais a história climática e oceanográfica de nosso planeta.

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U-Pb GEOCHRONOLOGIC FRAMEWORK OF THE MESOPROTEROZOIC RAPAKIVI GRANITES OF THE RONDONIA TIN PROVINCE, BRAZIL

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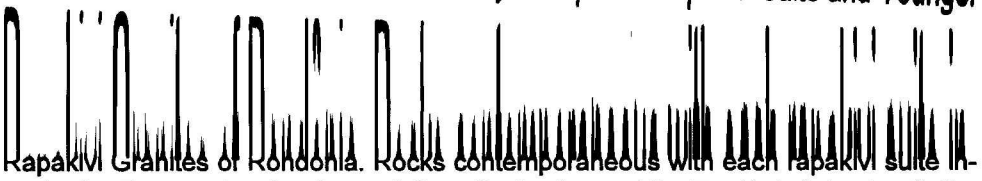
Rapakivi granites and tin deposits are part of the Rondônia Tin Province (RTP). The rapakivi granites straddle the boundary between the Eoproterozoic Rio Negro-Juruena province (1.75-1.55 Ga) and the Mesoproterozoic Rondônia province (1.45-1.25 Ga), are mainly subalkaline and metaluminous to slightly peraluminous in char-

acter and exhibit characteristics of A-type and within-plate granites. Four main rapakivi granite suites have been recognized, based upon age, petrology, and major and trace-element geochemistry. These are Serra da Providência Rapakivi Suite, Santo Antônio Rapakivi Suite, São Lourenço-Caripunas Rapakivi Suite and Younger



Rapakivi Granites of Rondônia. Rocks contemporaneous with each rapakivi suite include the Roosevelt volcanics and Ouro Preto charnockite, Teotônio Intrusive Suite, Ciriquiqui-Curuquete gabbro and anorthosite, União quartz-mangerite and Nova Floresta basaltic dikes and flows, respectively (Bettencourt et al., 1987, 1995).

Establishing a geochronologic framework for the Rondônia massifs is required to understand their role in the evolution of the southwestern Amazonian craton. Prior to this study, a chronologic framework for RTP was based principally upon Rb-Sr isochron ages (e.g. Tassinari et al. , 1984, Priem et al., 1989) and a few U-Pb ages on zircons. We report fourteen new U-Pb ages for the rapakivi granites and related rocks, which modify, in part, the magmatic chronology of RTP.

SERRA DA PROVIDÊNCIA RAPAKIVI SUITE

New U-Pb ages for the Serra da Providência rapakivi suite suggest intrusion of the batholith may have occurred over ±5O Ma, or less, with interpreted ages of five different types of granites being 1606±24 Ma (medium-grained hornblende-biotite porphyritic granite), 1573±15 Ma (granite porphyry), 1566±3 Ma (medium-grained pyterlitic hornblende-biotite granite), 1566±5 Ma (pyterlitic granite), and 1554±47 Ma (medium-grained, equigranular biotite granite). These U-Pb ages are significantly older than a previously determined Rb-Sr isochron age of 1400±57 Ma for the batholith (Tassinari et al., 1984), but broadly overlap a 1582±32 Ma Rb-Sr isochron age for the associated Roosevelt volcanics (Tassinari et al. , 1984) and a U-Pb age on zircon of 1560 Ma for the associated Ouro Preto charnockite. The new U-Pb ages reported herein also indicate that rapakivi granite and related magmatism was contemporaneous with extensional tectonism at the end of the Rio Negro-Juruena Mobile Belt. Superposed ductile deformation of the granites is inferred to be associated with deformation in the Rondonian-San Ignacio orogenic event (l.45~1.25 Ga).

SANTO ANTÔNIO RAPAKIVI SUITE

A coarse-grained, equigranular biotite monzogranite from the REMA quarry near Porto Velho has an age of 1406±32 Ma. A coarse-grained, equigranular clinopyroxene-amphibole alkali-feldspar-granite from the associated Teotônio Intrusive Suite has an age of 1387±16 Ma. These ages are older than previously determined Rb-Sr model ages of 1305 Ma and of 1250 Ma, respectively, on the same units. These massifs are evidently products of anorogenic magmatism broadly contemporaneous with the early stages of the Rondonian-San Ignacio orogenic cycle (Sadowski & Bettencourt, 1996).

