

Lab 05 - Sedimentary Rock Identification Key

1. weathering and erosion; lithification
2. no; all except quartz are unstable
3. quartz
4. clay
5. quartz + clay
6. for gravel and sand = cementation; for silt and clay = dehydration + compaction
7. sorting by different sizes
8. detrital = quartz + clay; nondetrital = hardparts of plants or animals & evaporites
9. yes, because most surface water contains some dissolved chemicals in it
10. breccia = little transport and abrasion; conglomerate = much more transport and abrasion
11. both are very fine-grained but, silt is gritty; clay is smooth
12. coal; an organic mineraloid left over from compressed plant material
13. yes, you need lots of waves to move the particles that will be coated with calcite to make ooids
14. taste, rock salt tastes like salt; rock gypsum does not

| Rock Texture | Rock Composition | Characteristic Features | NAME |
|---------------------|--|--|-------------------|
| Detrital | quartz gravel with quartz cement | large angular gray quartz clasts | breccia |
| Detrital | quartz gravel with calcite cement | large rounded gray/white quartz clasts | conglomerate |
| Detrital | quartz, muscovite & orthoclase sand with hematite cement | square orthoclase and sparkly muscovite sand | arkose |
| Detrital | pure quartz sand with calcite cement | white quartz sandy rock | white arenite |
| Detrital | pure quartz sand with hematite cement | reddish quartz sandy rock | red arenite |
| Detrital | very fine gritty quartz | greenish-gray gritty rock | siltstone |
| Detrital | very fine clay plates | flat, black soft rock with bits of plant fossils | shale |
| Non-detrital | fresh calcite seashells | broken up fresh bits of sea shells | coquina |
| Non-detrital | old calcite seashells | broken up very old bits of sea shells | fossil limestone |
| Non-detrital | carbon with a little sulfur | layers of soft black carbon with yellowish sulfur | bituminous coal |
| Non-detrital | pure gypsum | white, fluffy, very soft rock, scratch with fingernail | rock gypsum |
| Non-detrital | halite with a little clay | tastes like dirty salt, small grayish cubic crystals | rock salt |
| Non-detrital | round calcite ooids with calcite cement | small white balls of calcite, can be scratched with a nail | oolitic limestone |