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(Photo 13) Trow Point to Frenchman's Bay.

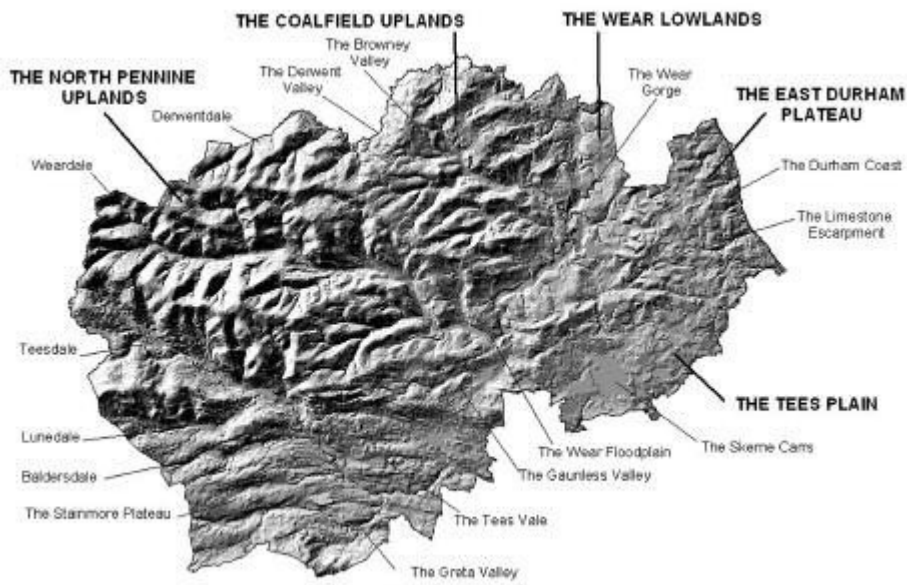
(Photo 14) Frenchman's Bay.

(Photo 15) Marsden Bay.

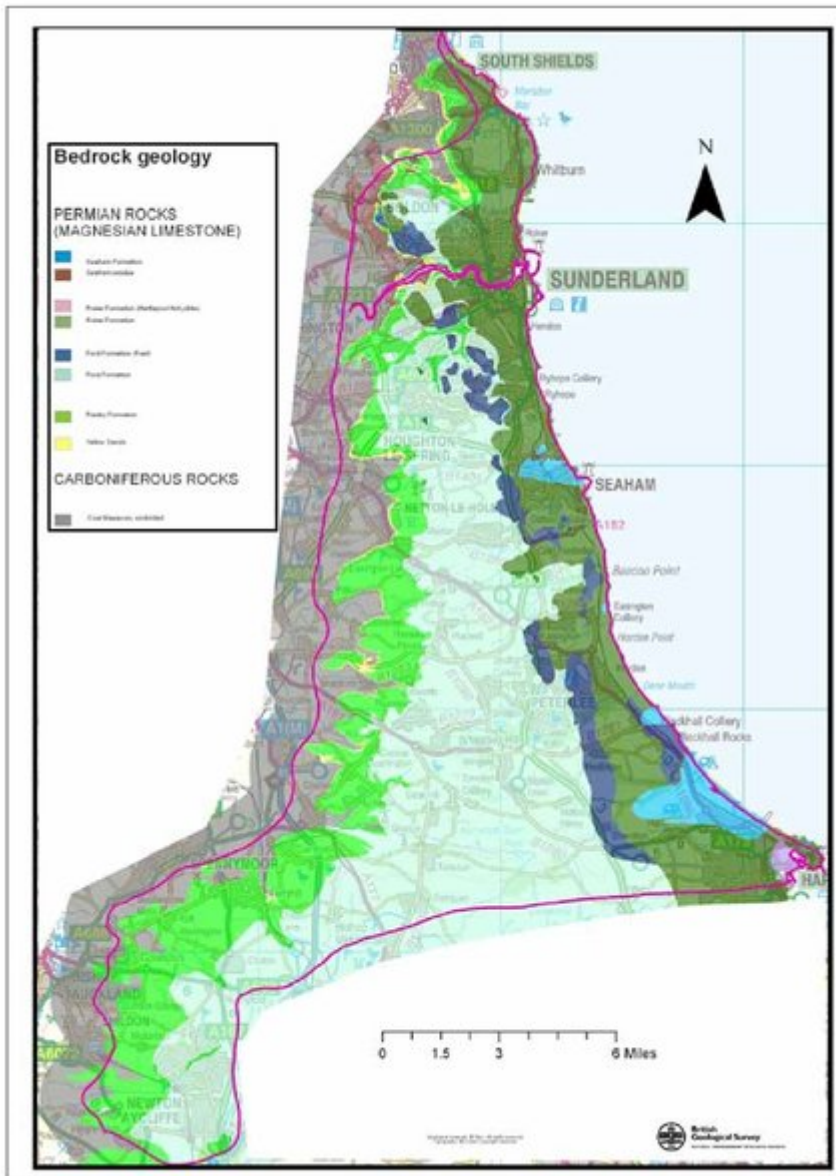
(Photo 16) Lizard Point and Marsden Limekiln.

(Photo 17) Seaham Harbour.

