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LOS M1NERALES OPACOS DE LAS VOLCANITAS ALCALINAS CRETÁCICAS DE LA SIERRA CHICA DE CÓRDOBA

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Abstract

Fe-Ti oxides of Cretaceous alkaline lava flows and dykes of Sierra Chica were analysed in order to characterize their paragenesis. Ilmenite intergrowths in titanomagnetite point out the high-temperature oxidation stage, during deuterism as the magma cools, according with the equilibration temperatures obtained by the coexistence of magnetite-ilmenite pairs. These also indicate oxygen fugacity was between QFM and NNO buffers. The absence of pseudobrookite and rutile-hematite intergrowths accounts for a low grade of high-temperature oxidation. Hematite replacement of titanomagnetite (rnartitization) is the more important and widespread process, which essentially must have taken place under low temperatures, partially related to zeolite facies metamorphism and weathering, revealing an important increase of the oxygen fugacity at low temperatures. Iddingsitization and hematite formation from olivines mostly belong probably also to those stage.