

DEVON'S NON-METAL MINES

Discovering Devon's Slate, Culm, Whetstone, Beer Stone, Ball Clay and Lignite Mines

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ABOUT THE AUTHOR

Richard Edwards has lived and worked for many years as a geologist in Devon. After reading geology at Nottingham University he completed his doctorate at Exeter University, after which he joined the British Geological Survey and worked as a field geologist, firstly in Africa (Zambia) and later in Hampshire, Devon and Somerset. He was involved in the geological surveys of the Newton Abbot, Southampton, Exeter, Minehead and Sidmouth 1:50,000-scale map areas. Apart from Geological Survey maps, memoirs and reports, he has published papers on the Tertiary of Hampshire and Devon, and the Permian of Devon. He is the author of *Exmoor Geology* (2000) and the *Geology of the Jurassic Coast. The Red Coast Revealed - Exmouth to Lyme Regis* (2008). He is married with a daughter; and he and his wife live in a village near Exeter

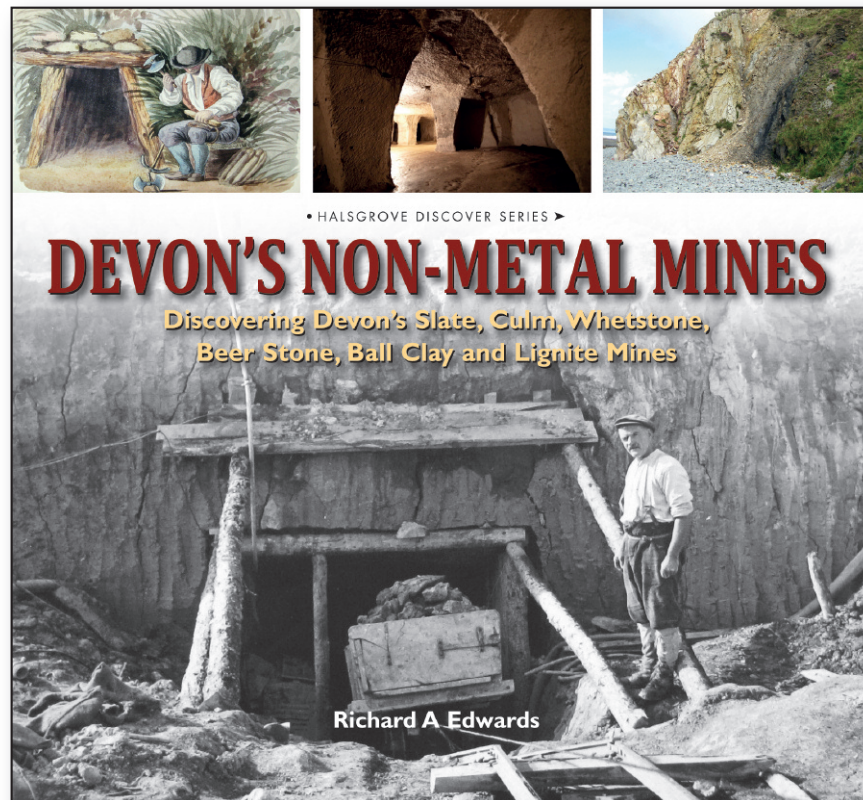
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The book will appeal to readers with an interest in mines and mining, industrial archaeology, geology, history, and landscape, or who just like a good story about some fascinating episodes in the development of the industrial history of Devon.

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Above: J C R Reed at the Main Entrance to the Upper Series of tunnels in Recca Quarry on 13 April 1949. This entrance is now partly filled in and gated.



Above right: interior of Beer Quarry Caves showing workings of possible medieval age.

Right: men pushing a mine tub loaded with raw culm.



The old limekiln at Greycliff, which was fuelled by anthracite from the nearby workings.



The Upper Greensand and Chalk cliffs west of Beer Head. The white Chalk in the upper part of the cliffs can easily be distinguished from the underlying yellowish-brown Upper Greensand.

Chapter 2
**ECHOING CHAMBERS:
The Penn Recca Slate Mine,
Buckfastleigh, South Devon**

INTRODUCTION

We begin our journey of discovery through the little-known mine of Devon by travelling to an area about a mile east of Buckfastleigh in south Devon (see the map, 1.1, on page 106, where at Penn Recca we find the remains of what is probably the only slate mine in Devon. Here, quarrying for slate began as long ago as the 14th century. After an idle period in the early 19th century, the quarries were reopened in 1845, and work began on a series of tunnels and large chambers from which slate was mined. It is these fascinating underground remains, when a total length of 5,616 ft of passages has been recorded, that are the subject of this chapter. However, before we explore the mine in more detail, we will look briefly at the slate industry elsewhere in southern England.