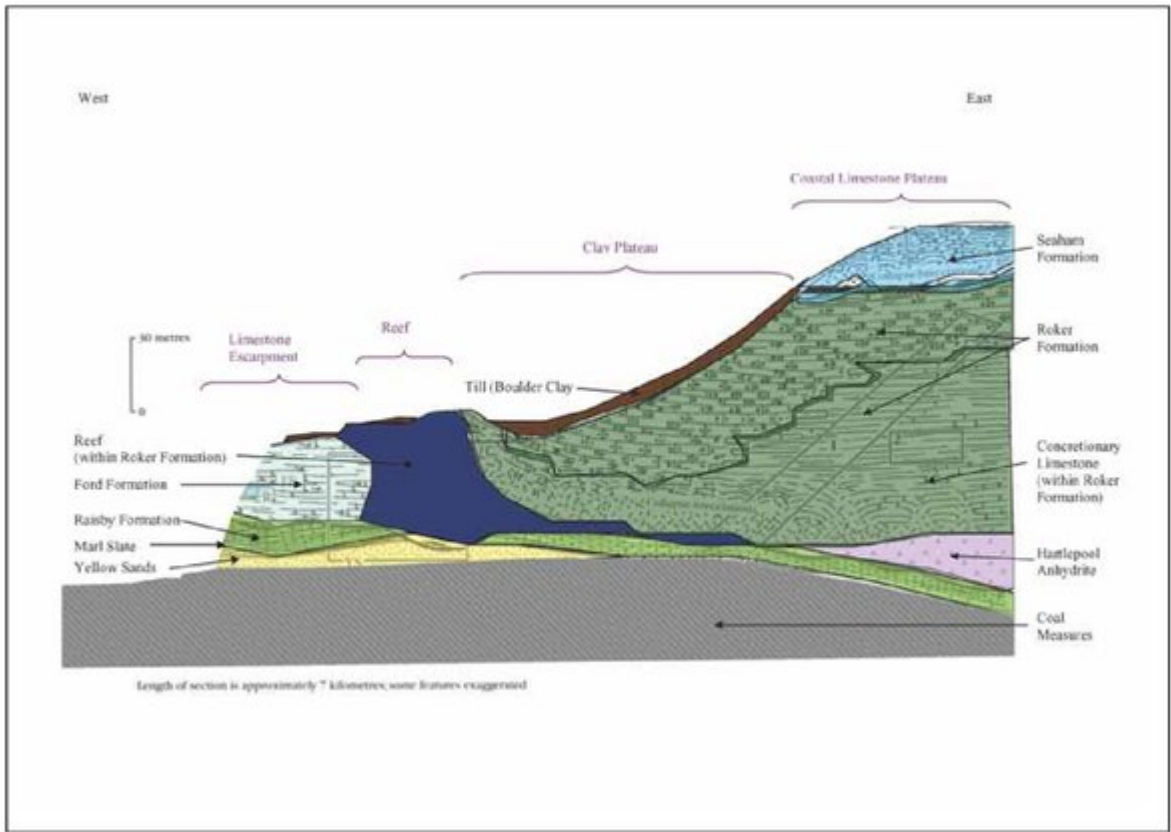
(Photo 18) Blackhall Rocks.



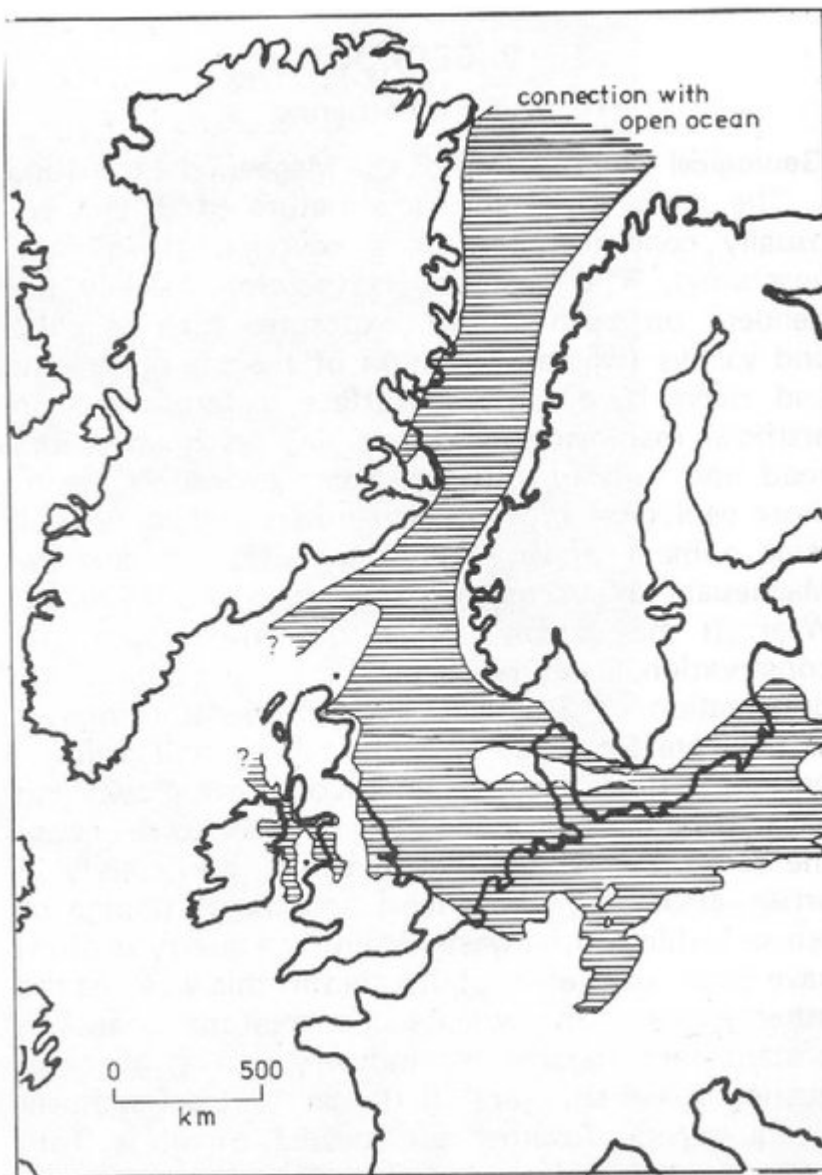
(Figure 1) The Topography of County Durham.



