XU Ming, SHEN Mangting，YAO Chunyan and GUO Weimin, 2014. Metallogeny of the Northern São Francisco Craton, Bahia, Brazil. *Acta Geologica Sinica* (English Edition), 88(supp. 2): 71-72.

Metallogeny of the Northern São Francisco Craton, Bahia, Brazil

XU Ming, SHEN Mangting，YAO Chunyan and GUO Weimin

Nanjing Center, China Geological Survey, Jiangsu, Nanjing, 210016

1 Introduction

This paper aims at establishing a temporal framework to characterize the metallogenic processes that contributed to the origin of the mineral provinces in the northern São Francisco Craton (Table 1). Many Archean mineralizations (eg. massive sulfide zinc, lead, zinc and copper, besides magnesite-talc,iron-titanium-vanadium, iron, chromite and manganese) were generated before the assembly of the Craton. Deposits of chromite, nickel, gold and emerald were produced during the Paleoproterozoic orogenic cycle, when the Craton was amalgamated into the Atlantica paleocontinent. An extension event is recorded in the Neoproterozoic, during the breakup of Rodinia, associated with deposits of phosphorite and uranium. Kimberlite diamond and gold mineralization were generated during the Brasiliano orogenic cycle, coeval with the amalgamation of West Gondwana. A long-lasting and rather uniform crustal stress is recorded in the area during the Cambrian period. Resetting of the isotopic and magnetic systems that affected the Neoproterozoic sediments of the Irecê Basin at about 520 Ma was attributed to the regional-scale fluid migration and mineralization in the aftermath of the Brasiliano orogenic cycle.

2 Discussion and Conclusion

Two major phases of crustal shortening with great metallogenic significance were described in the Bahia, represented by :

(1) the Rhyacian to Orosirian collision belt, with the main deformation and melting of crustal granitoids occurring between 2.15- 1.8 Ga ago;

(2) the shortening event of the Brasiliano orogenic cycle, related with the West Gondwana assembling, which has roughly occurred between 640 -500 Ma ago.

Acknowledgements

The work is financially supported by the geological survey project of “Geological setting, mineralization, and prospecting potential of the important mineral deposits in South American giant metallogenic belt” (121201220909).

Table 1 The major mineral provinces in the northern São Francisco Craton. (modified after Alkmim, 2004; João et al.,2010; Schobbenhaus et al,2004).

Age	Major mineral provinces	Mineral type
Paleoarchean	Mundo Novo	Zn
	Brumado	Magnesite-talc
Neoarchean	Boquira	Pb-Zn
	Maracás	Fe-Ti-V
Neoarchean-Rhyacian	Caraíba	Cu
	Caetité	Fe
Neoarchean	Urandi, Caetité, Licínio de Almeida	Mn
Rhyacian	Santa Luz	chromite
	Fazenda Mirabela	Ni
	Jacurici	chromite
	Campo Formoso	chromite
	Fazenda Brasileiro	Au
Orosirian	Jacobina	Au
	Jacobina	emerald
Calymmian	Chapada Diamantina	diamond placer
Tonian	Caetité	U
Cryogenian	Irecê	P
Ediacaran	Barreiras	Mn
Cambrian	Braúna	Diamond in kimberlite
	Chapada Diamantina	Au

* Corresponding author. E-mail: xuming2005007@163.com

References

Alkmim, F.F., 2004. O que faz de um cráton um cráton? O cráton do São Francisco e as revelações almeidianas ao delimitá-lo. In: Mantesso-Neto, V., Bartorelli, A.,Carneiro, C.D.R., Neves, B.B. (Eds.), Geologia do Continente Sul-Americano,Evolução da Obra de Fernando Flávio Marques de Almeida, Beca, São Paulo, pp.17-35.

João B. G. T. , Maria G. S. , Aroldo M. , Simone C P C , and José H S S . Geotectonic setting and metallogeny of the northern São Francisco craton,Bahia, Brazil. Journal of South American Earth Sciences, 2010,30 ,71-83.

Schobbenhaus, C., Gonçalves, J.H., Santos, J.O.S., Abram, M.B., Leão Neto, R.,Matos, G.M.M., Vidotti, R.M., Ramos, M.A.B., and Jesus, J.D.A., 2004. Carta Geológica do Brasil ao Milionésimo, Sistema de Informações Geográficas e GIS and 48 maps 1:1,000,000. CPRM, Brasília, pp. 41 CD-ROMs.