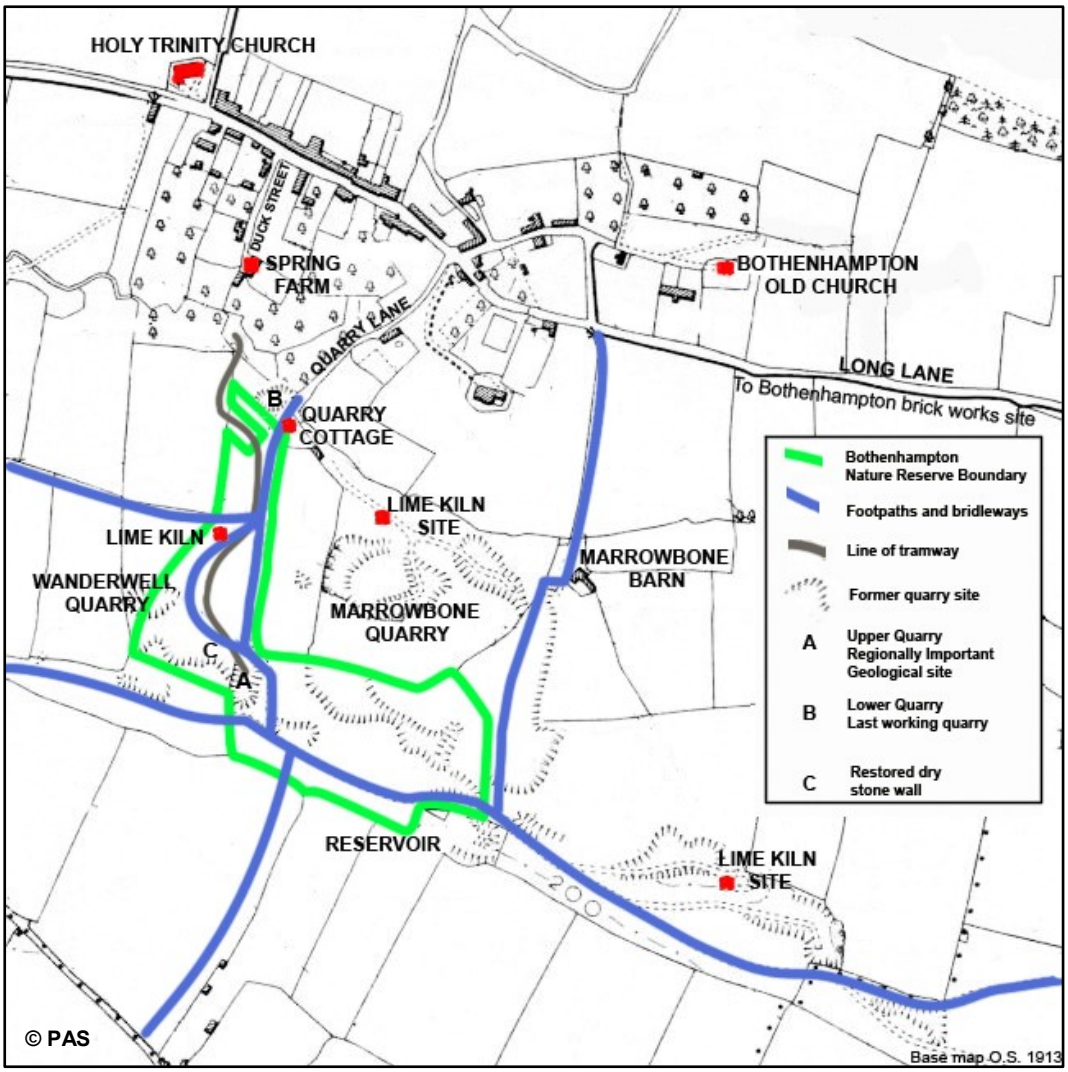
Wanderwell and the Bothenhampton Quarries