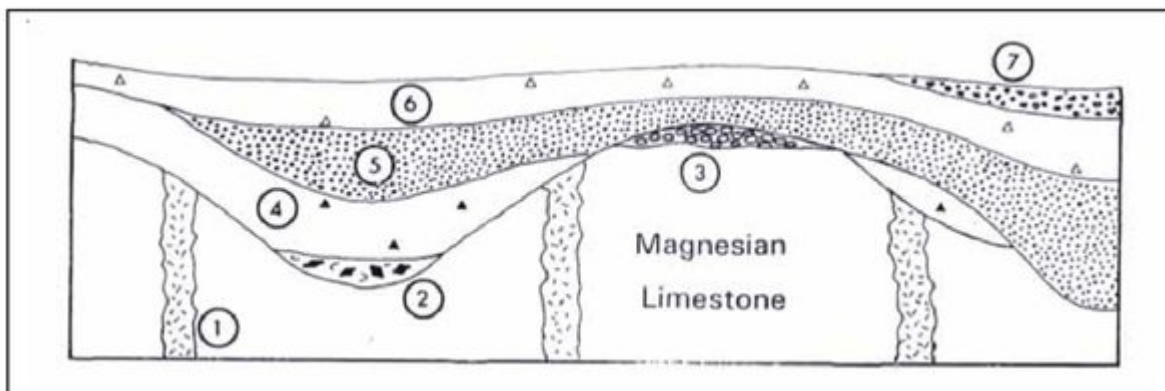
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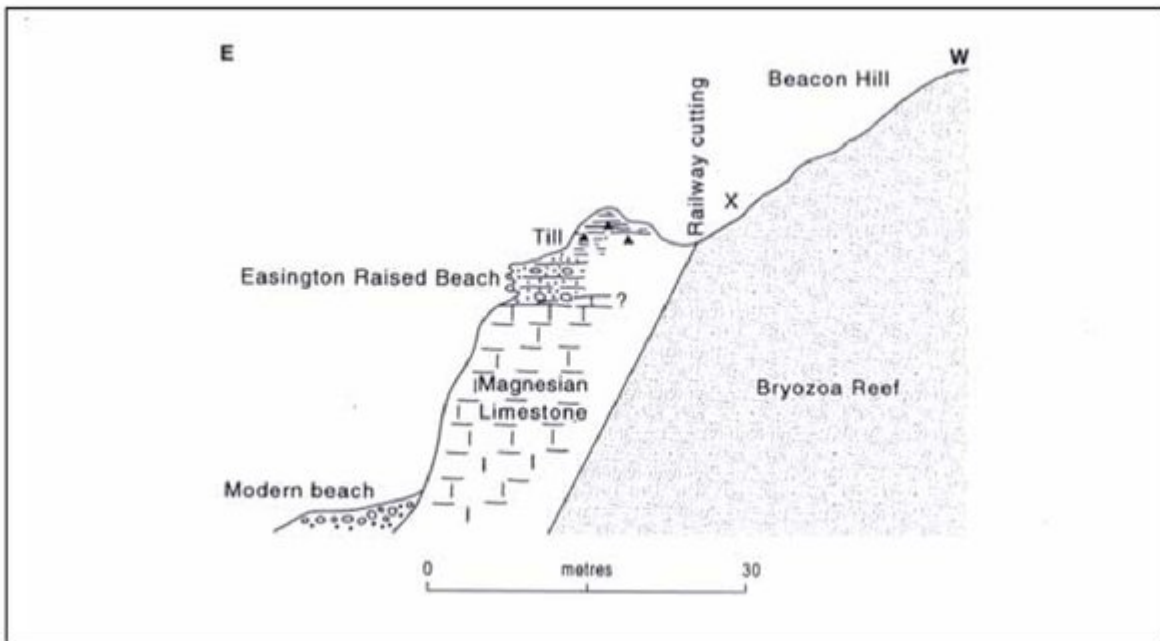
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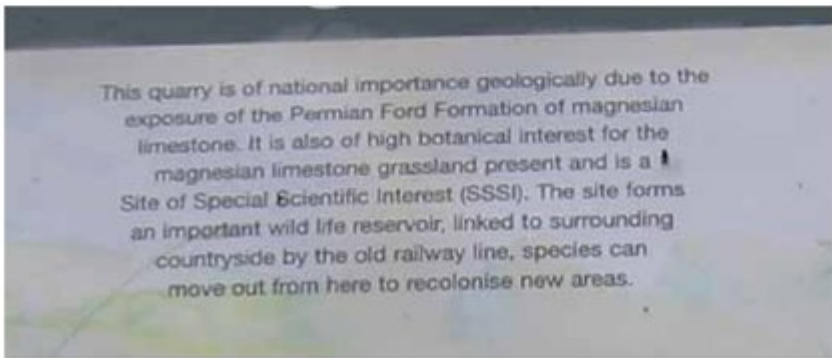
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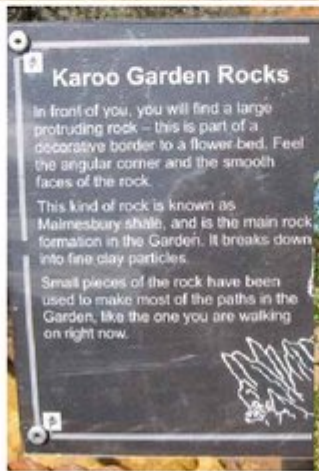


