Ash Flow Tuffs

References:

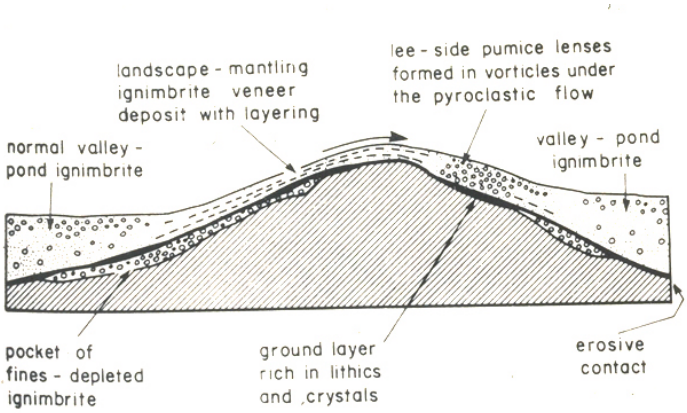
Smith, RL, 1960, As flows. Geol. Soc. America Bull., **71:**795-842.

Sparks, RSJ, 1976, Grain size variations in ignimbrites and implications for the transport of pyroclastic flows: Sedimentology, **23**:147-188.

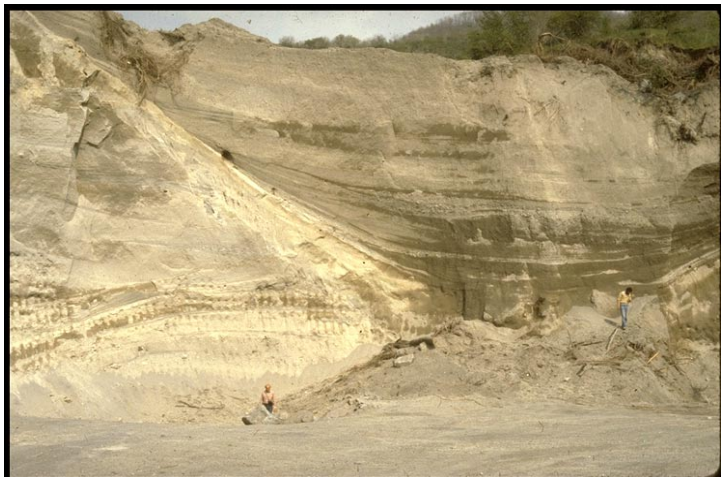
Encyclopedia of Volcanoes, pp. 581-599

Morphology

- Controlled by topography
- Fill depressions
- Even upper surface
- Valley ponded deposits
- Veneer deposits
- Multiple lobes and fans
- Lateral levees

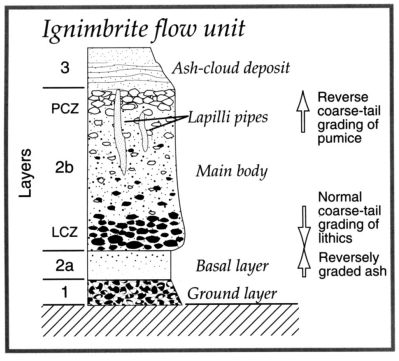


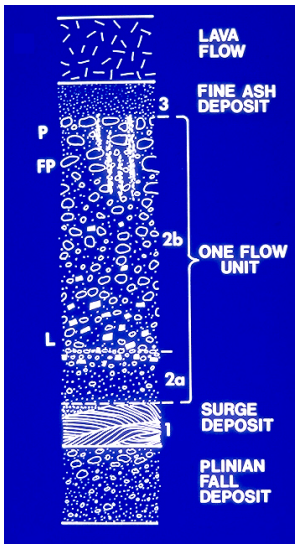
Pyroclastic Flows of 472 AD, Vesuvius

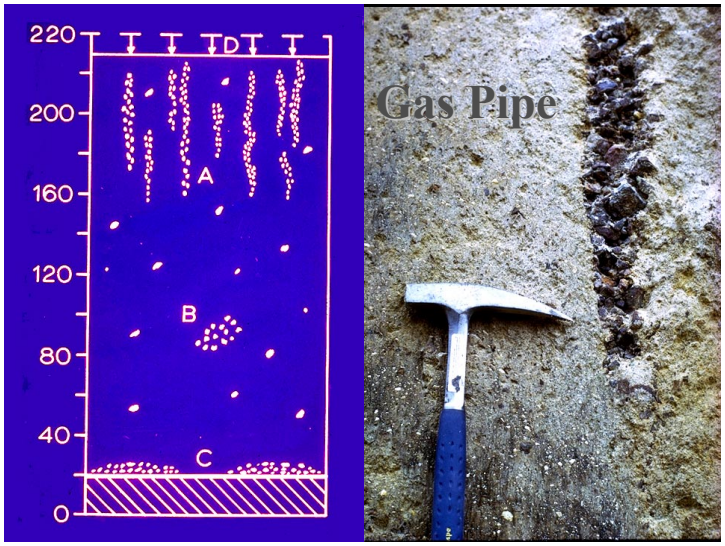


Standard Section (Sparks, 1976)

