

ABSTRACT

The mining in pegmatites of the Conselheiro Pena Pegmatitic District is responsible for the production of an important amount of production of gemstones and collectors minerals. The rare phosphate minerals are commonplace in the pegmatite bodies in this District. Minerals such as brazilianite, scorzalite and souzalite were discovered in the Córrego Frio Pegmatite, Divino das Laranjeiras region, and the moraesite, barbosalite, faheite, frondelite, lipscombite and tavorite were discovered in the Sapucaia Pegmatite, Galiléia region.

The pegmatites are mined for industrial minerals and gemstones. The most important gemological minerals are the tourmaline, beryl, quartz, kunzite, hiddenite and in less quantity phosphatic minerals such as brazilianite, amblygonite/montebrazite, apatite and eosphorite.

The phosphatic mineralogy found in the pegmatite bodies don't show any relation between the enrichment in phosphate minerals and degree of differentiation of pegmatites. Twenty pegmatites were sampled and divided in 5 types, using the primary phosphatic mineralogy, or the absence of phosphatic primary phases.

Several phosphatic paragenesis were found, and some of this are composed by primary phosphates and their alteration products. Some secondaries phosphates occur such as hydrothermal or supergenic alteration.

The systematic study of childrenite-eosphorite and ernstite show the presence of Fe(III) in the octahedric site of Al(III).