The three Igwisi Hills Volcanoes, Tanzania, are unique in preserving the surface rocks and constructs of kimberlite volcanism. Geological mapping, topographic surveying and field investigations reveal that each volcano comprises partially eroded pyroclastic cones, craters and lavas. Cosmogenic $^3$He dating of olivine crystals from lavas gives eruption ages clustering around 10 ka making them the youngest kimberlite volcanoes on Earth. The three volcanoes exhibit different morphologies. The NE volcano exhibits a sunken crater 200 x 200 m in diameter surrounded by a low pyroclastic ring, the Central volcano has a partial cone and a small < 100 x 100 m crater buried beneath a lava coulee and the SW volcano comprises a circular cone with a perched flat-bottomed crater 100 x 140 m in diameter. The volcanoes stand < 40 m above the surrounding ground and are comparable in size to small monogenetic basaltic volcanoes. Despite differences in appearance, the eruptive histories of each volcano were broadly similar and characterised by three phases: Phase 1 involved explosive excavation of craters and fallout of lithic clast-bearing tuffs; Phase 2 records fallout of juvenile lapilli from unsteady eruption columns and the constructed pyroclastic cones and partial cones around the vent. Phase 3 involved the effusion of degassed viscous magma to form a lava coulee and extra-crater lava flows.