

SITE

Name: Peppercombe

Parish: Alwington and Parkham

Local Authority: Torridge

National Grid Ref: SS 379 243

OS Sheets: 1:50k 190 1:25k 126 1:10k SS32SE

Locality Description: Coastal exposure, Portledge-Peppercombe, Horn's Cross, near Bideford.

Nature and Status of Site: The site lies within [North Devon Area of Outstanding Natural Beauty](#) (AONB) and the North Devon [UNESCO Biosphere reserve](#). A County Geological Site (www.devonrigs.org.uk).

Summary of Geological / Geomorphological Interest: Permo- Triassic 'red beds' in a small isolated basin, unconformably overlying folded Upper Carboniferous, Bude Formation.

Safety Considerations: The cliffs are not high but there is a risk of falling debris: clasts from the conglomerates and larger sandstone blocks from the Bude formation. A hard hat is therefore advised. There is a need to be aware of tide conditions, but as there is c.200m between MHW and MLW there should be a low risk of being trapped. Access paths and steps can be slippery when wet.

Educational Age Groups: Suitable for AS/A2 level college students, undergraduate research, professional or amateur geologists. Visits can be linked with a visit to the adjacent Mermaid's Pool to Rowden Gut site (see separate entry in this Register).

Parking and Access: The coast path runs along the edge of the area and access can be safely gained to the foreshore at Portledge and at Pepercombe Beaches. The nearest walking access points joining the coast path would be Greycliff and Pepercombe (from the main road at Horns Cross). Parking is very limited. A lay-by on the A39 just east of Horns Cross provides a small area of parking with the site 1.5km from this location. The nearest public car park is at Buck Mills to the west which is approximately 4km to the site. Regular bus services are available to the nearest town of Bideford from Barnstaple and Exeter. For bus timetables, visit www.traveline.org.uk.

References:

Burley, R.A and Cornford, C 1998. Carbonate cements constrain the burial history of the Portledge-Peppercombe Outlier, North Devon. *Proc. Ussher Society*. Vol.9, pp.188-203.

Gayer, R.A and Cornford, C, 1992. The Portledge-Peppercombe Permian outlier. *Proc. Ussher Society*. Vol.8 pp.15-19.

Edmonds, E.A., Williams, B.J and Taylor, R. T. 1979. Geology of Bideford and Lundy Island. *Mem Geol. Surv. G.B.*, sheets 292, with 275, 276, 291 and part of 308.

Freshney, E C, Taylor, R T, Cornford, C, Bennett, J & Cox D 2004. *Report on the assessment of County geological Sites in the North Devon Areas of Outstanding Natural Beauty: Phase 1- Area from Hartland to south side of the River Taw* (Report for North Devon Coast and Countryside Service) (Devon RIGS Group, 2004)

Online References

North Devon AONB Geology, www.northdevon-aonb.org.uk/geology.htm

Detailed Geology: The 'Red Bed' sequence at Peppercombe consists of conglomerates, sandstones and silty sandstones with associated calcrete nodules. Some of these rock types are arranged in fining-upward cycles indicative of alluvial sedimentation. These sediments were deposited in alluvial fans or as infill to wadis and temporary sand filled channels under desertic climatic conditions. The finer silty sandstones with calcrete were deposited in temporary playa lakes, the calcrete forming in the ancient soil in a situation of highly variable water table level. The climate would have been arid with widely spaced intervals of heavy rainfall.