History

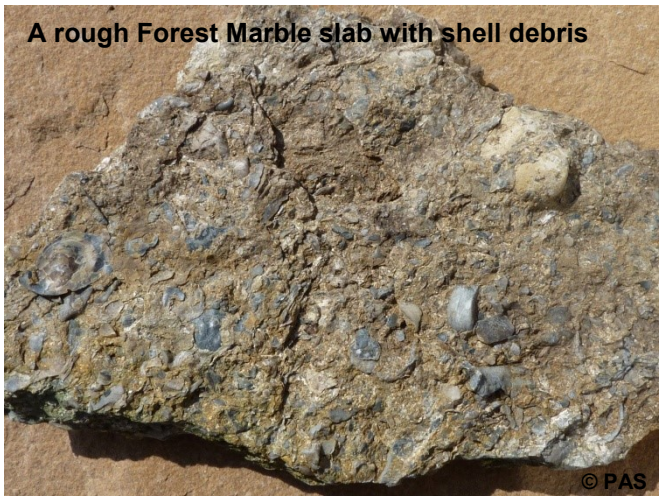
Wanderwell Quarry lies mainly within Bothenhampton Local Nature Reserve which also incorporates other sites where Forest Marble limestone was extracted as building stone. Quarrying has taken place on the hill south of Bothenhampton village since at least the 14th century when the stone was used in the construction of the chancel of Old Bothenhampton Church and The Chantry in South Street, Bridport. It continued until well into the 20th century. During this period some 12 quarries have at times been in operation, mainly small, and generally worked on a casual basis when stone was required. They were family concerns, the sites being leased or rented from the landowners and the stonemasons and labourers worked in farming or other occupations when demand ceased. None of the stone was exported beyond the immediate 10 kilometre radius area and its use depended on the local economy prevailing at the time, particularly the prosperity of the Bridport net, rope and twine trade.

Bothenhampton Old Church, 14th century

The greatest production was in the 17th, 18th and early 19th centuries but by the mid-19th century the number of working quarries had fallen to three. There was some revival when St Peter's Church at Eype was built in1864/65 and Holy Trinity, Bothenhampton between 1887 and 1890. By this time only two quarries, Wanderwell and Marrowbone, located 200 metres to the east of the Nature Reserve, remained supplemented by the development of Lower Quarry opposite Quarry Cottage at the end of Quarry Lane. The Cooper family who operated the quarries still employed eleven men in 1913 at Marrowbone. However the advent of the railway in 1857, which allowed bricks and concrete to be imported cheaply, and the development of brickworks in the Bridport area, especially that

at Long Lane, Bothenhampton from 1888, together with the exhaustion of the operating quarries caused the final demise in stone extraction. The quarries ceased commercial production in the early 1920s, although Mr Hicks, the last working stonemason, continued to produce some stone from Lower Quarry into the 1930s.

Quarrying



At Bothenhampton, quarries were created by digging horizontally into the hillside to allow easy access. The overburden of soil and loose rock was then cleared to expose the useful stone. Unfortunately the Forest Marble does not occur in continuous beds but as lenses because its geological origin in the Middle Jurassic Period was a series of shell banks surrounded by mud. Most of the beds could be easily worked with a pick, crowbar, wedge and lever, their distance apart controlling the height of the block. Vertical splitting of the blocks was achieved by using the natural jointing or by drilling holes and inserting a pair of half-rounded metal bars, called 'feathers', at the required width. An iron wedge or plug was hammered into the rock between each pair of 'feathers' until the rock split. This was repeated to give the correct size, although a stone saw was also used in the 19th and 20th centuries. The block was then squared off using a stone axe or given a rough finish with a stone hammer. Finally the quarryman marked the base to ensure it would be laid in the natural position and for him to be

paid. ‘Shear legs’, an ‘A’ frame with a hand winch, were used to lift the stone onto a horse-drawn cart to be taken for final dressing or storage during which time the rock naturally hardened. During the 20th century explosives were occasionally used to produce rubble rock.

Marrowbone Quarry, circa 1913
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Uses of the stone

Forest Marble is a shelly limestone with a calcium carbonate cement which gives it the strength and durability to be a good building stone and makes it impervious to water. It was therefore extensively used as foundations for domestic, commercial and functional buildings to prevent damp as well as the construction of cellar walls and floors. Often walls built of the more porous, local Inferior Oolite limestone, brick and mixed materials stand on a Forest Marble base as can be seen in South Street, Bridport where red brick rises above grey limestone. In consequence, despite transport costs, its use extended to Burton Bradstock, Charmouth, Loders, Shipton Gorge, Symondsbury and other nearby villages.

