

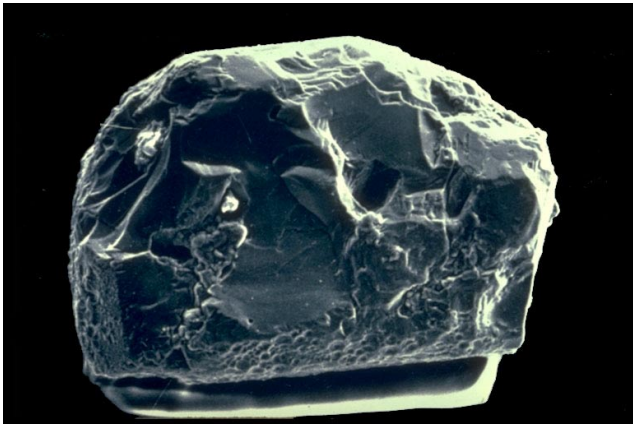
Surface Textures

- Record the history of the grains
- Transport conditions
- Juvenile characteristics
- Hydrovolcanic attributes

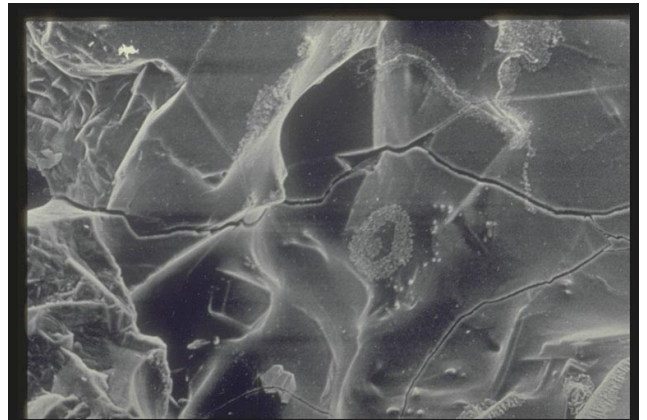
Transport conditions

- Abrasion
- Microcracks

Abrasion



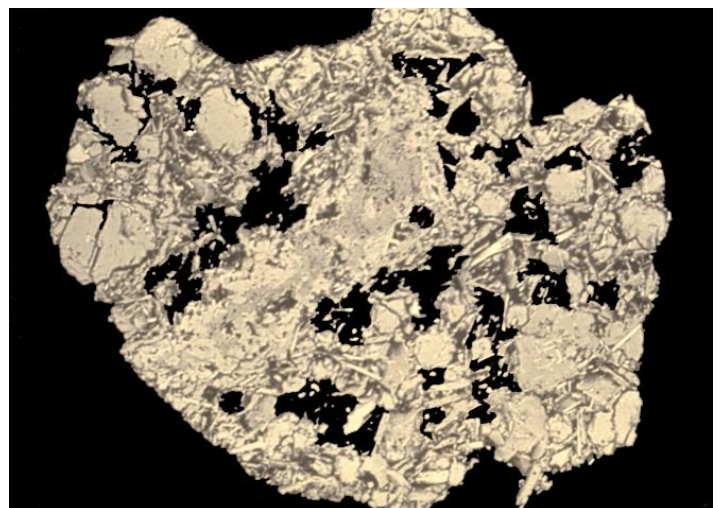
Microcracks



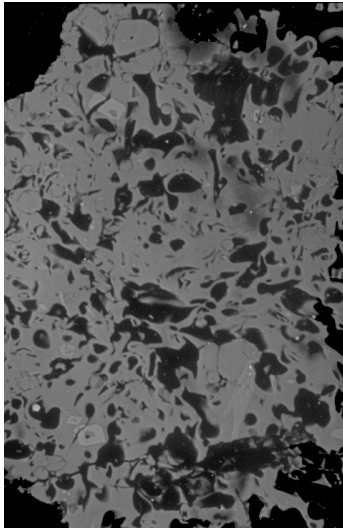
Juvenile Features

- Fresh glass
- Angular or rounded bubbles
- Pumice
- Smooth fusiform surface
- Glass spheres