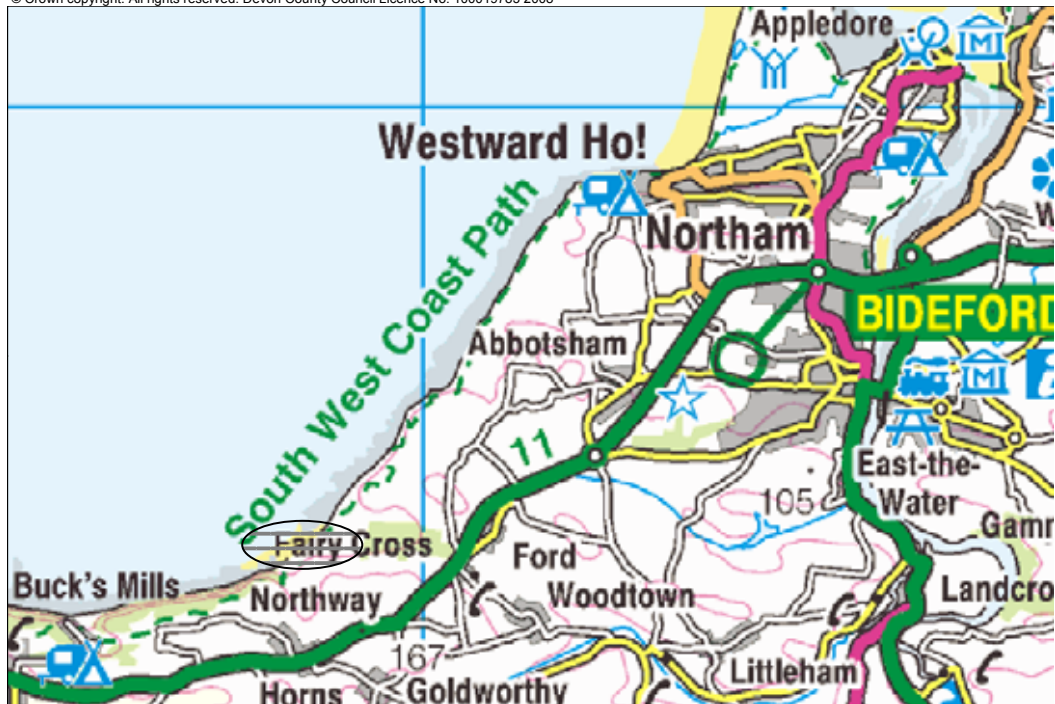
The deposits are preserved in a half graben with an east-west fault defining its north eastern margin. The south western edge of the graben is repeated by the NW-SE Trending Peppercombe Fault which is parallel to the larger Sticklepath to the north-east. Although no independent dating is available, it is presumed that the deposits are of Permian rather than Triassic age, by comparison with basal 'New Red Sandstone' sequences elsewhere in Devon. The 'Red Bed' sequence lies unconformably on turbidite sandstones of the Upper Carboniferous, Bude Formation.

