Geology Sheet 6

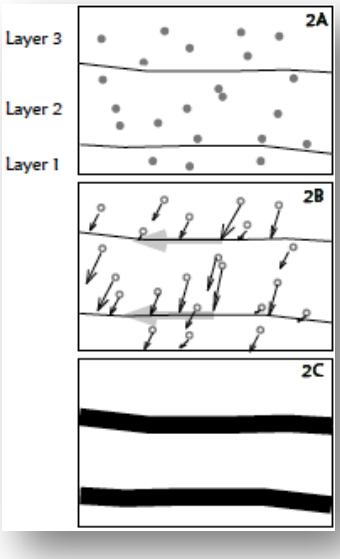
Chert; layers of silica within the limestone.

The limestones in the Burren contain many thin bands of chert, usually 3 - 15 cm thick. Chert is composed of silica (SiO_2), which is much harder than the calcite that forms limestone, and does not dissolve in rainwater so the bands of chert tend to “stand proud” of the limestone.

Fig. 1A. Bands of chert in limestone.

Fig. 1B Chert layer in limestone near Doolin

One way to recognise chert is to scratch it with a knife and look closely at the mark that is made - the mark appears metallic because it is the knife that scratches, not the chert! Chert and flint are the same material (it is called flint when it is found in chalk). The chert can form a continuous layer, or the layer can have gaps. Where it is weathered, the surface of the chert can appear white, but on a freshly broken surface, it appears black.



The silica in the chert comes from the shells of microscopic plankton that lived in the tropical sea where the limestone was forming. When the plankton died, their shells settled to the sea floor and were originally scattered evenly throughout the limestone (Fig. 2A). Silica dissolves into a gel under pressure, so when the limestone was buried and compacted, the silica dissolved. This silica percolated through the limestone and flowed along the gaps between layers in the rock (Fig. 2B). Eventually the silica hardened into the chert we see today (Fig. 2C).