Zircon rich heavy mineral sands from Veneto Area - Italy

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Abundant discrete (up to 0.5 cm long) champagne zircons occurs in heavy mineral sand (HMS) from the Veneto area. They likely derive from the disaggregation of nephelinites and lamprophyres belonging to a regional, pervasive dyke-swarm of Eocene age. The preliminary results provide some inspiration for further discoveries, particularly given the general lack of systematic HMS exploration at Fosse di Novale-Lonedo and other sites in the Vicenza province. A potential in-situ zircon and HMS grade may be comparable to those of existing prospecting project elsewhere in the world. Analyses of the zircons and ilmenite suggest they are marketable.

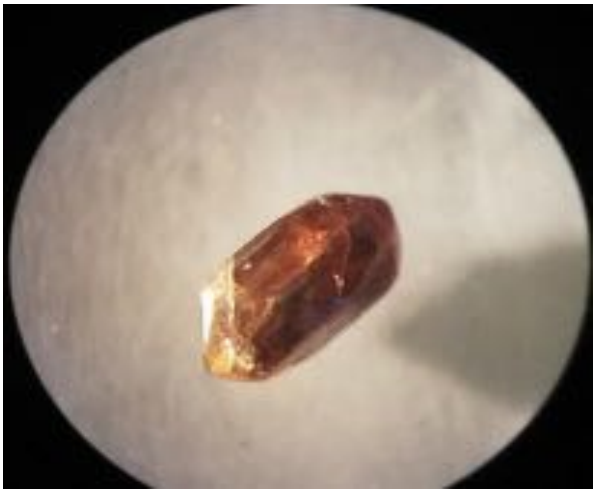

Figure 1: Euhedral champagne zircon.

	SiO_2	ZrO_2	TiO_2	Al_2O_3	FeO	MgO	REE_2O_3	HfO_2
Zrn	35.5	63.0					1.97	1.87
Ilm			32.0	2.1	61.0	2.20		

Table 1: SEM identificative analyses.

Zircon and ilmenite have similar density (4.5-4.7) and after gravity and magnetic separation may be concetrated up to >60wt.%. Finally, the notable environmental impact of HMS exstraction and remediation strategy have to be considered.