

CHARACTERISTICS OF GONÇALO(PORTUGAL) RARE-ELEMENT APLITE-PEGMATITE VEIN FIELD

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An area about 100 Km² of Central-Eastern Portugal wich comprises the Gouveia-Guarda - Belmonte -Sabugal regions has a large field of rare-element aplite-pegmatite veins. They are mainly sills generally 3.5 m thickness wich penetrated mainly syn and late D3 hercynian granitic rocks. Three types of sills were distinguished. The "stanniferous" sills occur at a lower level, contain quartz, K-feldspar, albite, muscovite, montebrasite, topaz, apatite, beryl, cassiterite, columbite-tantalite, etc. The "lithian" sills occur at higher level, are more evolved, and complex with quartz, k-feldspar, albite, muscovite, lepidolite, petallite, montebrasite, topaz, apatite, microlite, beryl, cassiterite, columbite-tantalite, etc. The "mixed" sills are located between the stanniferous and lithian sills and have an intermediate composition. The least evolved pegmatitic magma intruded at lower levels while the most evolved pegmatitic magma intruded at higher levels, but was affected by more intense late to post-magmatic effects. The tabular, often banded, veins, their metasomatic effects, the absence of a well defined quartz core, the distribution of zones enriched in lepidolite wich predominate at the foot wall, the nearly absence of sulfides, the local occurrence of gold, the abnormal Si-Li, Al-Si correlations found in the lithian sills and abnormal distributions of Sr and Ba wich locally accompany the Li enrichment, the absence of a clear tendency of thermogravitational migration of Li, Rb, Sn and W make this sills interesting.