LOCATION PLAN

PEPPERCOMBE ALWINGTON AND PARKHAM, TORRIDGE

National Grid Ref: SS 379 243

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Scale 1:100000



Site Locality

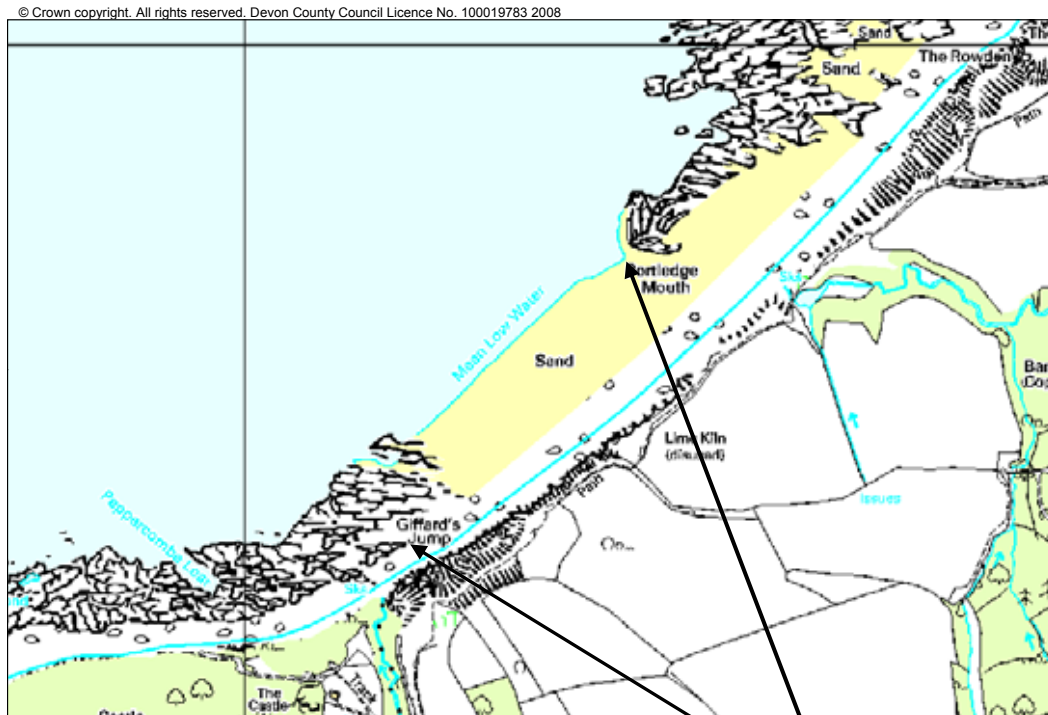
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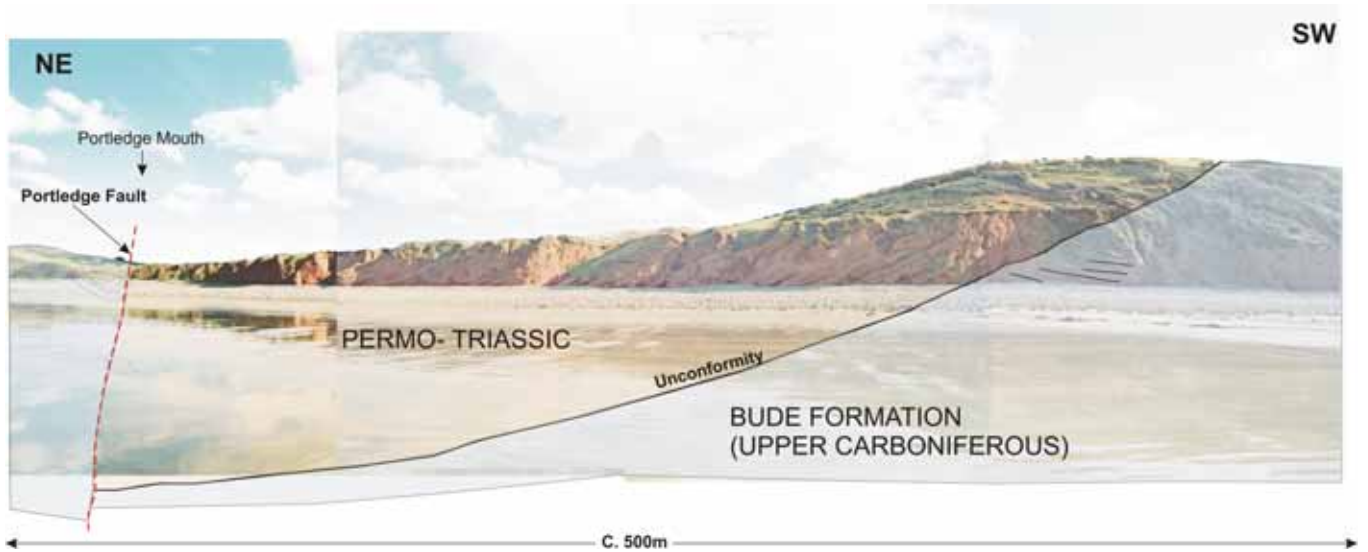
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Exposures can be
seen at these points

Main points of interest

- Exposures of a desert basin of presumed Permian age
- Conglomerates indicate seasonal flash flood events and calcretes evaporation of water from temporary playa lakes or floodplain areas.