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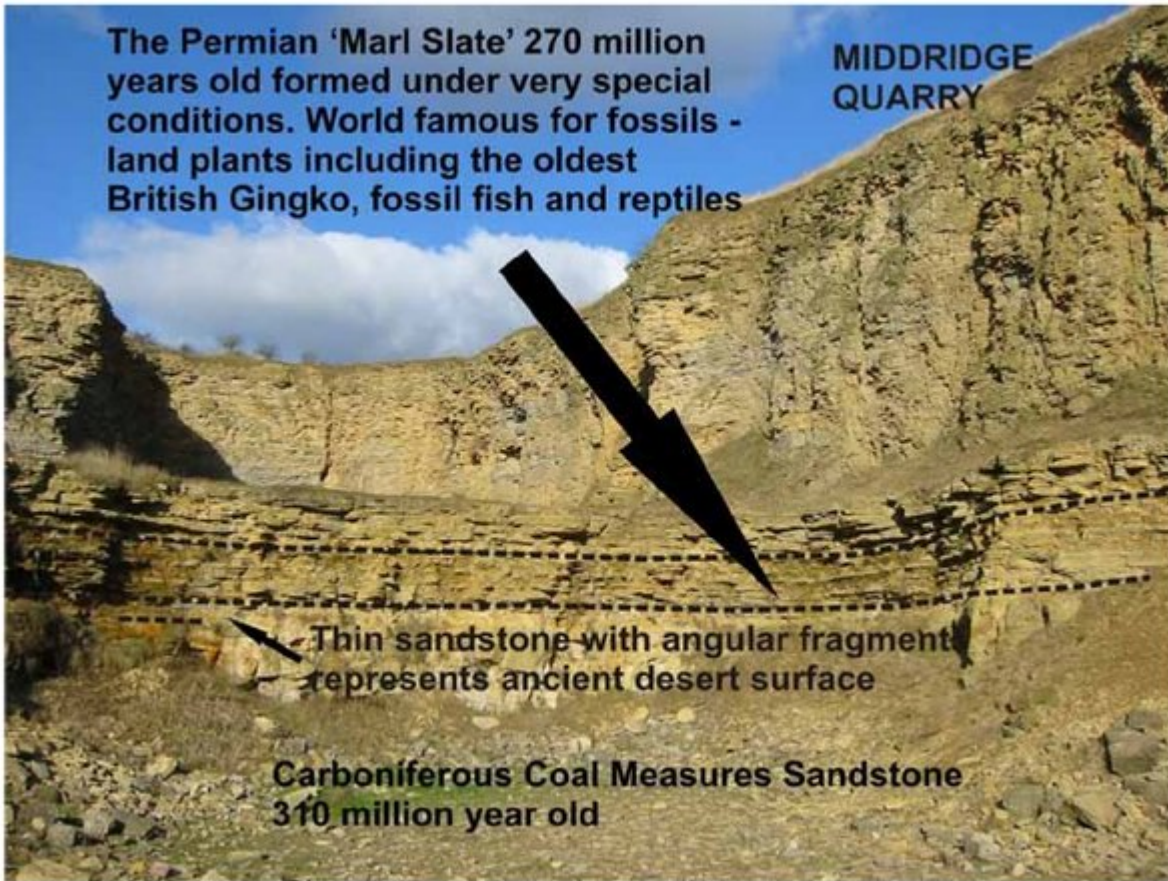


Rock textures in the Concretionary Limestone

(Plate 15) Rock textures exposed in Fulwell Quarry and surroundings.



(Plate 16) Example of wheelchair accessible trail incorporating description of rocks suitable for the visually handicapped. Karoo Botanic Garden, South Africa.



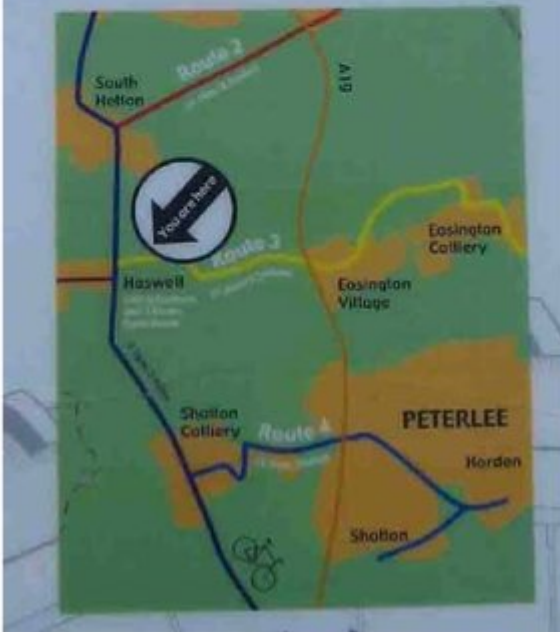
(Plate 17) Schematic interpretation of rock exposed in Middridge Quarry.



