

SITE

Name: Daddyhole

Parish/Area: Wellswood

Local Authority: Torbay

National Grid Ref: SX 927 628

OS Sheets: 1:50K, 202, 1:10K, SW96 SW

Locality Description: This site lies east of Torquay Harbour.

Nature and Status of Site: Coastal headland, with sea-coves, cliffs, foreshore and quarry exposures. The site is designated as a [Site of Special Scientific Interest](#) (SSSI) and lies within the [English Riviera Geopark](#).

Summary of Geological / Geomorphological Interest: This site includes the type section of the Middle Devonian, Daddyhole Limestone. They are noteworthy in containing desiccation cracks - indicating subaerial exposure, as well as a rich fossil content, especially corals. Foreshore and cliff exposures to the NE constitute the Type locality of the Lower Devonian, Meadfoot Group.

Safety Considerations: Steep cliffs and slopes surround the site and care should be taken when entering and leaving the site. Hard hats should be worn at the base of the cliff face exposures. Note that the exposures are currently suitable for older groups due to the steep surfaces and cliff faces in the area.

Educational Age Groups: College/6th Form, University.

Parking and Access: The entire site can be accessed from the east, however, one of the best ways to view the geology of this coastline is by boat and cruises are available at Torquay, Paignton and Brixham Harbour.

The site is approximately 2km from Torquay train station which receives regular services from Newton Abbot and Paignton. Additionally there are a number of bus services to Torquay from Exeter and from neighbouring towns and villages including Newton Abbot and Paignton. For timetable details, visit www.traveline.org.uk. If travelling by car, follow the A380 from Exeter to Torquay. Parking is available along Meadfoot Sea Road (SX 932 632). Collecting geological specimens requires a permission from Natural England and Torbay Coast and Countryside Trust. Please do not hammer outcrops or remove fossils from exposures, as this will seriously damage the site - leave them for others to see.

For further information on Daddyhole and other Geological sites in Torbay, visit the [English Riviera Geopark](#) website. The English Riviera Geopark team is happy to facilitate group visits to this and other sites located within the Geopark, which can be tailored to requirement. For more information contact Geopark Education and Community Officer on 01803 528841 or email e.beale@englishrivierageopark.org.uk.

References

GOLDRING, R. 1978. Devonian. In: MCKERROW, W.S. (ed.) *The ecology of fossils – an illustrated guide*. Duckworth, 384pp.

GOODGER, K.B., BUGLASS, A. and SCRUTTON, C.T. 1984. Sequence of coralline faunas and depositional environments in the Middle Devonian Daddyhole Limestone Formation stratotype section, Torquay, Devon. *Proceedings of the Ussher Society* **6**: 13-24.

LEVERIDGE, B.E., SCRIVENER, R.C., GOODE, A.J.J. and MERRIMAN, R.J. 2003a, Geology of the Torquay district: a brief explanation of the geological map Sheet 350 Torquay, *Sheet Explanation of the British Geological Survey*, BGS, 34pp.

LEVERIDGE, B.E., SCRIVENER, R.C., GOODE, A.J.J. and MERRIMAN, R.J. 2003b, Geology of the Torquay district: Sheet description of the British Geological Survey 1:50,00 Sheet 350 Torquay (England and Wales), BGS, 41pp..

LLOYD, W. 1933. The geology of the country around Torquay (2nd edition). *Memoir of the geological survey, England and Wales*, 169pp

PAGE, K.N. 2004. Torbay Local Geodiversity Action Plan (LGAP) ([www.countryside-trust.org.uk/ bappdfs/pagegeorev.pdf](http://www.countryside-trust.org.uk/bappdfs/pagegeorev.pdf)).

PERKINS, J.W. 1971. Geology explained in south and east Devon. Devon and Charles, 192pp.

REED, F.R.C. 1920-1922. Notes on the fauna of the Lower Devonian beds of Torquay. *Geological Magazine* **57**: 299-306, 341-347; **58**: 313-324; **59**: 268-275, 303-309.

RICHTER, D. 1967. Sedimentology and facies of the Meadfoot Beds (Lower Devonian) in south-east Devon (England). *Geol. Rundsch.* **56**: 543-561.

SCRUTTON, C.T. 1965. The ages of some coralfaunas in the Torquay area. *Proceedings of the Ussher Society* **1**: 186-188.

SCRUTTON, C.T. 1977a. Reef facies in the Devonian of eastern South Devon, England. *Memoir de la Bureau de recherche geologique et minière* **89**: 125-135.

