

Linhay Hill Quarry - Summary of Key Elements

Location:	In South Devon about 1.5 km north-east of Ashburton, immediately north of the Exeter to Plymouth A38 Plymouth Expressway.
O.S. Grid Ref:	SX 767 713 (Quarry Manager's office)
O.S. Map No:	1:25 000 Outdoor Leisure Sheet 28, Dartmoor 1:50 000 Landranger Sheet 202, Torbay and South Dartmoor
BGS Map No:	1:50 000 Sheet 338, Dartmoor Forest
Operated by:	E & JW Glendinning Ltd
General Geology:	Predominantly dark-grey with some medium-grey well-bedded limestones of the Chercombe Bridge Limestone Formation of Middle and possibly also Upper Devonian age. The lower boundary of the limestone is a major low-angle thrust fault roughly parallel to the bedding on which the limestones have been 'thrust' over younger slates of the Kate Brook Slate Formation with displacement possibly many kilometres. The upper boundary of the limestone to the south of the A38 is not seen in the quarry but it is also believed to be a thrust plane associated with volcanic rocks and younger slates.
Geodiversity Highlights:	<ul style="list-style-type: none"> • About 250m thickness of limestone. • Consistent south-easterly dip in the limestone • The lower thrust fault contact (Bickington Thrust) with the limestone overlying the younger Kate Brook Slate Formation. • Exposures of typical Kate Brook Slate Formation • Unusual large calcite replacement feature in the limestone • Abundant fossil corals, stromatoporoids and brachiopods in the limestone. • Shallow solution weathering at the rock surface • Fossil corals and shells weathered out in near-surface limestone
Geodiversity Context:	<ul style="list-style-type: none"> • Limestone mid to late Devonian age, about 380 to 360 million years old. • Formed in tropical marine environment close to the equator, similar to parts of the Caribbean today. • The limestones of the area formed on shallow undersea ridges associated with volcanic activity around edges of the ridges. • Shoreline to the north in vicinity of what is now South Wales, desert land environment beyond with primitive land plants. • Folding and thrusting in Variscan Orogeny by pressure of colliding continent from the south during late Devonian and Carboniferous. • Intrusion of Dartmoor Granite at end of Carboniferous/early Permian.

Photo LI 0.**From SX 7698 7152, elevation 130 m AOD****Facing WSW.**

General view of quarry working faces in dark to medium-grey Devonian limestone. Top face comprises soil at surface overlying poorly-sorted, brown, clayey gravel and silt above the limestone with a thin transitional zone of mixed silty-clay/limestone (see also Photo LI 10).

Photo LI 4**At SX 7733 7166, Elevation 130m AOD****Loose block**

Solution weathering relief and fossil corals, stromatoporoids and other shelly fossils weathered out on surface. Note that detail of fossils is not readily visible on freshly broken surfaces.

Photo LI 10**From SX 7715 7116, elevation 95 m AOD****Facing NE.**

Distant view of north-east face in dark-grey limestone dipping consistently eastwards with, at centre, a disturbed zone of white calcite replacement, possibly a fault or thrust structure parallel to the main boundary thrusts. Traces of bedding (some undisturbed, some much disturbed) appear to pass through the white calcite zone. The calcite zone appears to be a replacement feature rather than cavity infill.

Photo LI 12**From SX 7672 7119, elevation 95 m AOD****Facing NE.**

Bickington Thrust shown T-T and probable continuation T? across unexposed ground beyond marking the contact at the northern edge of the limestone thrust against the underlying, but younger, Kate Brook Slate. Main quarry is at RH side.

Photo LI 13

From SX 7674 7121, elevation 90 m AOD

Facing NE.



Closer view of the Bickington Thrust T-T showing complex and irregular nature of the contact of the limestone with the underlying deformed Kate Brook Slate with included rafts of other rock types at LH side.

Photo LI 15

at SX 7668 7142, elevation 112 m.AOD

Facing WNW.



Upper Devonian Kate Brook Slate underlying the Bickington Thrust. Note bedding is indistinct and prominent near-vertical cleavage, strike 088° (near east-west). Scale marker in 10 cm divisions.