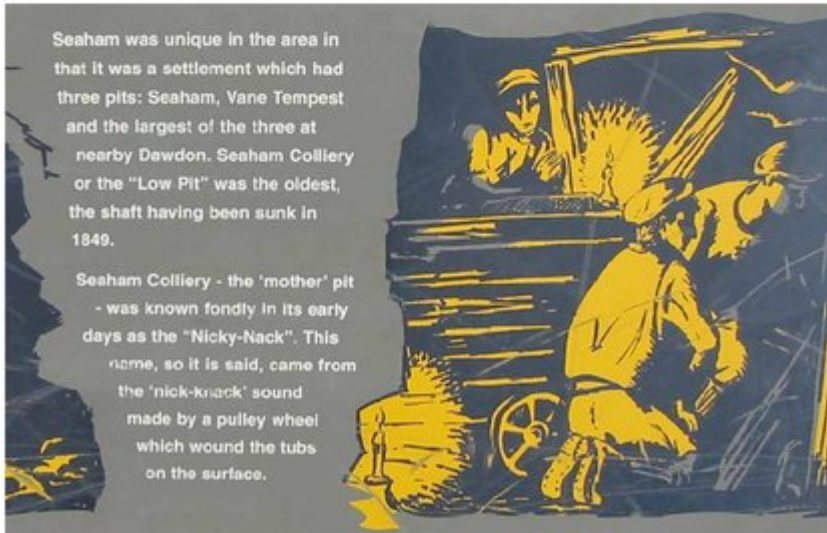
(Plate 18) Use of magnesian limestone as building stone in Whitburn.

Enjoying the cycleway near Haswell.

Coal was transported along this former railway line until 1980. Nearby Haswell Colliery was sunk in 1831. The cage pulley system eventually used in all coal mines was invented here.



(Plate 19) Display board on cycleway near Haswell.



(Plate 20) The Seaham 3 Pits sculpture and a detail from the panel.



(Plate 21) Magnesian Limestone (Raisby Formation) overlying the Marl Slate Formation (the grey layer) above the Yellow Sands Formation in the working Hepplewhites Quarry.

Rare fossil find at quarry

A 12-year-old girl discovered a rare fossil at Thrislington Quarry during a special fossil hunt organised for the wildlife explorers' club of the Royal Society for the Protection of Birds.

Stephanie Gomersall hammered apart a large piece of slate at Lafarge Aggregates' Thrislington Quarry, near Ferryhill, and found the imprint of a fish called 'Coelacanthus' which is about 250 million years old.

She showed it to the organiser of the fossil hunt, Steve McLean, curator of the Hancock Museum, Newcastle, whose suspicion that it was a rare specimen was later confirmed by the Natural History Museum in London.

Stephanie, of Ponteland, Northumberland, was searching the last pieces of stone when she made her discovery... "I was quite amazed as it's the first time I've looked for fossils".

Her father Richard, who works in the advertising department of the Newcastle Journal newspaper, had co-ordinated the fossil hunt for the RSPB Wildlife Explorers' Club. Stephanie has donated the fossil to the Hancock Museum which is putting it on display.

Steve McLean said: "Coelacanthus is a rare fossil. We only have a few in the collections at the Hancock Museum. It is a very interesting type of fossil because it was thought that fish of this type were extinct until a modern coelacanth was caught by a fishing boat off the coast of South Africa in 1938. They are still being caught today.

"It's great to find this fossil specimen in Durham and I thank Lafarge Aggregates for hosting the fossil hunt in their quarry".

Quarry manager Graeme Patkin said: "Lafarge's partnership with the museum means we can organise these fossil hunts from time to time".

The Hancock Museum is also putting on display another specimen found at Thrislington Quarry. Shotfirer Keith Farley was preparing some slate for a visit of school pupils and discovered what is commonly called a shark's head fossil but in fact is the imprint of a fish called *Janataa* which was ray like and fed on the bottom of the sea.

"It is quite a rare find and although this specimen is somewhat mangled we can see evidence of the skin and the mouth and teeth of the fish", added Steve.

- The fossil find follows the recent unearthing of a 40,000-year-old skeleton of a woolly rhino at another Lafarge quarry in Staffordshire.



12-year-old Stephanie Gomersall and Steve McLean, Curator of the Hancock Museum, with the rare fossil

(Plate 22) Fossil found by a young person during RSPB organized visit to the working Thrislington Quarry in 2003.



(Plate 23) 'Walking Works Wonders' board south of Lizard point.



