



FIGURE 9.4. Volcaniclastic particles. From Schminke (2004). (A) A ballistic block of basalt ~ 1.5 m in diameter at the bottom of a 4-m-deep bomb crater (sag) in pyroclastic material, Eifel, Germany. (B) A zoned sanidine crystal from Augustine Volcano, Alaska. The crystal also contains solid and liquid inclusions; it is 10 mm long. (C) A photomicrograph of tuff composed primarily of glass shards. Width of field ~ 20 mm. Most of the field is taken up by an accretionary lapillus that has a core of shards and a rim of fine-grained ash. The inset shows detail of a shard in the lapillus. (D) A photomicrograph of welded glass shards. Light-colored crystals are feldspar; the blue crystal is amphibole. In places the shards have been fused into a homogeneous glass. Field of view ~ 20 mm. (E) Columns in welded tuff resembling a lava flow.