SCRUTTON, C.T. 1977b. Facies variations in the Devonian limestones of eastern South Devon. *Geological Magazine* **114**: 165-193.

SCRUTTON, C.T. 1978 (ed.). Palaeontological Association International Symposium on the Devonian System (P.A.D.S. 78): A field guide to selected areas of the Devonian of South-West England. Palaeontological Association: 73pp.

SELWOOD, E. B. and DURRANCE, E. M. 1982. The Devonian rocks. In: DURRANCE, E. M. and LAMING, D. J. C. (eds). *The Geology of Devon*, University of Exeter, 15 - 41.

USSHER, W.A.E. 1903. The geology of the country around Torquay. *Memoir of the geological survey, England and Wales*, 142pp.

Detailed Geology: Daddyhole Cove is excavated in Eifelian shales in the core of a large anticline overturned to the ENE. The cleaved, olive-green shales contain scattered brachiopods including atrypids with solitary corals, bryozoa and crinoid debris. The Daddyhole Limestone, is best visited in the Triangle Point area where the

sequence is downthrown to the south by two faults, which are part of a series of E-W trending faults. The sequence of limestones at Triangle Point shows a broad, approximately equal threefold division into basal crinoidal grainstones, succeeded by peloidal grainstones and followed by peloidal and bioclastic packstones. Biostromes are distributed throughout this succession. The overlying 2.5m of packstones, with fenestrae and small burrows, contain high spired gastropods, ostracods and nodular and encrusting algae, with two prominent levels of desiccation cracks. At the top of this sequence, alternations of peloidal and bioclastic packstones with thin shale partings represent the beginning of a transition to shales. This occurs about 40m above the base of the Daddyhole Limestone. The shales are sparsely fossiliferous with crinoid ossicles, brachiopods and bryozoans.

Triangle Point itself is particularly important as it shows one of the best and most accessible exposures in the Torbay area of an in-situ stromatoporoid-dominated biostrome with low mounds around 30-40cm across with bioclastic debris between, including many brachiopods and bryozoa. Although once horizontal, the surface is now steeply inclined. Lower units in the sequence here are rich in branching tabulate corals and occasionally layers are also rich in gastropods.

Goodger et al (1984) developed the environmental model for the area. The succession represents the migration of a carbonate platform largely constructed of crinoid debris. The platform rapidly built up to shallow water and was colonised by a range of coralline faunas from time to time. The shale is interpreted as an intrusive tongue of background sedimentation introduced as a result of local, slightly accelerated subsidence of the margin of the platform.

The foreshore and cliffs to the NE of Triangle Point constitute the type locality for the regionally important Meadfoot Group. Slaty mudrocks and thin sandstones dominate and represent shallow marine sediments. Occasional shelly bands with brachiopods have proved a late Lower Devonian, Emsian age.

