The AK06 tri-lobate kimberlite pipe forms part of the famous Orapa cluster kimberlites situated in Central Botswana. The South Lobe, the freshest kimberlite, is significantly different from the North Lobe and Centre Lobe. The South Lobe kimberlite is a dark, high-density rock with little to no void filling material. The pipe has a homogenous magmatic appearance with preserved primary minerals, monticellite in particular. It contains large fresh anhedral olivine macrocrysts and large phlogopite macrocrysts that have been resorbed. The matrix is composed of small, euhedral olivine (<150 um), zoned monticellite (up to 120 um), zoned perovskite, chromite spinel, Fe-Ti spinel, apatite, phlogopite and serpentine. The preserved monticellite generally has Fe-rich cores and Fe-poor margins, with FeO contents ranging from 2.6 - 10.6 wt%. The majority of monticellites with high Fe/(Fe+Mg) and high Ca/(Ca+Mg) ratios have formed reaction rims around xenoliths. Despite the freshness of the kimberlite, it still has a clastic nature. Lithic fragments from the deepest Archaean basement, basalt and shallowest Karoo sediments are distributed throughout the whole pipe, which cannot be explained by passive intrusion of hypabyssal kimberlite but is possible with an eruptive mechanism. An eruptive mechanism will also preserve the freshness of the materials and shield them from post-eruption hydrothermal alteration. Fluidisation and welding of pyroclastic deposits are two processes that can produce all the characteristics of the deposit. A kimberlite that has been welded can have the superficial appearance of a hypabyssal kimberlite.