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Alteration mineralogy of Karisimbi products from well KW01 through Geothermal Prospect, Nyabihu District, NW-Rwanda

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Karisimbi is a dormant strato-volcano in the Virunga volcanoes series located at the border between Rwanda and the Democratic Republic of Congo. The Karisimbi volcano is the highest of the eight major Virunga volcanoes which form a transverse chain in the western branch of the East African Rift. With an elevation of 4507 m above sea level, the Karisimbi volcano is the most voluminous of the Virunga Volcanoes Range (VVR). Based on ancient publications the products of Karisimbi's activity are essentially fluid lavas of basic or intermediate chemical composition and viscous differentiated lavas. Recent geothermal prospections, around Karisimbi volcanoes, in the Nyabihu district, especially by well KW01, provide new data. This paper intends to emphasize the new alteration mineralogy of Karisimbi products by means of an investigation of the hydrothermal alteration as a method which can provide information about geothermal reservoirs. From drilling cuttings samples, using binocular stereo microscope, we determine not only the presence of altered minerals but also indicated if the alteration is associated with cold water or temperature.