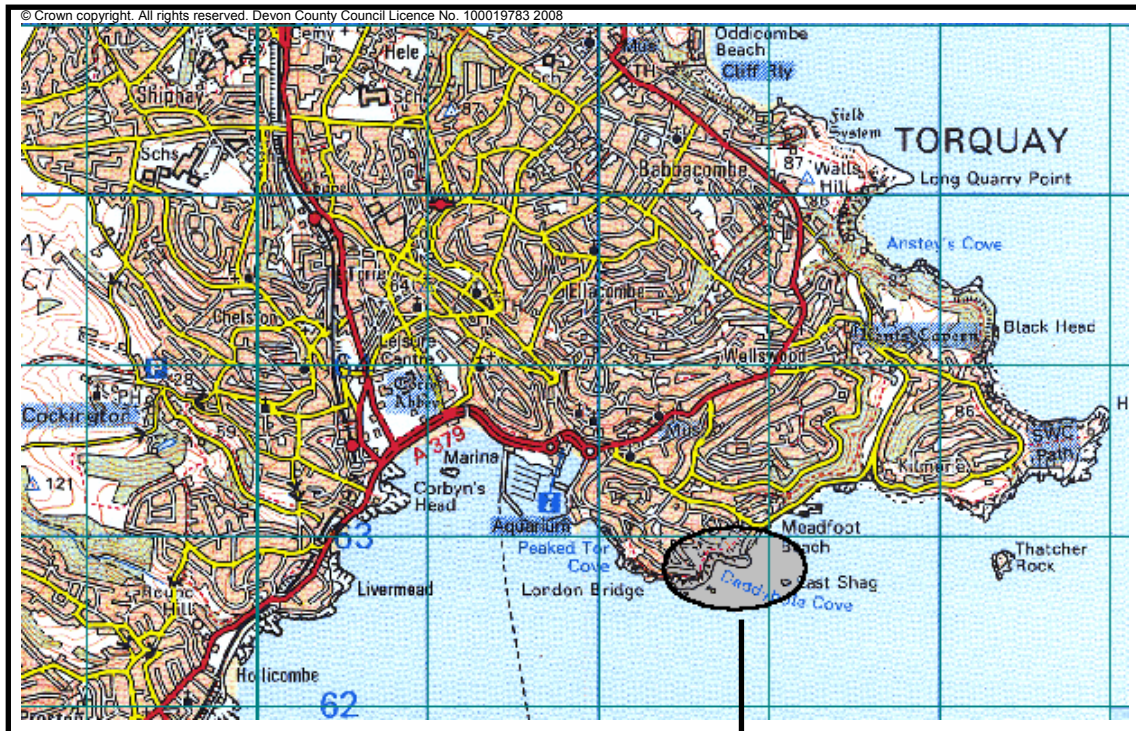
Suggested Questions

1. What types of fossils dominate the limestones at Triangle Point and can you reconstruct the communities that they represent?
2. Examine the conspicuous fault surface at Triangle Point: can you determine its sense of movement?

LOCATION PLAN

DADDYHOLE, SSSI WELLSWOOD, TORBAY

National Grid Ref: SX 927 628



Scale 1: 40,000



Site Locality

South side of A379
adjacent to
Daddyhole Plain

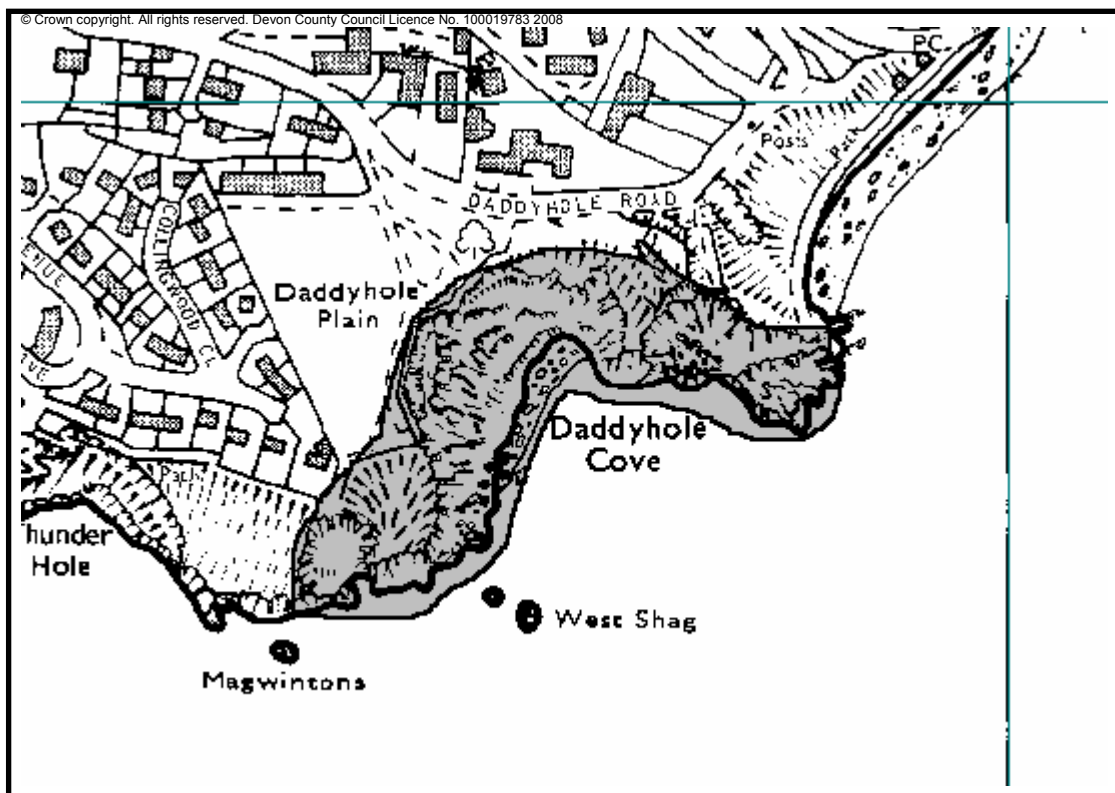
Parking and Access

- The site is approximately 2km from Torquay train station which receives regular services from Newton Abbot and Paignton. Additionally there are a number of bus services to Torquay from Exeter and from neighbouring towns and villages including Newton Abbot and Paignton. For timetable details, visit the [traveline](http://traveline.co.uk) website.
- One of the best ways to view the geology of this coastline is by boat and cruises are available at Torquay, Paignton and Brixham Harbour.
- The site is best accessed from the east, with roadside parking available along Meadfoot Sea Road.

