SEDIMENTARY-HOSTED BASE-METAL DEPOSITS IN THE CAMAQUÃ BASIN, SOUTHERN BRAZIL: A REVIEW

Remus, MVD[1]; Toniolo, JA[2]; Formoso, MLL[1]; Tassinari, CCG[3]; Nunes, LC[3]
IGeo UFRGS(marcus.remus@ufrgs.br)[1]; CPRM-SUREG-POA[2]; IGeo-USP[3]

INTRODUCTION

This paper reviews the origin and age of Au- and base-metal ores hosted by Neoproterozoic volcanosedimentary sequences of the Bom Jardim Group in the Camaquã basin, southern Brazil (Camaquã Cu-Au; Santa Maria Cu-Pb-Zn and Cerro dos Martins Cu deposits). In these deposits, the sulfide ores are mainly fracture-controlled and also disseminated in the matrix of siliciclastic sequences.

LOCALIZATION

Fig 1: Geographic localization of deposits in south Brazil.

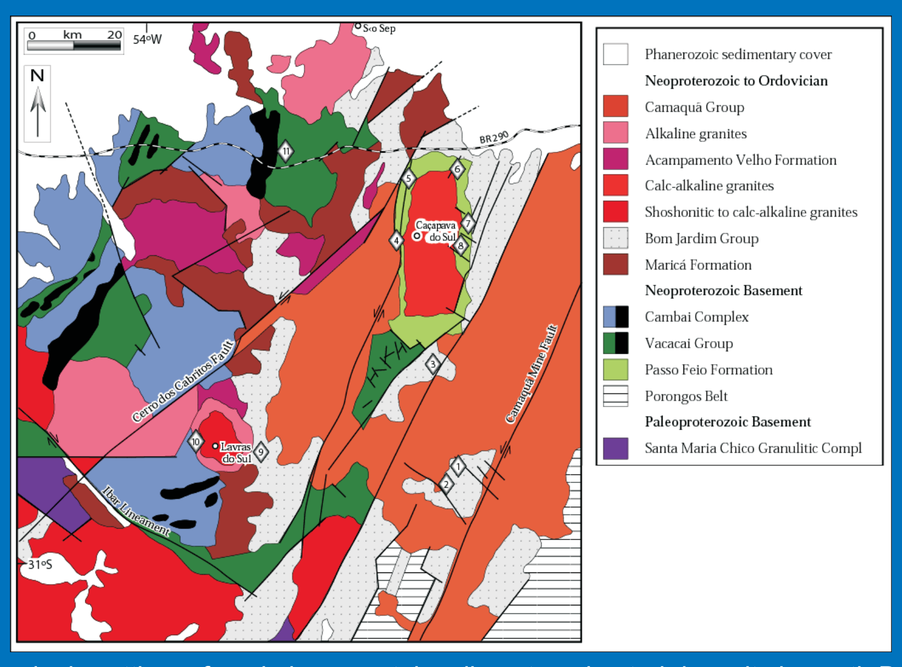


Fig 2:Geologic setting of main base-metal sedimentary hosted deposits in south Brazli

GEOLOGIC SETTING

The Camaquã deposits consist of NW veins, stockworks and disseminated ores with chalcopyrite, pyrite, bornite, chalcocite, gold, silver. Chlorite, white mica, quartz, albite, carbonate and later barite and hematite are the main gangue minerals. The ore lodes are enclosed in conglomerates and sandstones. Galena and sphalerite of the Santa Maria deposit are disseminated in arenites and conglomerates, or occur as massive lodes crosscutting thestratigraphy. Sphalerite and galena intergrowths are the dominant texture in the ores, while chalcopyrite and chalcocite are minor; carbonate, chlorite, adularia and barite are the gangue minerals. The Cerro dos Martins ores consist of a set of NW-trending Cu-sulfide veins and disseminations within the volcanic-sedimentar sequence. Chalcocite and bornite are the main ore minerals with minor chalcopyrite, galena and sphalerite, whereas carbonates, barite, quartz and hematite are the gangue. The volcanic host rocks show an alkaline affinity

