

## **GEOCHEMICAL PATTERNS OF TRACE AND REE ELEMENTS OF ROCKS FROM FAZENDA BRASILEIRO GOLD MINE, BAHIA – BRAZIL**

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The Fazenda Brasileiro Gold Mine is located in the southern part of the Rio Itapicuru Greenstone Belt, northeastern of the São Francisco Craton. The studied rocks are highly altered and belong to the Fazenda Brasileiro Sequence where occur the higher ore contents of the mine. Zr and Y have similar behaviour for different rocks independent of the predominant alteration mineral and of the alteration degree. The Zr/Y ratios for metabasalts varies from 1.68 to 4.95, metagabbros from 1.31 to 2.67 and metaquartzdiorites/metatonalites from 2.95 to 3.94. Zr and Y ratios characterize a tholeiitic affinity and show linear trends that define alteration lines. The REE patterns display wide range of values: the metabasalts show  $\Sigma\text{REE} = 27.03$  to  $58.46$  that are typical of tholeiites and  $\text{LaN/YbN} = 1.52$  to  $2.71$ . The ratios  $\text{EuN/Eu}^* = 0.68$  to  $0.91$  and the Eu have a negative correlation with LOI%. The metagabbro samples have  $\Sigma\text{REE} = 10.10$  to  $22.94$ ,  $\text{LaN/YbN} = 2.16$  to  $5.22$  and  $\text{EuN/Eu}^* = 0.67$  to  $1.17$ . The metaquartzdiorite/metatonalite samples have  $\Sigma\text{REE} = 85.95$  to  $205.99$ ,  $\text{LaN/YbN} = 1.36$  to  $2.34$  and  $\text{EuN/Eu}^* = 0.60$  to  $0.67$ . The metabasalts, metaquartzdiorites and metatonalites show a nearly horizontal tholeiitic pattern with low fractionation between LREE and HREE. The metagabbro samples have a fractionation more pronounced than other rocks and negative and positive Eu anomalies. In some metagabbro samples the REE seems display mobility with the hydrothermal alteration.