PEPPERCOMBE



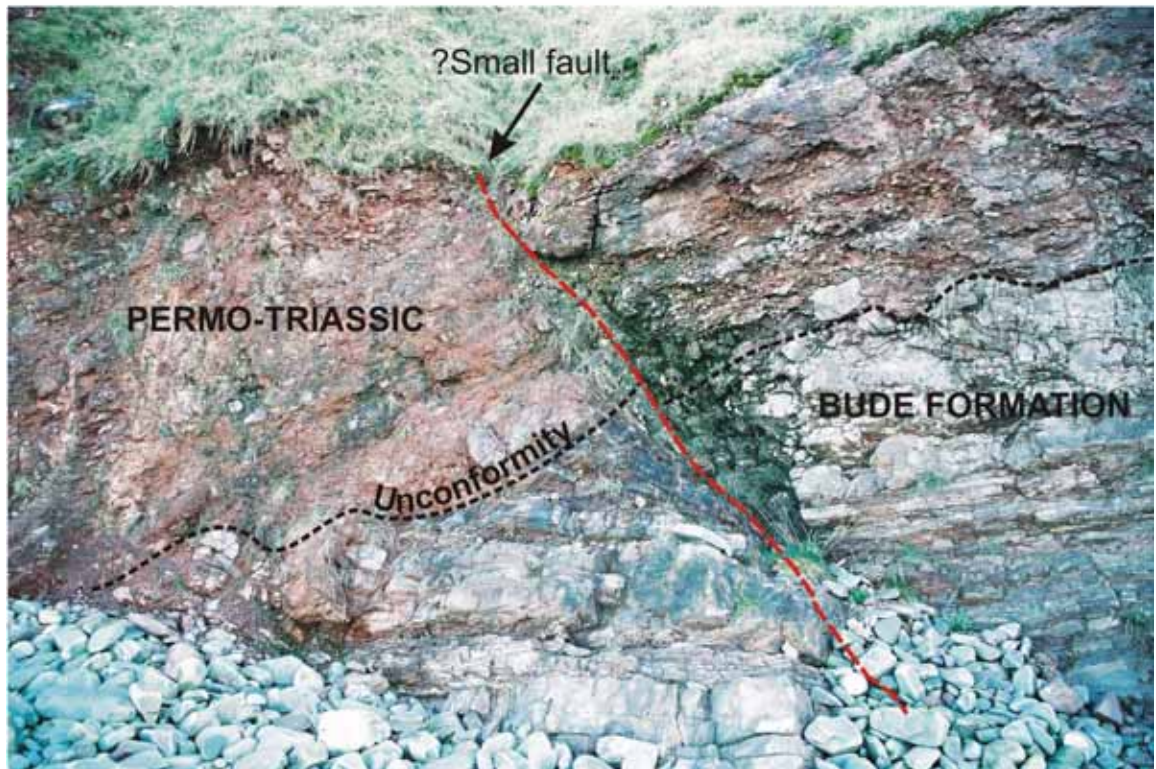
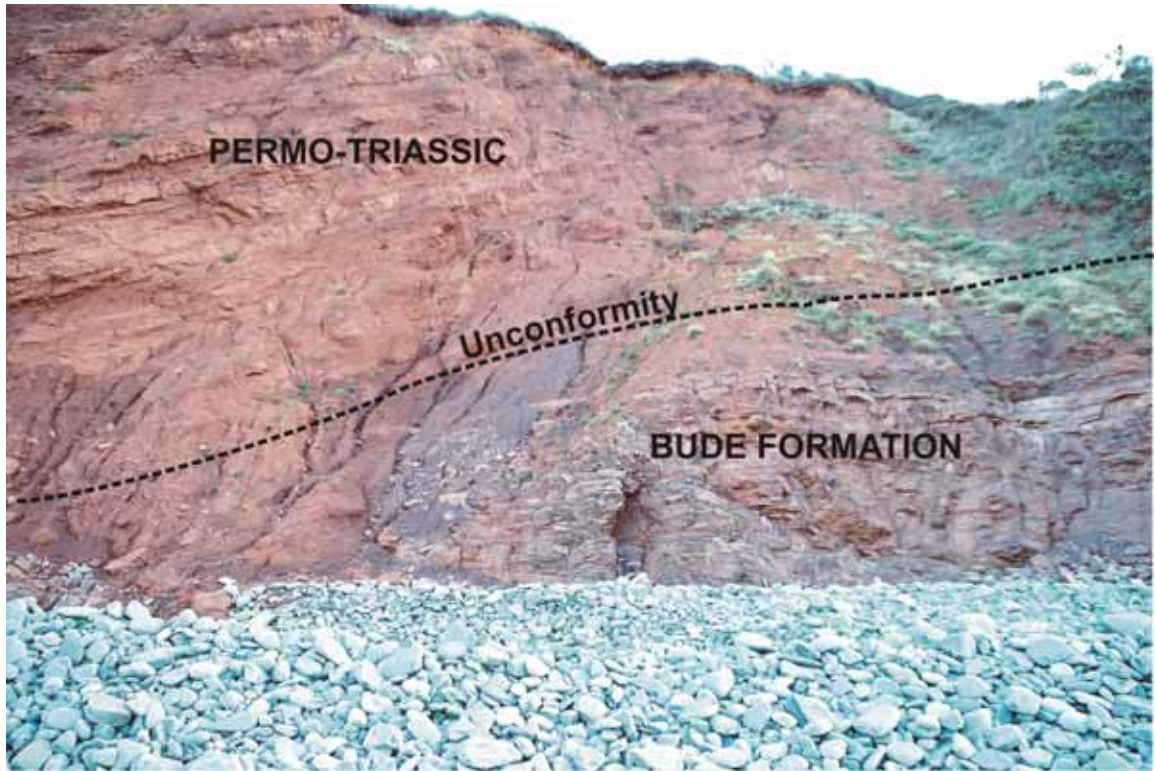
View of part of Portledge to Peppercombe section with geological overlay



Purplish red conglomerate from near western end of site



Conglomerate and sandstone from south-western end of the section



Permian 'Red Beds' unconformable over Upper Carboniferous Bude Formation at SS 381 243 and SS 383 244