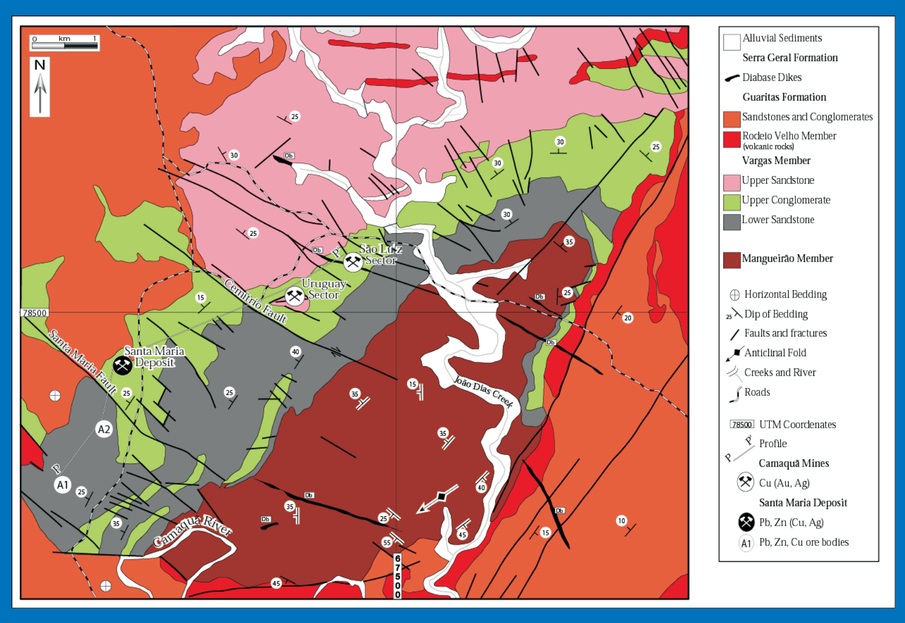


Fig 3: Geology of Camaqua and Santa Maria Deposits.

STRATIGRAPHY

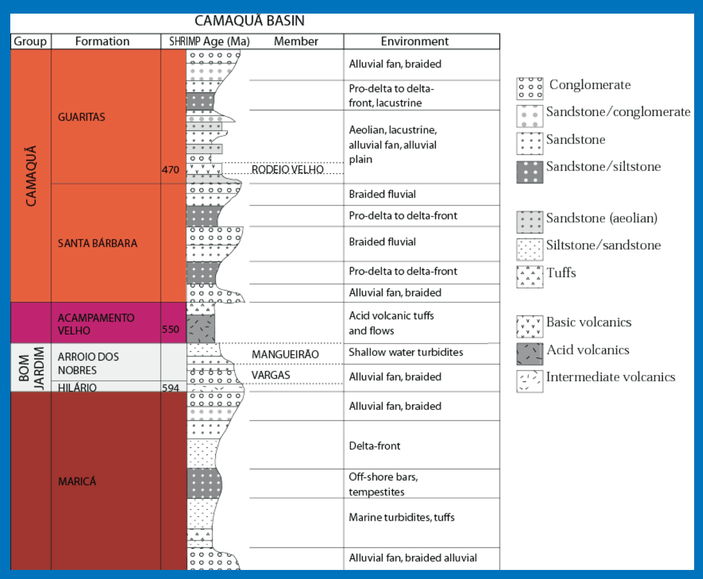


Fig 5: Stratigraphic column of Camaqua Deposit.

