

Morphological features from Seguela diamonds placers related to Cretaceous kimberlites (central-western Côte d'Ivoire)

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Seguela diamonds in central-western Côte d'Ivoire, derived from weathered kimberlites and colluvia and alluvia diamond placers. Kimberlite mineralogy component are mainly olivine, enstatite, phlogopite, amphibole, chromite, Mg-ilmenite, and diamond. Twenty-six diamond samples description in terms of size, weight, morphology, color, fluorescence and inclusions of microdiamonds through macroscopy, microscopy and MEB lead to show morphological features. The most informative trends reflected by the Seguela diamonds are probably related to the increasing development of dodecahedral forms at the expense of octahedral.

These trends associated with the relative abundance of transitional forms indicate that most diamonds apparently originated as octahedral and many were later modified into dodecahedral forms. Dissolution is the principal morphological process. Seguela diamonds bearing prospect products stones which weight varied from 0.3 carat to 4 (27 carats the most important). Most microdiamonds are either non-fluorescent or only very weakly fluorescent. Concentrations of minerals inclusions range from colorless to pale green to black and some have been tentatively identified as garnet, olivine, pyroxene chromite, spinel and graphite.

Keywords: Kimberlite, octa-dodecahedral forms, diamond, dissolution, Seguela, Côte d'Ivoire