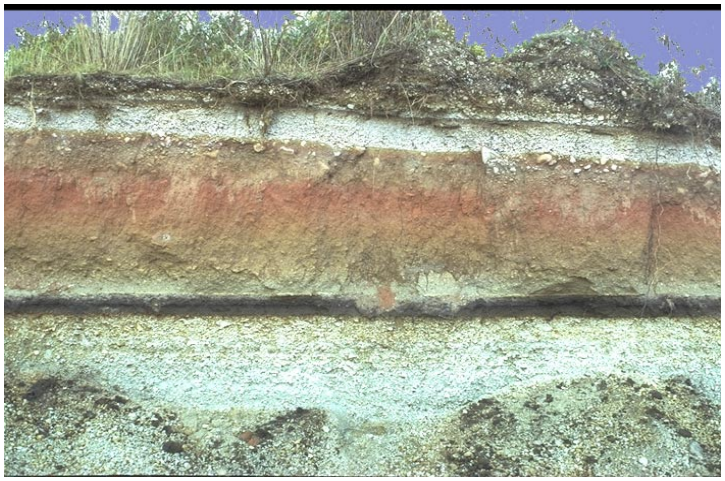
- Layer 1 (ground layer or surge)
- Layer 2 (flow unit)
- Layer 2a (fine-grained basal)
- Layer 2b (main body of flow)
- Layer 3 (ash cloud)

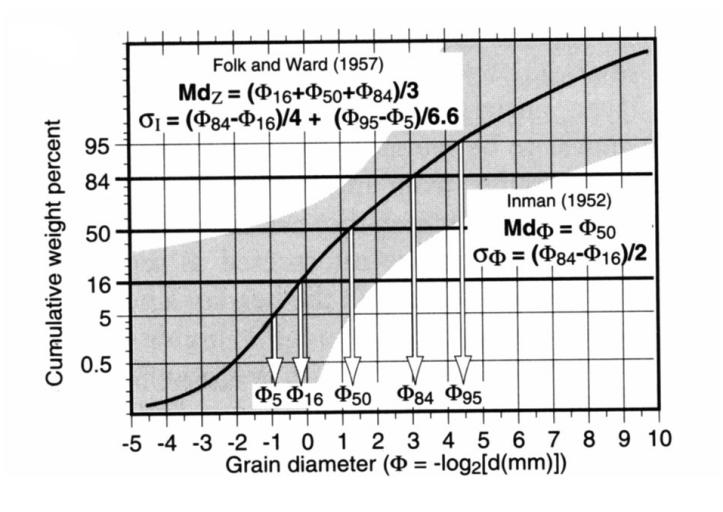


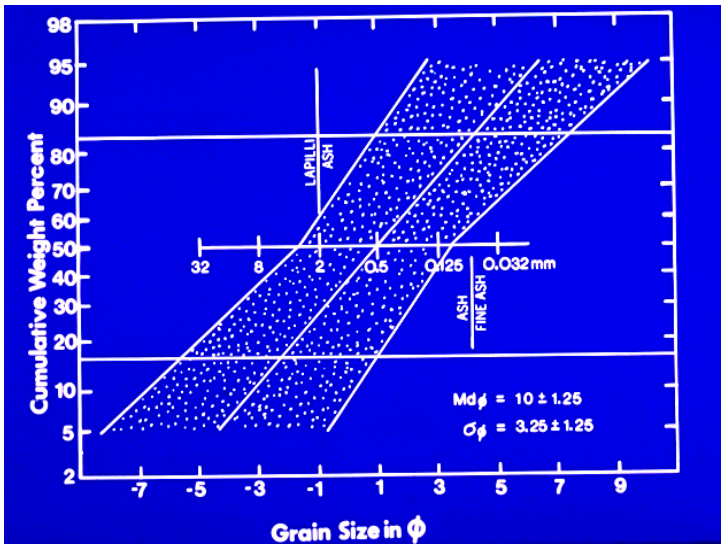


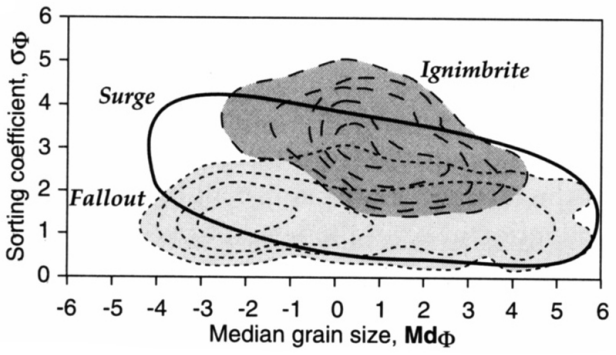


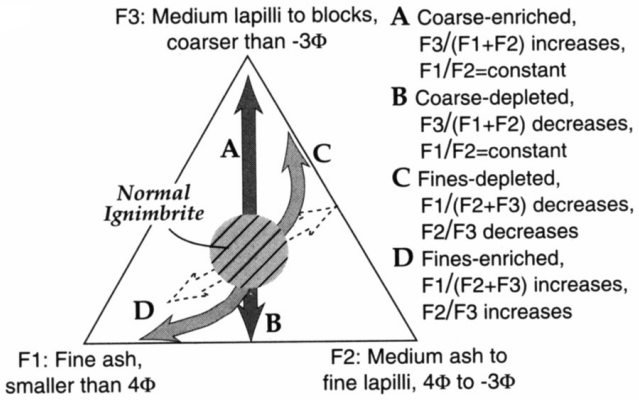
Komagatake Tuff, Japan











Ash-flow Sheets, Smith (1960)

- Flow units
- Cooling units
- Welded tuffs
- Compound cooling units