

# The Geology of the Nature Reserve



The rock that you can see cropping out around the Reserve, (for example, near the outlet to Donington Pool), is a **soft red sandstone**. If you look closely you can see that it is **layered** and that it also has **thin layers of pebbles** running through it in places. The layers or strata of rock often appear to be built up on top of each other **at sloping angles**, as shown in the pictures below, and they obviously could not have been laid down under water, like most other types of sandstone. 'Normal' sandstones would have all their strata laid down in regular layers, one on top of the other, as the grains of sand settled out from a river or the sea.

## So, why is this sandstone different?

The answer is that this rock dates from the **Triassic Period**, (from 205 to 248 million years ago), and it was formed under **hot desert conditions**. At that time, Britain lay much further south, roughly where the present-day Sahara Desert is now found. The red sandstone rocks you can see on the Reserve are **fossilised sand-dunes**, and the layers at different angles show how **the wind**, (not water), was responsible for carrying the grains of sand, sometimes blowing from one direction, then from another. This is exactly what happens in modern-day deserts. The pebble and gravel layers that can be found in the rock are the remains of **ancient temporary river-beds** in the desert, where they were deposited by occasional sudden '**flash-floods**', again, just like in present-day hot desert areas.