

Moorcroft Quarry - Summary of Key Elements

Location:	In South Devon near Elburton on the eastern outskirts of Plymouth immediately north of the Plymouth to Kingsbridge A379 road.
O.S. Grid Ref:	SX 5257 5387 (quarry weighbridge office)
O.S. Map No:	1:25 000 Outdoor Leisure Sheet 20, South Devon 1:50 000 Landranger Sheet 201, Plymouth and Launceston
BGS Map No:	1:50 000 Sheet 349 Ivybridge, see also adjacent Sheet 348 Plymouth
Operated by:	Bardon Aggregates, a subsidiary company of Aggregate Industries
General Geology:	Pale to medium-grey, occasionally dark-grey well-bedded micritic limestones of the Plymouth Limestone Formation of Mid and possibly Late Devonian age striking east-west and dipping to the south. The lower boundary of the limestone on the north side of the quarry is a low-angle thrust fault, approximately parallel to the bedding, on which the limestones have been ‘thrust’ over a thin and weak layer of volcanic tuffs and younger slates of Late Devonian age. The limestone deposit at its upper boundary passes into grey calcareous shales, known from old workings and borehole records.
Geodiversity Highlights:	<ul style="list-style-type: none"> • About 300m thickness of limestone. • Occasional fossil corals. • Consistent southerly dip in the limestone. • Bedding-cleavage relationships. • The lower thrust fault contact, the limestone sharply overlying volcanic tuffs and younger shales. • The structure known at the quarry as the ‘shale-fault’ • A prominent east-west normal fault downthrowing south demonstrates various features of fault geometry. • Hydrogeology of lowering the water table.
Geodiversity Context:	<ul style="list-style-type: none"> • Plymouth 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. • Limestones 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 the Carboniferous/early Permian.

Photo MO 0**Aerial Photo from east of Haye Road****Facing West**

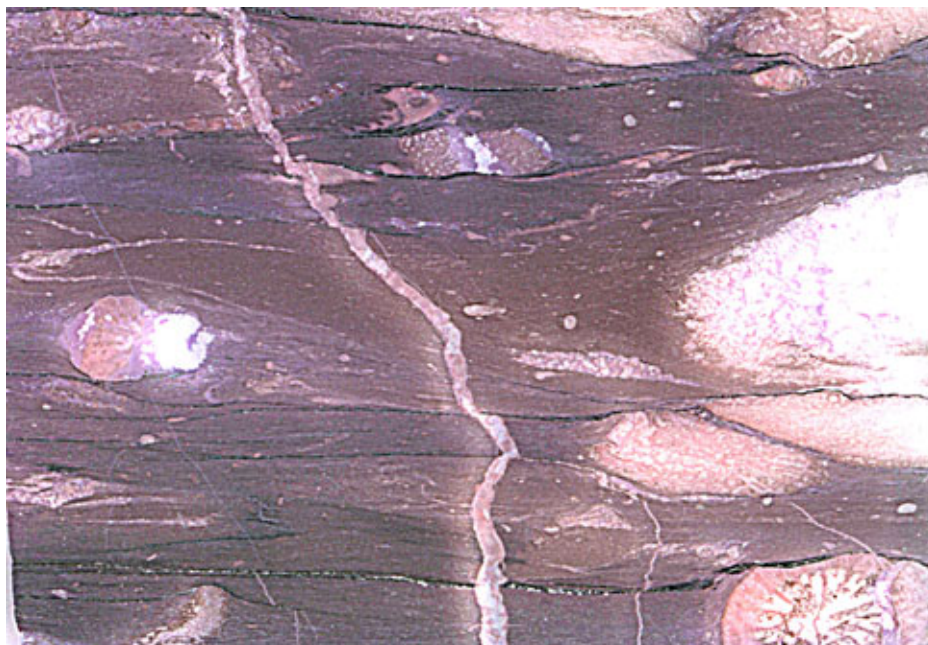
View along east-west strike of the mid to late Devonian Plymouth Limestone Formation. Moorcroft workings with current working area Pit 4 in the foreground and process plant and water storage area immediately behind. Limestone workings of the Plymstock cement works, now closed, in the middle distance with Chelson Meadow landfill beside the Plym Estuary to the right. In the far distance, across the Plym Estuary, is the City of Plymouth and the limestones of Plymouth Hoe facing the sea.

Photo MO 14**From SX 5296 5417, elevation -25m OD****Facing West**

Complex of faults and associated steep-dipping beds in NW side of Pit 4 (see Photo MO 0). Pump house and Observation point indicated with dewatering pumps in lowest level at -45m AOD.

Photo MO 2. At SX 5280 5421, elevation 33m AOD

Distorted and recrystallised traces of compound coral in medium-grey limestone. Seen at Observation Point for Pit 4. Rock surface wet

Photo MO 3. Photomicrograph, field of view about 30mm along, scanned thin-section.

Example of a thin section of Moorcroft limestone, artificially stained to enhance features, showing much distorted traces of coral fragments some with internal skeleton preserved. Note also cleavage planes picked out by black clay minerals resulting from part of the limestone having been dissolved.

Photo MO 1**From SX 5294 5375, elevation 18m AOD****Facing NNE.**

General view of Pit 4, limestone strata dipping south towards viewpoint, about 25° at north end, 15-20° at south end closer to viewpoint

Photo MO 10 From SX 5283 5427, elevation 10m AOD, view, Facing WNW.

Thinly bedded limestones in lowest part of limestone sequence seen in upper levels of the NW corner of Pit 4. Contact with normal thick bedded limestones seen in upper part of face.