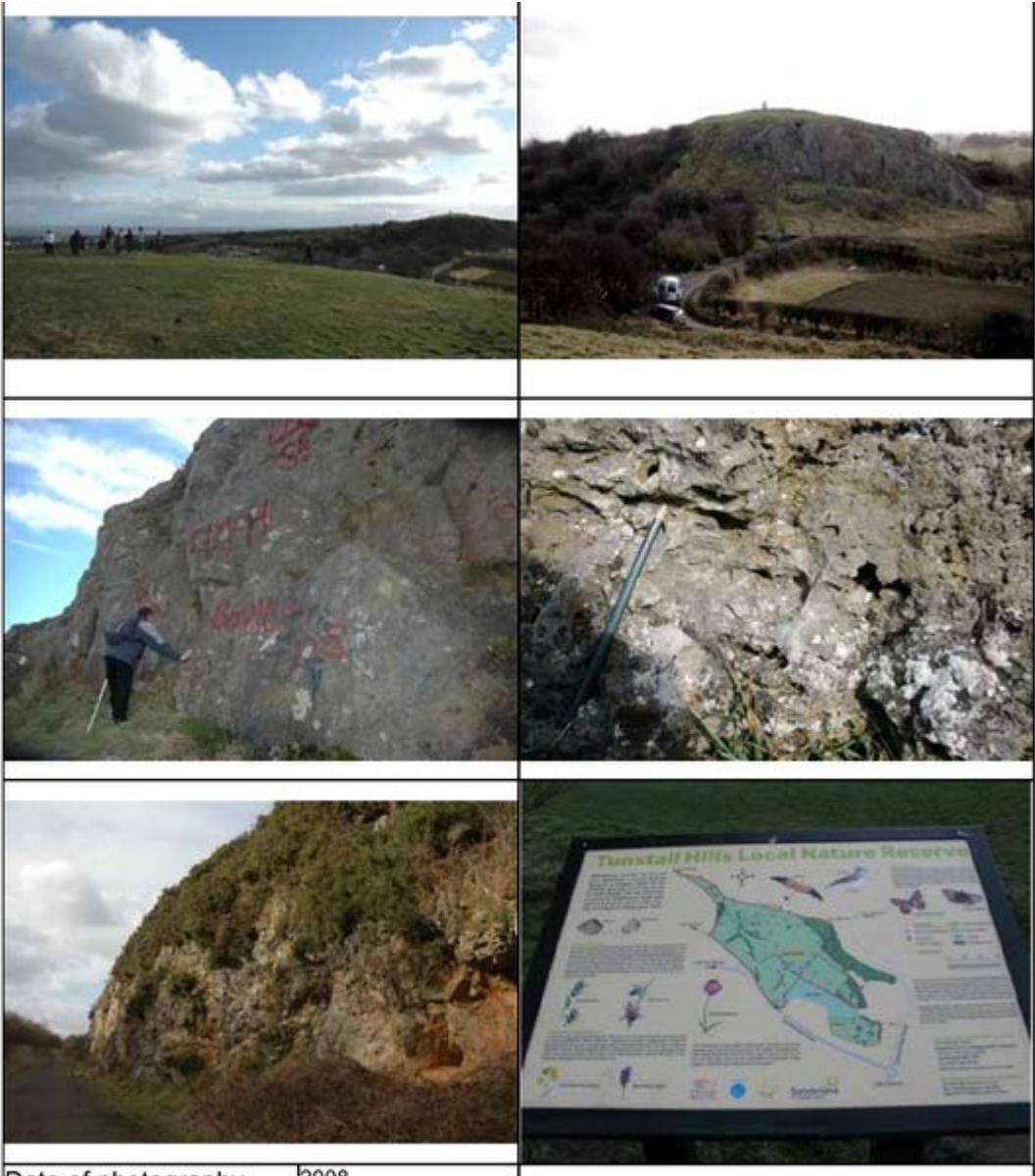
(Plate 24) Cross-bedding in Permian Yellow Sands Formation at Crime Rigg Quarry.



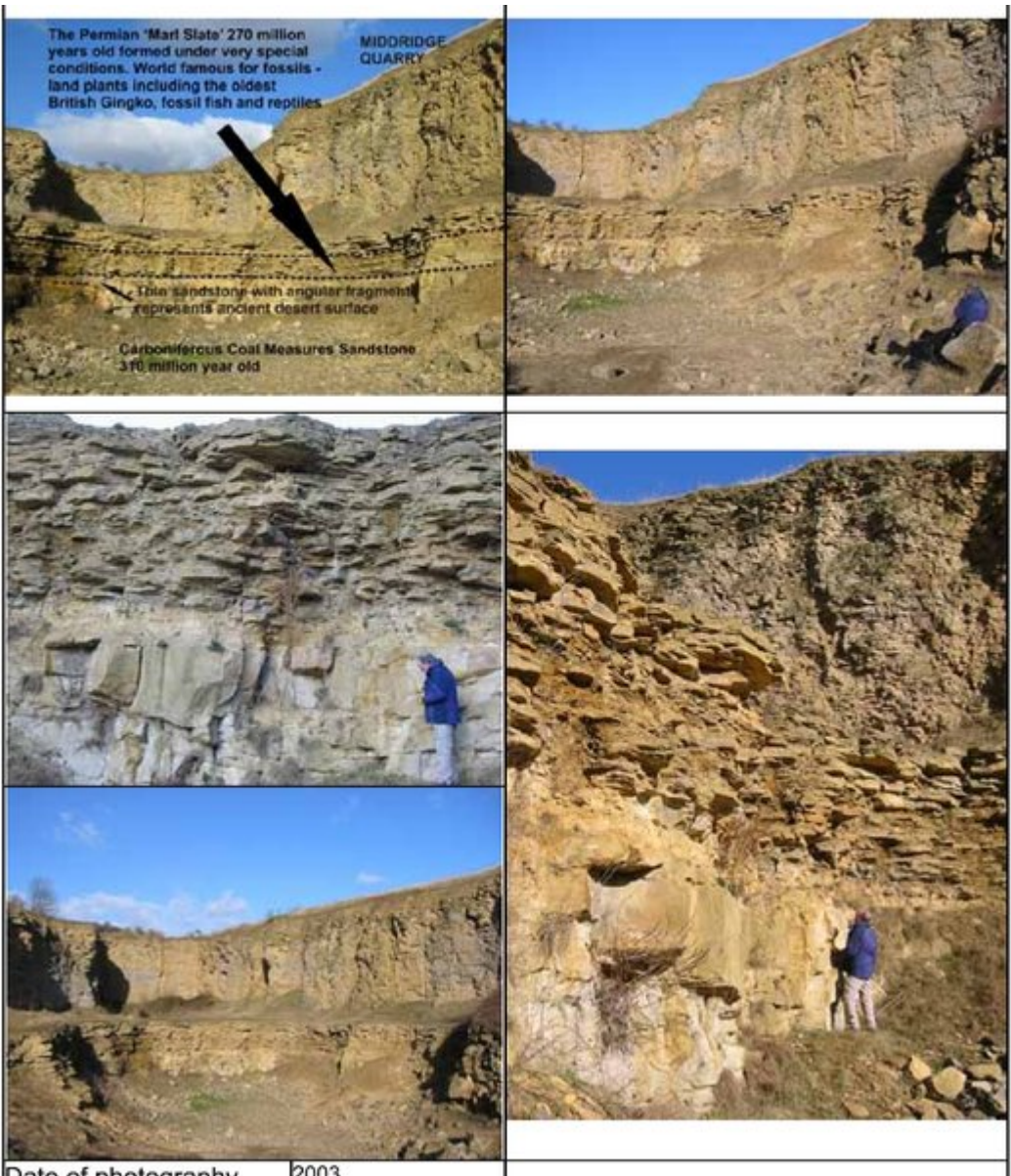
(Plate 25) Modern desert dunes in the United Arab Emirates.