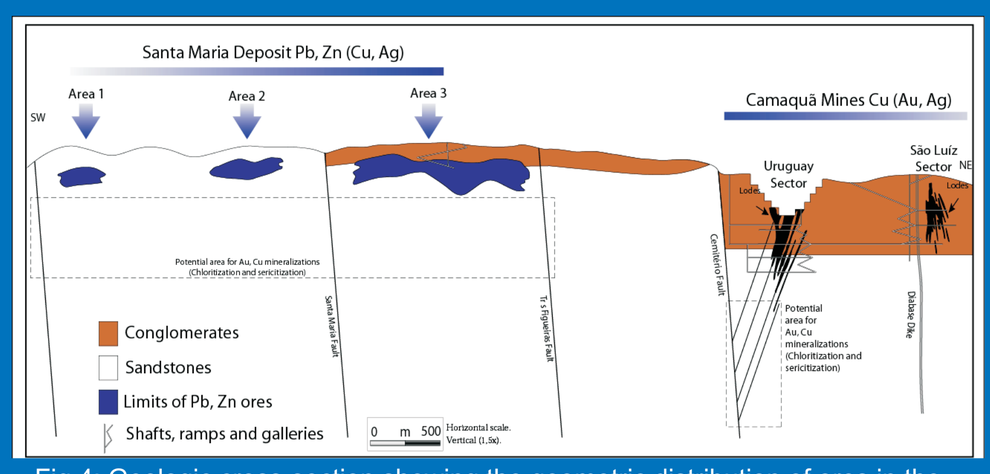
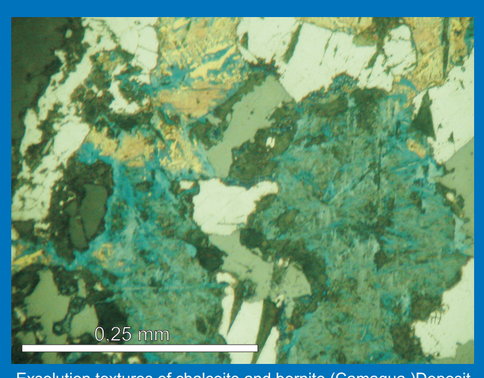
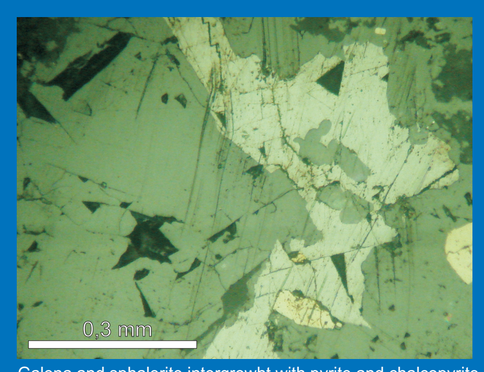


Fig 4: Geologic cross-section showing the geometric distribution of ores in the Camaqua and Santa \maria Deposits

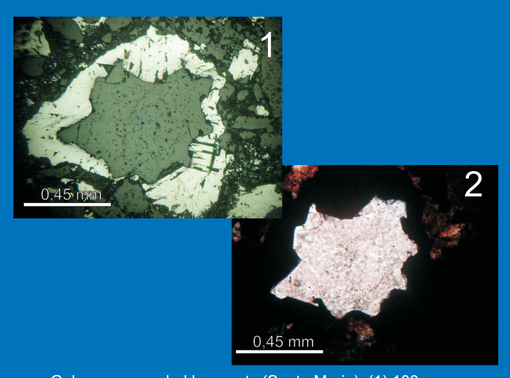
ORE MINERALOGY



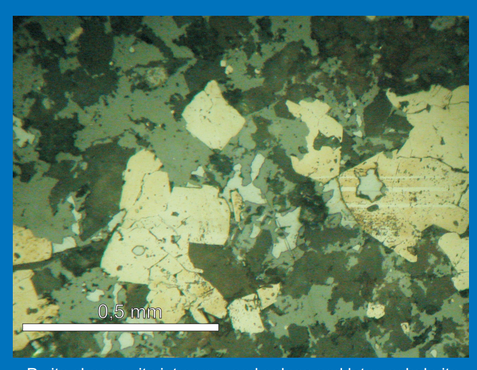
Exsolution textures of chalcoite and bornite (Camaqua)Deposit de 200x,



Galena and sphalerite intergrowht with pyrite and chalcopyrite with pyrite and cjhalcopyrite inclçusions 25 x.



Galena surrounded by quartz (Santa Maria) (1) 100x,



Pyrite chacopyrite intregrow and galena and later sphalerite (Santa Maria Deposit) Luz refletida com aumento de 200x, amostra 375

CONCLUSIONS

Mineralization is coeval and related to a magmatic event between 594 to 545 Ma (shoshonitic to alkaline magmatic events) and show some simirаties with IOGC models.