

**Rare earth element patterns of iron formations of the
Raposos Gold Deposit, Rio das Velhas Greenstone Belt,
Minas Gerais State, Brazil**

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Banded iron formations (BIF) of the Raposos mine belong to the Nova Lima Group, Rio das Velhas Supergroup, of the Late Archaean.

The wall rocks of the BIF are schistose rocks, hydrothermally altered, derived from peridotitic komatiites (hanging wall) and tholeiitic basalts (foot wall).

Gold concentration is restricted to the sheared and sulphide-rich parts of the BIF.

The correlation of $\Gamma(\text{Cu}+\text{Co}+\text{Ni})$ and $\Gamma(\text{REE})$ suggests an exhalative hydrothermal source for these BIF. Their shale-normalized rare earth pattern shows a strong Eu positive anomaly and disc like shapes in the light (LREE) and heavy (HREE) branches. This Eu anomaly suggests that they are proximal to exhalative hydrothermal source on the ocean floor.

The samples of gold-sulphide rich BIF keep the same REE pattern, showing only a slight increase in the whole content of the REE.