SÃO LOURENÇO-CARIPUNAS RAPAKIVI SUITE

Two samples of rapakivi granite from the São Lourenço/Caripunas Rapakivi Suite have been dated (Bettencourt et al., 1995). A medium-grained, equigranular biotite granite from the São Lourenço region has an age of 1314±13 Ma and a fine- to medium-grained hastingsite-biotite porphyritic syenogranite from the Caripunas region has a similar age of 1309±24 Ma. A rhyolite porphyry from associated felsic volcanic rocks has an age of 1312±3 Ma. The rapakivi granites and associated felsic volcanic rocks have previously yielded Rb-Sr isochron ages of 1268±15 Ma (Priem et al., 1989) and 1224±22 Ma (Bettencourt, 1992), respectively. These ages are 40 to 50 million years younger than the U-Pb ages. Intrusion of these undeformed rapakivi granites was apparently contemporaneous with the end of the Rondonian-San Ignacio orogenic cycle to the southwest.

YOUNGER RAPAKIVI GRANITES OF RONDÔNIA (YRGR)

The YRGR consist of two groups based on previous Rb-Sr geochronology which indicated ages of 1052±21 Ma and 954±20 Ma for the two groups (Priem et al., 1989). In the older group, a fine-to medium-grained, hastingsite-biotite porphyritic monzogranite from the Oriente Novo massif and a biotite porphyritic quartz monzonite from the Santa Clara massif have interpreted ages of 1080±27 Ma and 1081±50 Ma, respectively. In the younger group, a medium-grained porphyritic syenogranite from the Pedra Branca massif has an age of 998±5 Ma. The U-Pb ages of these rapakivi granites are older by as much as 30 to 40 million years than the Rb-Sr ages. The associated União charnockite has a U-Pb age of 1048±8 Ma and the Nova Floresta basaltic dikes and flows have K-Ar ages of 1100 to 970 Ma (Leal et al., 1978). The U-Pb ages suggest that the anorogenic magmatism responsible for the YRGR was contemporaneous with the collisional phase of the Sunsas-Aguapei orogenic cycle (l.lO-O.90 Ga) to the southwest (Sadowski & Bettencourt, 1996).

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UTILIZAÇÃO DA RAZÃO $^{87}Sr/^{86}Sr$ NA DATAÇÃO DE CARBONATOS MARINHOS TERCIÁRIOS DA BACIA DE CUMURUXATIBA - BAHIA/BRASIL

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INTRODUÇÃO

A Bacia de Cumuruxatiba localiza-se no sul do Estado da Bahia, ao longo do litoral que se estende entre as cidades de Alcobaça e Porto Seguro. Inserida entre expressivos bancos vulcânicos terciários (Abrolhos, a sul, Royal Charlotte, a norte e, Sulphur Minerva, a leste) apresenta, a partir do Eoceno, uma seção marinha regressiva composta essencialmente por carbonatos da Fm. Caravelas e incursões siliciclásticas da Fm. Rio Doce.

O objetivo do presente trabalho é mostrar o emprego da razão isotópica de estrôncio na datação de uma seção carbonática marinha delimitada em seqüências deposicionais por Gontijo (1996), com base no modelo de Estratigrafia de Seqüências. As idades verificadas através das análises de estrôncio serão comparadas àquelas fornecidas por outros métodos, como o paleontológico e o de isótopos estáveis do Carbono e do Oxigênio.

ASPECTOS TEÓRICOS

A determinação da variação temporal da composição isotópica do estrôncio dos oceanos tem se revelado apta a correlações e datações de estratos marinhos. A variação da razão 87Sr/86Sr dos oceanos ao longo do tempo geológico deve-se, basicamente, à contribuição de duas fontes isotopicamente distintas: o manto superior e a crosta continental. O hidrotermalismo junto às cadeias meso-oceânicas e o intemperismo químico de basaltos contribuem com baixos valores de razão (0,703 e 0,704). O intemperismo de rochas siálicas da crosta continental responde por altos valores de razão (0,720). A utilização da razão isotópica do estrôncio na datação de precipitados marinhos é relevada pelo fato do tempo de mistura dos