SITE PLAN

DADDYHOLE WELLSWOOD, TORBAY

National Grid Ref: SX 927 628



Approx. Extent of Site

Scale 1: 5,000

Main Points of Interest:

- Folding and faulting in Devonian shales and limestones with numerous fossils.
- Includes the type section of the Devonian Daddyhole Limestone at Triangle Point.
- In-situ Devonian reef at Triangle Point
- Natural arch; cliff erosion and landslide features

DADDYHOLE

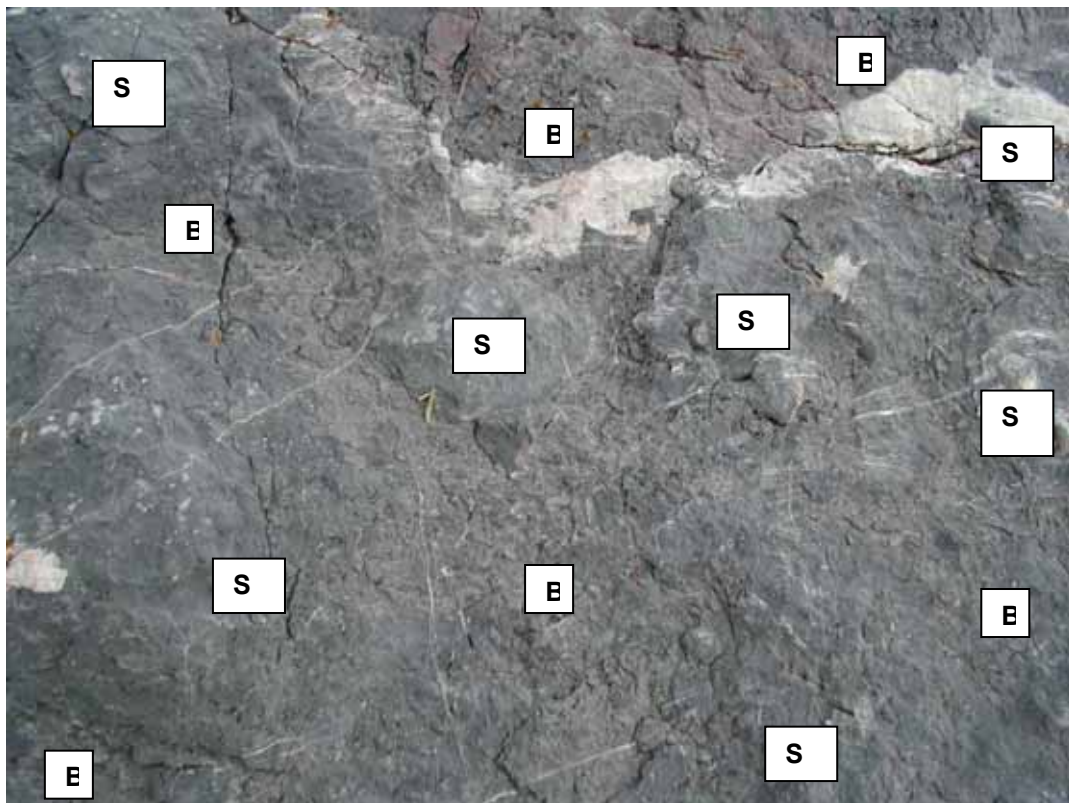


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General view of Triangle Point from Meadfoot Beach (above) and view from East side (below). Note steeply inclined bedding surfaces in Middle Devonian, Daddyhole Limestone.



The main bedding plane surface of Triangle Point: Note low mounds formed by in-situ stromatoporoids (coralline sponges – smoother textured) [S] with bioclastic debris between (mainly brachiopod shell, coral and bryozoan fragments – coarse texture) [B] [Middle Devonian, Daddyhole Limestone]. Dome in lower left of lower photograph is around 30cm across.

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Coralline faunas of the Daddyhole limestone at Triangle Point: coral 'gravel' of broken branching tabulate corals (above) and 'conglomerate' of stromatoporoid colonies and fragments (below).

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Prominent fault plane exposed at Triangle Point, showing calcite veining and slickensides.