

Geodiversity Records for Somerset Quarries

Geodiversity Audit of Active Aggregate Quarries : Quarries in Somerset has been carried out by David Roche GeoConsulting and the findings have been published in February 2005 at a seminar held at Marston House near Frome. The project is part of the Mineral Industry Sustainable Technology Programme (MIST) established jointly by the Department for the Environment, Food and Rural Affairs (DEFRA) and the Mineral Industry Research Organisation (MIRO) under the terms of reference of the Aggregate Levy Sustainability Fund (ALSF). It records seven large quarries in the East Mendips and is an extension to the successful and well received Devon project completed in 2004.

Mendip Geodiversity Highlights

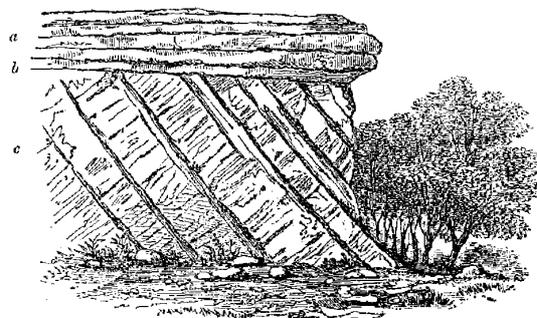
350 – 320 million years ago ...

Most of the Mendips were formed during the Carboniferous period when great thicknesses of Carboniferous Limestone formations were deposited in shallow tropical seas.

Earlier still, in Silurian times some **425 million** years ago, volcanic rocks were formed from explosive volcanoes producing large volumes of lavas and ashes.

Later, in the Jurassic era around **175 million** years ago, after a long period of uplift and erosion spanning Permian and Triassic times, the Inferior Oolite limestones were deposited in warm shallow seas over the older Carboniferous Limestone strata with an angular unconformity.

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a. Inferior Oolite.
b. Arenaceous parting.
c. Carboniferous Limestone.

De la Beche's unconformity as recorded in 19th Century: Mid Jurassic Inferior Oolite limestones unconformable over steeper dipping and folded Carboniferous Limestone

The same unconformity is exposed in Colemans Quarry



Geodiversity Report

Geodiversity incorporates all the variety of rocks, minerals and landforms and the processes which have formed these features throughout geological time. Best known are those rare and exceptional occurrences such as dinosaur footprints, but there are many more less-exceptional but equally important pieces of the geological jig-saw puzzle which, when added together, give insight to past climates, earlier environments and life on earth.

7 Quarries - the presently active aggregate quarries in East Mendips - have been included in the geodiversity audit. A detailed geodiversity report has been produced for each quarry, lavishly illustrated with digital photographs, providing unique factual records and interpretation of the geodiversity and context. As well as the 7 quarry reports, there is a project overview report which draws together the key highlights and conclusions of the research project.

CD-ROM, Website and Brochure media have been developed to disseminate the findings of the project launched at the seminar. All 7 quarry reports plus the overview report are included on the CD-ROM and brochure insert, and on the Somerset Website on www.somerset.gov.uk/geodiversity.

Partners and teamwork have been key elements in carrying out the various aspects of project work. The geodiversity audits of the 7 quarries have been carried out and reported for David Roche GeoConsulting by **Steve Parkhouse**, **David Allen**, and project leader **Dr Clive Nicholas**, with input by **Dr Richard Scrivener** of the British Geological Survey, and by **David Roche**. **Gordon Riddler**, **Abbie Richards** and colleagues at MIRO produced the CD-ROM, printed reports and publicity media, as well as project steering and coordination. For Somerset County Council **Ken Hobden** and **Vicky Breeze** hosted the project steering meetings and seminar, and published the reports on the Somerset website. Mendip Quarry Producers and their members provided much valuable information and access to their quarries and were represented by **John Lewis**. We thank all our partners for their valuable contributions and for their cooperation and commitment to the success of the project.



1. Quarry slopes on dipping limestone beds (Gurney Slade)
2. Andesitic lava with calcite amygdales (Moons Hill)
3. Neptunian dyke within Carboniferous Limestone infilled with calcite and pink Jurassic limestone (Colemans)



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