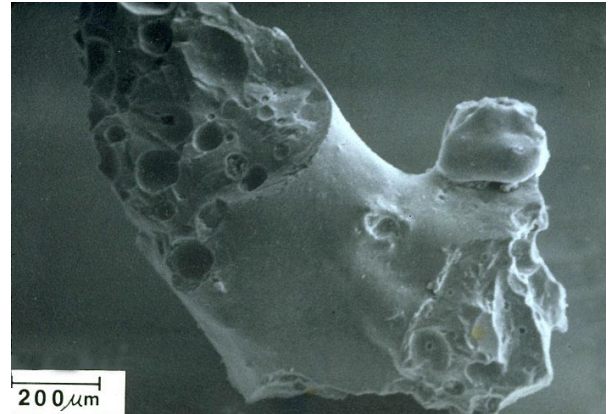
Juvenile Vesicular Clast



Pumice



Juvenile Vitric Clast



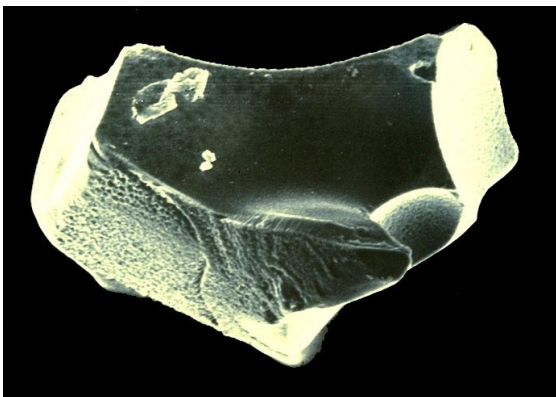
Glass Spheres



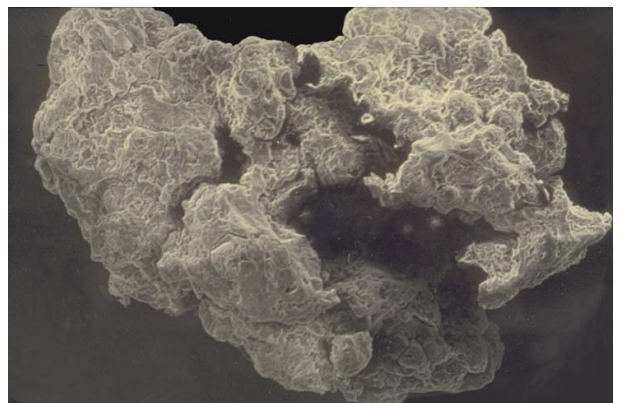
Hydrovolcanism

- Blocky glass fragments
- Cauliflower surface texture
- Altered surfaces
 - Pitting
 - Hydration cracks
 - Coatings
 - Secondary minerals

