



Middle Cromhall Sandstone - Lower Cromhall Sandstone - Carboniferous

## Middle Cromhall Sandstone – Carboniferous – Approx. 339-335Ma

Primarily brown and white fine grain ed sandstones with occasional partings of limestone. Formed in a river setting on a coastal plain, with marine transition responsible for the limestone partings.

## Clifton Down Limestone – Carboniferous – Approx. 339-335Ma

Dark grey fine grained or oolitic limestone relatively fossil poor, occasionally exhibiting crinoids , corals, brachiopods and molluscs. Formed in a shallow water in a fringing tropical lagoon. Can also be seen providing



Clifton Down Limestone - Carboniferous

the foundations for the Clifton suspension bridge.

## Lower Cromhall Sandstone – Carboniferous – Approx. 339-335Ma

Primarily hard brownish and redish fine to coarse quartzitic sandstone. Formed in a similar environment to the middle cromhall sandstone, though further inland.

## Clifton Down Mudstone – Carboniferous – Approx. 341-339Ma

Pale grey calcite and dolomite mudstones



Clifton Down Mudstone - Carboniferous

with few fossils. Indicative of deposition in a setting such as a back barrier tidal flat or river delta. Evidence of a period of erosion can be found between the Clifton Down Mudstone and the Gully Oolite beneath.

## Gulley Oolite – Carboniferous – Approx. 341-339Ma

Primarily fossil free pale oolite (limestone comprised of small spheres of calcium carbonate) formed by gentle wave action in a tropical beach environment.

## Black Rock Limestone – Approx 359-345Ma



Gulley Oolite - Carboniferous

For the most part this unit comprises dark grey to black fine grained limestone with abundant fossils, including crinoids, brachiopods and corals. Such is the abundance of prehistoric life this unit emits a characteristic smell of hydrogen sulphide upon breaking.

Great areas of this unit have been extensively dolomitised; the process of replacing calcium carbonate with magnesium carbonate, often due to evaporation of a shallow sea. This dolomitization often obscures the fossil record.

## Global Setting – Early Carboniferous

This early Carboniferous is characterised by sea level rise. The land masses which remained above sea level (primarily the Scandinavia and Canada in the northern hemisphere) were fringed by delta systems, lagoons, and inland seas, perfect for the creation of limestones.



Black Rock Limestone

## Meteorite Impact Deposit – Upper Triassic.

An area within Wickwar quarry houses evidence of a meteorite impact from 215.5 million years ago in what is now north east Canada. At the time, Wickwar was approximately 200 miles from the impact site, due to the global supercontinent of Pangea.

The impact vapourised the bedrock on impact, creating millions of droplets of molten rock, which hardened into glass-like beads approximately 1mm in size. These 'impact spherules' were deposited locally, and then subsequently concentrated in river deposits.



Meteorite Impact Deposit - Upper Triassic

The excavation of the quarry does not threaten the deposit, and it is envisaged that in time, when the area is safe, a feature can be made.