(Photo 1) Fulwell & Carley Hill quarries.



(Photo 2) Tunstall Hills and Ryhope Cutting.



(Photo 3) Middridge Quarry.



Date of photography 2008

(Photo 4) Claxheugh Rock.



Date of photography

(Photo 5) Ford Quarry.



(Photo 6) Bishop Middleham Quarry.



The quarry is of national importance geologically due to the exposure of the Permian Ford Formation of magnesian limestone. It is also of high botanical interest for the magnesian limestone grassland present and is a Site of Special Scientific Interest (SSSI). The site forms an important wild life reservoir, linked to surrounding countryside by the old railway line, species can move out from here to recolonise new areas.

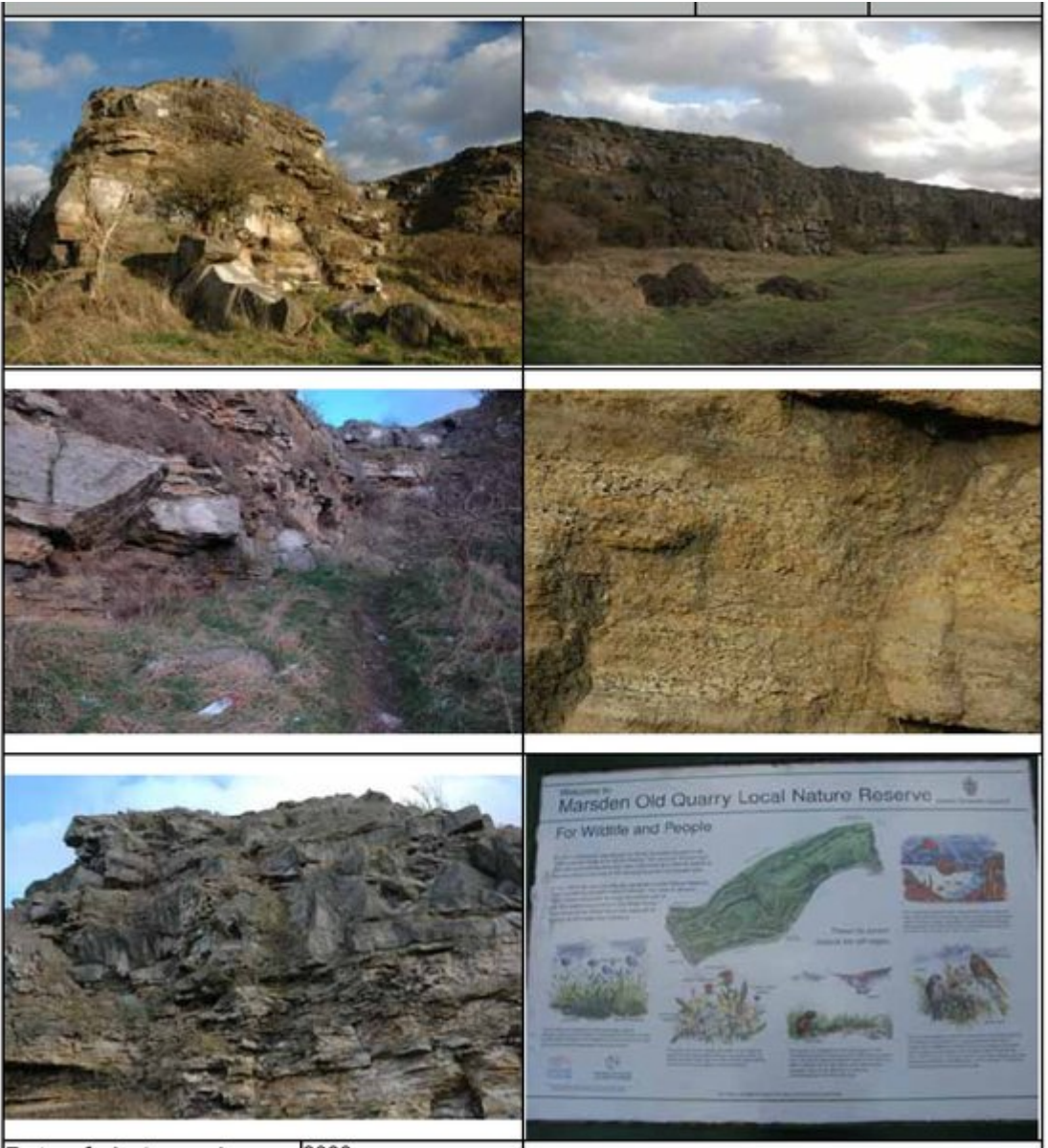


Date of photograph: 2003

(Photo 7) Trimdon Grange Quarry.



(Photo 8) Wingate Quarry.



(Photo 9) Marsden Old Quarry.



Date of photographs: 2003 and 2004

Special thanks photo copyright © Enderbrook

(Photo 10) Hepplewhites (Cold Knuckles) Quarry.



(Photo 11) Crime Rigg Quarry.



Rare fossil find at quarry

A 10-metre-long fossilised skull was found at Thrislington Quarry during a ground level being prepared for the 'white eagle' club of the Royal Society for the Protection of Birds.

Highland Forestry's 'borewood' site is a mix of pine, spruce and Douglas fir trees, and is a key part of the 'white eagle' club of the Royal Society for the Protection of Birds.