Slate in southwest England

Many of us are familiar with the spectacular slate mines of north Wales, such as Llanberis, and many others, some of these create enormous caverns from which vast quantities of some of the best roofing slates in the world were cut, mostly in the Victorian era. In southwest England, there was nothing on such a scale, but slate was dug from numerous, generally small, open pits and larger quarries scattered over Devon, Cornwall and Somerset.

The history of 'blue slate' quarrying in south Devon, mainly from the Lower Devonian and Middle Devonian rocks south of a line joining Plymouth and Torquay, has been discussed by Anne Barn. She wrote that by the late 12th century Devon slate was being

extensively quarried for a variety of uses – mainly for roofs, but also for walls, paving, coping, steps, slabs, window sills, lintels and hearthstones etc. Slate production increased especially during the great periods of church building, and there was a distinct export market.

The celebrated churches between W & G Hoxton, where in his 1972 book on Devon that probably the best-known slate quarries in south Devon are those at Chalfont near the Kingsbridge railway, which provided slate for the many late Norman churches of the area. Also noteworthy are the slate quarries at Buckland Tintagel from which great quantities of slate were exported to Ireland in the 18th century, and the large quarries at Mill Hill, Torquay (still open today) from where slate was sent to France and the Channel Islands. Hoxton noted that the Devon slate tended to suffer with weathering, and by the middle of the 19th century many roofs had been replaced with the more durable Cornish slate from Duloe. Later in the 19th century, the development of the railway network meant that it was economical to import Welsh slate, which was, in Hoxton's forthright opinion, "a distinguishable and foreign material". Competition from the Welsh quarries and mines led to the gradual closure of Devon's slate quarries, and by the beginning of the 20th century only one or two survived.

Compared to the great number of open quarries and pits, there are, as far as I can establish, only four places in the southwest counties where slate has been mined. These are at Cornwall at Gampah and possibly in the cliffs between Tintagel and Torquay, and possibly at Tintagel, and in Devon at Penn Recca.

Recca. Before going on to explore the Devon mine in more detail, we will look at the others briefly. All the mines in the southwest worked slates which date from the Devonian period of earth history (416 to 359 million years ago), described in Chapter 1.

Campah Slate Quarry near Liskeard, now open as a tourist attraction, is the only slate mine in the southwest in approach to scale the underground workings of north Wales. The slates worked there are of Middle Devonian age, hard, blue, and well cleaned. Also in Cornwall, there are openings of underground slate workings in the cliffs between Tintagel and Torquay, and 'Hole Beach' is especially noted after an ash in the 18th which may have had underground workings. We cannot leave Cornwall without mentioning the famous large open pit workings at Duloe near Cornwall in north Cornwall where grey and greenish grey slates of Upper Devonian age are still worked.

Turning briefly to Somerset, there were quite extensive open slate workings at Tintagel, within part of the Ilminster Slates of Upper Devonian age, but the main quarry has long been filled with rubbish and closed, although extensive tips of waste slate remain through which there is a natural trail. It is possible that there were extensive workings underground as well as those of the large open-sky quarry.

Penn Recca is probably the only true slate mine in Devon but, as Anne Barn has noted, tunnels have been dug at several other quarries

in Devon for two main purposes: firstly to provide drainage from the quarry and secondly to make it easier to get access to the slate or to transport it from the quarry. At Buckland Tintagel quarry an ash 200 ft long was dug to drain water from the workings. Part of a tunnel can still be seen at Liskeard (SX 556 546), and may have been used for drainage but also for transporting slate out of the workings. A tunnel at Winkle Quarry (SX 780 422) was used for carrying slate out of the quarry. There is a tunnel from the bottom of the quarry at Gampah Quarry (SX 763 656). At Recca (SX 822 416) a short (1100) tunnel links the main quarry with a small adjacent working. The small quarry at Hole Farm (SX 546 465) was linked to the bottom of the steep lane to the valley below by a short tunnel. Finally, Anne Barn records that at Wood Farm near Liskeard (SX 605 577), a tunnel nearly 1000 ft long, links two parts of the quarry (now filled in).

The Penn Recca Slate Mine and quarries are situated in attractive hilly country, with far-reaching views in places, about one mile east of Buckfastleigh (photo 2.1). Here we find the fascinating remains of a slate quarrying and mining industry which spanned a period of over 500 years, from the earliest known reference to the industry in 1308, to the closure of the mine in 1958.

The surface remains occur in two areas. To the north are the main

Example of a double-page spread.