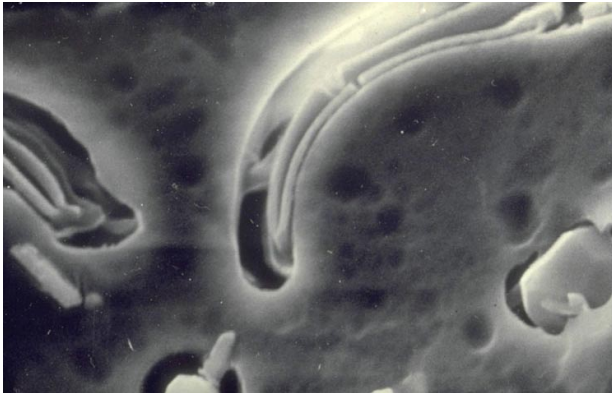
Hydrovolcanic Clast



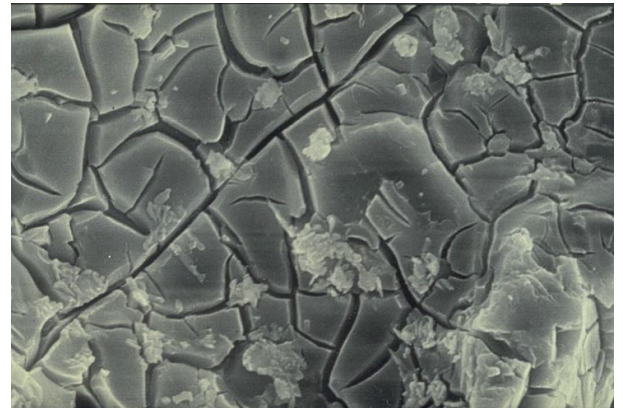
Cauliflower Clast



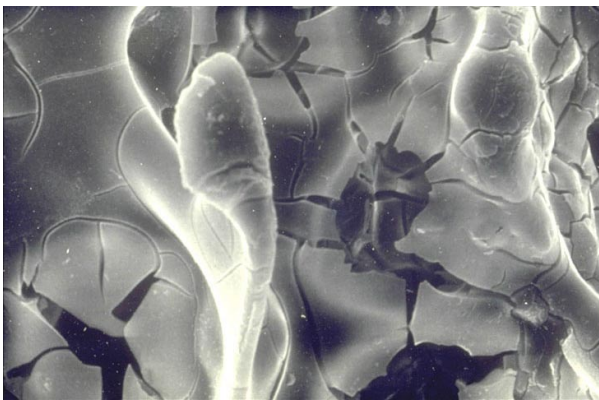
Pitting



Dehydration Cracks



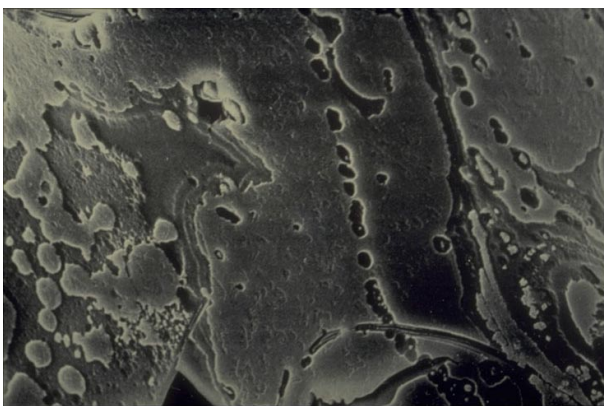
Hydration



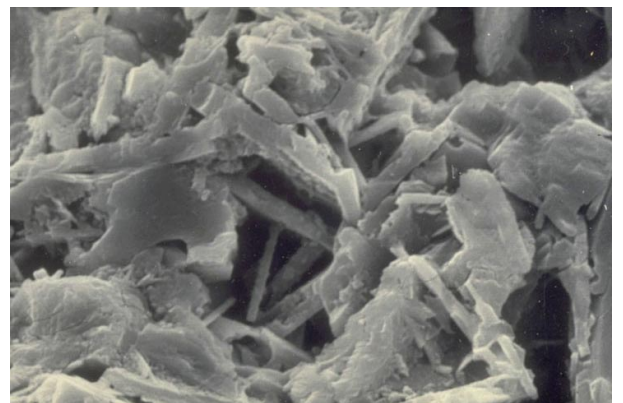
Pitting



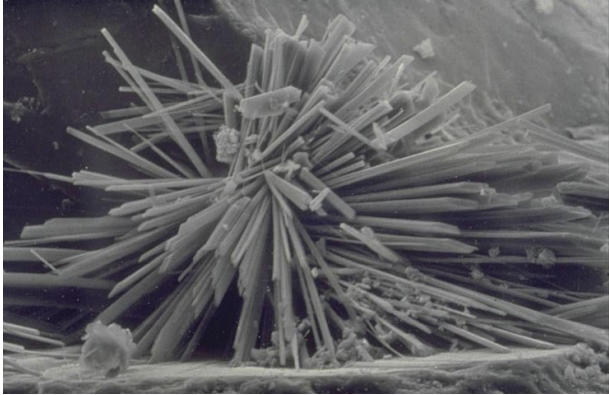
Surface Coatings



Secondary Mineral Coating



Gypsum on Crystal



Gypsum Coating

