

Minerals and mines

Mining for lead and iron in Britain goes back to prehistoric times. It is thought that lead, which was abundant in the Mendips, was one of the assets that attracted the Romans to these islands.

In the 16th century another ore was mined, calamine - from which zinc can be extracted. Zinc combined with copper makes brass, a very useful alloy that was much in demand. The mines in Cleeve Wood, just north of the Combe, have been dated as 16th century. It is probable that they contained both lead and zinc, the two ores often being found together.

The brass making industry in the West Country reached a peak in the 18th century and was centred in and around Bristol. The industry declined in the 19th century, as did the lead / zinc mines of Mendip and Cleeve Wood.

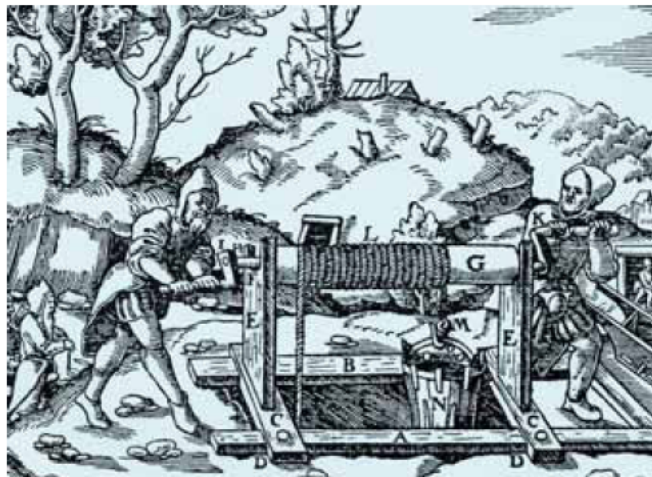
Some of the soils and the rocks in the Combe and in Cleeve Wood are stained red with iron oxides. Both iron ore and ochres (oxides of iron used to colour paint etc.) were mined in the local area.

right: In parts of Cleeve Wood there is evidence of extensive mine workings – lines of holes and hollows (shown in pink on map)



Under these holes there would once have been shafts following the vein of the ore.

centre panel: A 16th century manual on mining shows three stages of a mining operation – prospecting and taking rock samples; the use of a winch to lower a miner into the shaft and bring up ore; breaking up, sieving and sorting the ore.



illustrations from De Re Metallica by Georgius Agricola 1556 - with thanks to Chris Richards, North Somerset Museum



photo: Liz Milner

above: Iron in the woods - dark red soils indicate the presence of iron. Both ochres and iron ore were mined in the local area.



In King's Wood, a kilometer to the south, there were extensive iron mines. The remains can be seen from the public footpath.

left: Red ochre - iron oxide. Ochre from nearby Winford was world famous – it was even exported to Africa for body paint for the Masai tribe.

below: Goblin Combe in 1876 – far less wooded than it is now with great expanses of naked rock. There were limekilns, lead and calamine (zinc) mining as well as stone quarrying in or next to the Combe. All of these operations would have also consumed wood.



photo: by kind permission of Nick Baker

Stone and quarries

Before the coming of the railways nearly all buildings were built from local materials. In a limestone district there would be many local quarries supplying stone for building and roads. There would also be pits and small quarries supplying limestone for limekilns – for mortar, fertiliser and many other uses. There are the remains of several limekilns in Cleeve Wood.

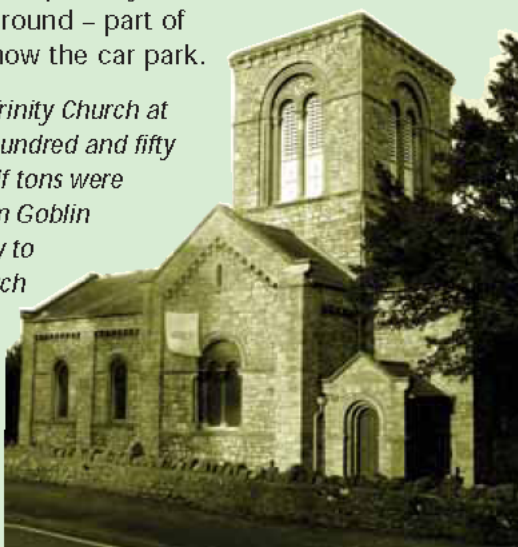
The history of the Goblin Combe car park illustrates a period of local history. In 1813 an Enclosure Act of Parliament took away what had been common land in Yatton and Cleeve and redistributed it to a group of landowners. This included a rocky hillside close to the mouth of Goblin Combe, which was allocated for quarrying.

The Act of Parliament stipulated that these landowners could use the stone from the quarry for their own needs as well as for repairing the new roads across the enclosed common land.

But in the 1920s it was discovered that stone from the quarry was being used to mend roads beyond the area specified by Parliament and quarrying was stopped by court action.

The quarry was partially filled in to make level ground – part of this area is now the car park.

below: Holy Trinity Church at Cleeve. One hundred and fifty one and a half tons were extracted from Goblin Combe quarry to build the church 1838 - 1840.



IPR/83-29C British Geographical Survey © NERC

left: The geology of Broadfield Down (whose best known occupier is Bristol International Airport) shows Carboniferous Limestone (in blue) emerging from the younger mudstones, marls and gravels (paler browns and pinks) of the flatter land that surround it.

The position of Goblin Combe is marked with a *. Broadfield Down is cut into by several combes, dry steep-sided valleys, caused by torrents of water pouring over and through the limestone in earlier geological periods.



illustration: Lindy Clark

far left: Diagonal or tilted strata, Carboniferous Limestone in Goblin Combe quarry. These are the layers of the remains of countless marine animals that lived around 350 million years ago.

These layers would, at one time, have been horizontal but the beds of rock have been heaved and buckled by enormous sideways pressures in the earth's crust.

left: Diagonal strata as it surfaces on top of Goblin Combe.



far left: Goblin Combe quarry. The vertical groove in the rock has been made by a rock drill. A charge of explosive was packed into one of these drilled holes and detonated. When this happened the village school (now home to Goblin Combe Environment Centre) would have to be evacuated. Teachers and children would have to shelter in the back playground as bits of rock were known to sometimes fly through the windows.



photos: Peter Milner

left: Yews growing through natural limestone scree in Goblin Combe. There is evidence in the lower parts of Goblin Combe to suggest that the natural scree were quarried for road stone.