The fossil is a skull of a bird, which was found by a member of the public who was working on the site.

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(Photo 12) Thrislington Quarry.



(Photo 13) Trow Point to Frenchman's Bay.



FRENCHMAN'S BAY

and included beach behind you, if the tide goes in, leaves the bay through across the Taper Bay (down beach) as all that

This delightful bay, once popular with smugglers, gained its name from a French ship which ran aground here in the 17th century. At one time a sandy bay, it was popular with visitors, being accessible by wooden steps long since lost to the sea.

From Great Desert to Tropical!

All the rocks you see here were formed million years ago, in the Permian Period (a time the Equator)

The bay was formed as the sea rose, sea level. This left the harder rock, around tropical sea, in water at a desert rate.

The upper part of the limestone here, called the Bandy Formation by geologists, is cemented because there was an underwater beach on the side of the sea 240 million years ago.

The Head of Frenchman's Bay

The top 2000 of rock in the cliff is Carboniferous Limestone, formed about 240 million years ago.



The soft yellow rock you can see is the first of a desert and about 240 million years old.

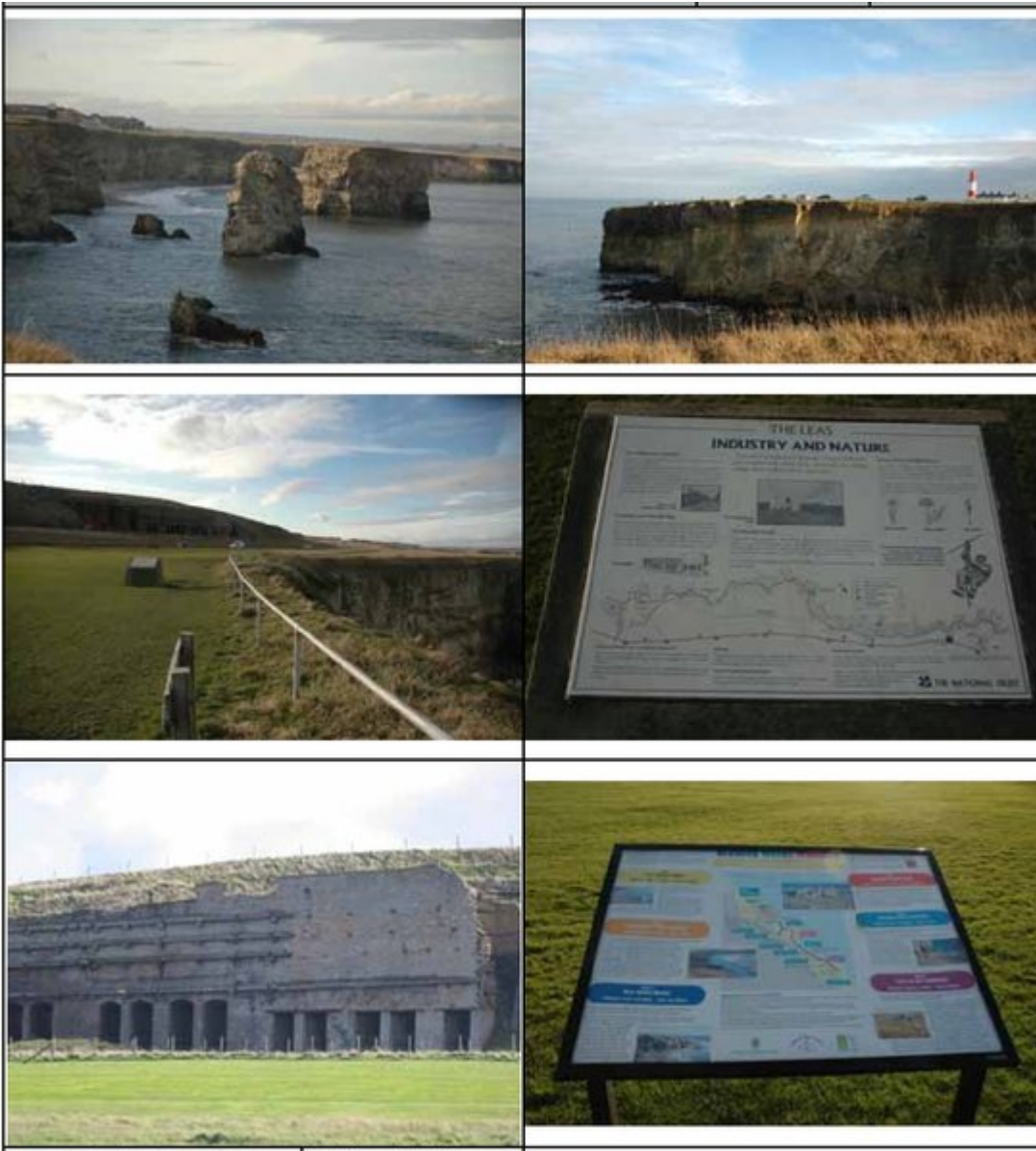
As the desert was flooded a warm, shallow tropical sea was formed about 240 million years ago. The thin, Mud Stone, coloured grey and black, was partly formed by the bodies of dead sea creatures and the silt they lived on building up on the sea bed.



(Photo 14) Frenchman's Bay.



(Photo 15) Marsden Bay.



(Photo 16) Lizard Point and Marsden Limekiln.



(Photo 17) Seaham Harbour.



(Photo 18) Blackhall Rocks.

Limestone Landscapes - a geodiversity audit and action plan for the Durham Magnesian Limestone Plateau

Geology and Landscape England Programme
Open Report OR/09/007



(Front cover)