

MINERAL SPECIMEN CHARACTERIZATION REPORT

Sample: JF140224-3

Requested by FMinerals

Description:

Specimen from Brasil, label 1561A. Homogeneous euhedral black crystal. Possible Columbite-Tantalite series. Crystal morphology suggests orthorhombic system.

Results:

Sample was studied by SEM-EDS and APXS. Six points analysed in different positions on the sample showing similar spectrums, except in one point richest in tin. The mean concentrations found, expressed as weight percent, were:

MnO 3.24%

FeO 10.44 %

Nb₂O₅ 33.10%

Ta₂O₅ 45.48%

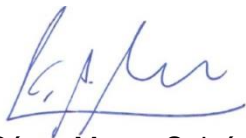
WO₃ 6.30%

The plot of the composition of the sample in the columbite quadrilateral classification diagram (figure 1) position the sample in the tantalite-Fe zone or in the lower zone of the miscibility gap. The composition suggests that the texture is complex, with possible wadginite exolutions in the form of tin containing grains. The position of the sample in the diagram and the crystal morphology discards Tapiolite-Fe.

Conclusion:

Species label: Tantalite-Fe (FeTa₂O₆)

Guadalajara (Spain), at Wednesday, January 23, 2014



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APPENDIX

Figure 1. Columbite quadrilateral plot, showing the classification of the sample, represented as the mean \pm SD tantalum and manganese ratios found in the analysis of two different crystal faces.

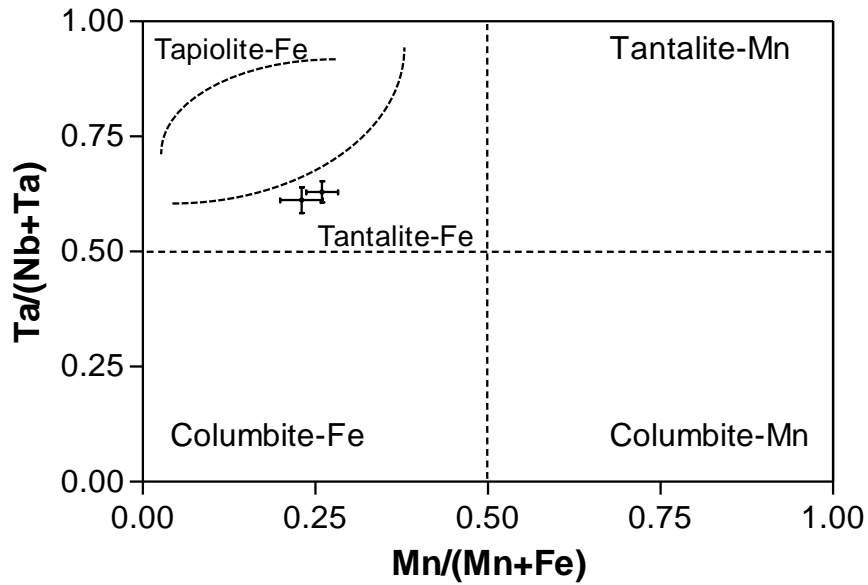


Figure 2. Typical EDS spectrum of JF140224-4

