Structure of the Morro Agudo Zn-Pb stratabound deposit, Paracatu, Minas Gerais, Brazil

[1]PIRES, F.R.M., [1]FERREIRA,M.S.F ;[1]Degeo/UFRJ, Rio de Janeiro; [2]Mineração Morro Agudo SA, Paracatu.

Morro Agudo Zn-Pb deposit is a typical stratabound, Upper Proterozoic mineralization hosted in reef greyish doloarenite and dolomitic breccia (DAR), intercalated with greyish green dolomitic slate (SAD). It is located at the western border of the Sã o Francisco craton, covered by the Bambuí platform basin. The general structure corresponds to low angle eastward thrust associated with folding. The mineralised zone consists of sphalerite with galena and pyrite displaying three types of texture: disseminated, as massive cement and narrow veins. The dark grey colour of the sediments, presence of the carbonaceous matter and sulphides suggest a strongly reducing environment of deposition. The sulphides, which follow the main banding, are deformed and constitute a sequence of recumbent folds with eastward vergence. The relations between the S-banding and S-axial fold cleavages in the dolomitic slate, the existence of numerous recumbent folds, recently discovered within the mine are the evidences for the present structural interpretation. Structure evolution can be described as the generation of the recumbent folds followed by the development of shear zones along the limbs. Continuing the deformation, normal chevron, open folds and kink, under a ductile-brittle regime, have been superimposed to the recumbent folds, culminating with the generation of normal, high angle, gravitational faults with netslip around 10m. At the flanks of the recumbent folds boudinage structure partly truncated the mineralised zone.