# Chronology and geochemistry of Zhuqing Fe-Ti-V Oxide Deposits, Sichuan Province, SW China 

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The Zhuqing V-Ti magnetite deposit is located in the cross between the Hongmenchang fault and Huangchangwan fault, which belongs to the Anding River- Yuanmou fault belt. This ore bodies are stratiform-like, lenticular and veined, mainly occurred in the gabbro [1]. Zircon ICP-MS U-Pb dating results for the gabbro indicate that this pluton was emplaced in the Meso- Proterozoic (ca. $1464 \pm 83$ Ma; MSWD $=1.9$ ). This new age is distinguished from those of the Late Permian (ca. 260 Ma ) large scale deposits such as the Panzhihua, Baima, Taihe and Hongge deposits. According to the $\mathrm{Fe}_{2} \mathrm{O}_{3}$ and $\mathrm{TiO}_{2}$ contents, the ores are divided into two types, i.e., $\mathrm{Fe}-\mathrm{Ti}$ rich and $\mathrm{Fe}-\mathrm{Ti}$ poor types. The $\mathrm{Fe}-\mathrm{Ti}$ rich type shows $\sim 43$ wt. $\% \mathrm{Fe}_{2} \mathrm{O}_{3}$ and $\sim 9$ wt. $\% \mathrm{TiO}_{2}$, whereas the Fe -Ti poor type has $\sim 27$ wt. $\% \mathrm{Fe}_{2} \mathrm{O}_{3}$ and $\sim 6 \mathrm{wt} . \% \mathrm{TiO}_{2}$. In addition, $\mathrm{TiO}_{2}$ and MgO show positive correlation with $\mathrm{Fe}_{2} \mathrm{O}_{3}$.

The ore- rich samples contain low $\mathrm{Rb}(\sim 7.55$ $\mathrm{ppm}), \mathrm{Sr}(\sim 21.0 \mathrm{ppm})$ and total REE ( $\sim 84.73 \mathrm{ppm}$ ) with pronouncedly negative Eu anomalies ( $\delta \mathrm{Eu} \sim$ 0.78 ), whereas the ore- barren samples have relatively high Rb ( $\sim 126.2 \mathrm{ppm}$ ), Sr ( $\sim 38.9 \mathrm{ppm}$ ), and REE ( $\sim 161.28 \mathrm{ppm}$ ) with obviously positive Eu anomalies ( $\delta \mathrm{Eu} \sim 1.16$ )

The age of Zhuqing Fe-Ti-V Oxide Deposits in western margin Yangtze Block was documented as Mesoproterozoic, its genesis may be related to development of the Panxi rift. The distinguished geochemical compositions in the ore- rich and orebarren samples, suggest they were possibly generated by two different magmatic events.
[1] Chen C J. et al. ( 2012). Acta Geologica Sichuan $\square 32 \square$ Supplement $\square \square 73 \sim 77$

