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New trapiche-like sapphires from Hamadan (Iran)

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A new deposit of grey-blue sapphires has been discovered in Iran located away from the city of Hamadan at the border with the Iranian Kurdistan. These sapphires are associated with the Alvand pegmatitic formation which is closely related to regional magmatic rocks saturated with aluminum, thus explaining the crystallization of corundum [1]. They have a relatively dark blue-gray hue related to a high iron content. While some of the samples appear to be gem quality and can be used in jewelery, they are mostly dark blue in color and opaque. Their originality consists in the fact that a high rate of sapphires in this deposit has a trapiche-like texture. Such trapiche-like structure was recently reported in Russia [2], Vietnam [3] and Australia [4]. The gray sectors appears to be strongly connected to the presence of diaspore AlO(OH) and muscovite inclusions. Furthermore, these sapphires appears to contain sufficient amount of chromium to provide Cr3+ red emission under laser excitation. Experimental heat treatments are considered to improve their quality.

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