



SEDIMENTARY ROCKS

Rocks derived from pre-existing rocks through the processes of erosion, followed by compaction or chemical precipitation are called *sedimentary* rocks. Sedimentary rocks are grouped in three categories: *Clastic*, *Chemical*, and *Organic*. Natural processes of weathering and erosion produce gravels, sands, and silts which, over time, are cemented together by natural cements such as silica, iron oxides, and various carbonates to form clastic rocks. In the processes of weathering, some rocks or parts of rocks may be dissolved. As the solution cools or evaporates, the solid portion is deposited as a "precipitate." Rocks formed in this way are referred to as *chemical* rocks. Rocks which are formed from the compaction of plant remains are termed *organic* rocks.

CLASTIC ROCKS

1. CONGLOMERATE is composed of re-consolidated *rounded*, water-worn gravel and sand particles.
2. BRECCIA is composed of re-consolidated *angular* fragments of minerals or rocks cemented in a fine-grained matrix. Origins can be from sedimentary or igneous processes.
3. QUARTZ SANDSTONE (tan/grey) is sandstone composed of quartz grains cemented together by silica.
4. SANDSTONE (red) is composed of sand-size particles, cemented together by calcite, silica, and/or iron oxides.
5. SHALE is sediment in which the constituent particles are predominantly of clay size.
6. ARKOSE is composed essentially of quartz and feldspar particles with smaller amounts of mica.

CHEMICAL ROCKS

7. TUFA is a form of limestone deposited in hot springs and primarily composed of calcite.
8. GYPSUM is an evaporite and is the water rich form of calcium sulfate (anhydrite).
9. LIMESTONE consists mainly of calcium carbonate, which will yield lime when subjected to extreme heat.
10. DOLOMITE is composed largely of calcium magnesium carbonate and is often found inter-layered with limestone.
11. FOSSIL LIMESTONE is a limestone formed from shell fragments deposited in swamp-like areas.
12. ROCK SALT is crystalline and granular aggregates of sodium chloride deposited from evaporating sea waters.
13. CHALK is a soft, light colored, fine-crystalline calcite formed by deposits of bottom dwelling sea organisms like protozoa, ammonoids, and bivalves.

ORGANIC ROCK

14. OIL SHALE contains solid hydrocarbons and plant remains. Petroleum-like products can be distilled from the rock.
15. BITUMINOUS COAL is high in carbonaceous matter and contains between 15 to 50 percent volatile matter.