Inferior Oolite on a Forest Marble plinth, Symondsbury
© PAS

Brick on a Forest Marble plinth South St., Bridport
© PAS

The stone can be found in beds of varying thickness. The thicker ones were used to produce precisely squared ashlar or hammer dressed, roughly squared blocks ideal for the construction of houses, factories, churches, bridges, barns and boundary walls and with the advantage of resistance to atmospheric pollution. Thinner beds were used for rubble or rough shaped stone for houses with brick or rendering and for general walling. All the 17th to late 19th century buildings in Bothenhampton are of Forest Marble as are most 17th, 18th and early 19th century domestic and commercial buildings in Bridport, together with the 16th century Museum.


The high pavement
Middle St.
Bradpole
© PAS

Thin beds were widely used for paving as at Middle Street, Bradpole and for flagstones in houses. The thinnest siltstones were employed for roofing tiles for large houses and churches such as Beaminster in 1863. However the arrival of the railway in the 1850s brought this to an end as Welsh slate was both lighter and cheaper. Finally in the 20th century some of the rubble stone was crushed to form hard core for paths, tracks and roads.

The Lime Kiln

Stone quarrying generates enormous quantities of waste material and some of this was used to produce lime for agriculture to improve the soil and for mortar and lime wash for buildings. There were three lime kilns at Bothenhampton, all constructed in the late 18th or early 19th century but only that at Wanderwell survives. The walls are of Forest Marble and it is built typically into the valley side to insulate the brick pot. It was loaded with alternate layers of coal and limestone from the track above, the former being brought by cart from West Bay harbour or the railway at Bridport. The full pot was then fired from below and the stone burnt thoroughly by slow combustion. The quick lime was pulled out of the draw-hole at the base and up to fifteen tons could be produced per week. The lime kiln probably operated all year but the busiest times were in autumn and spring.


The Lime Kiln
© PAS

Formerly a stone-walled building was attached to the front with windows, a door and a sloping galvanised roof which met the kiln where the line of protruding stone still remains. The floor of this structure can be seen as the level area of lime mortar between the draw hole and the path. It allowed the lime burners to fire the kiln and to extract the volatile quick-lime under cover in all weathers, provided storage space for lime, tools and equipment and supplied a place to eat and shelter. The lime kiln was out of use by 1880 but re-opened around the beginning of the 20th century.

The Tramway

Wanderwell is unique among the Bothenhampton quarries in that, at the end of the 19th or early in the 20th century, a narrow gauge, low gradient, gravity tramway was installed with man-drawn side tipping trucks. Their shape suggests that they carried lime and rubble rock rather than building blocks which would have required flat bed trucks. The tramway (*see map for route*) probably started at the Upper Quarry, followed the eastern side of the valley to the lime kiln, left the present track just above the junction with the main path and continued around the hill, where the former track bed can be clearly seen to disappear under the gardens of Valley Road. Further down the bed emerges behind the Valley Road gardens onto private land and terminates at the bank on the south side of the stream. Here the trucks were off-loaded into carts at an area of hard standing and the lime or stone taken on a track over the stream to a yard with storage buildings, offices and workshop later taken over by Spring Farm Nurseries. Exit was via Duck Street. Adjacent to the yard, Spring Farm was then a pair of quarrymens' cottages and a further pair occupied the site of a nearby modern house. Other former quarrymens' cottages are located in Bothenhampton village.

Quarry Cottage

Although adjacent to the exits from both Wanderwell and Marrowbone quarries, Quarry Cottage was not built in the late 18th century for quarrying purposes but as a Church property in whose hands it remained until 1903. However it was rented to the Meech family in the 19th century who were then the quarry operators at Wanderwell and later occupied by Mr Hicks who produced the last Bothenhampton stone in the 1930s.

After the Quarries

Although Wanderwell Quarry and the lime kiln had not operated commercially since the 1920s, it was sold as a going concern in 1945. However neither were re-opened. During the 1950s the area consisted of rough grazing for cattle and horses and the drystone wall field boundaries are still evident especially towards the southern end of the Nature Reserve. The remains of cast iron pipes visible between the lime kiln and the head of the upper quarry probably served the water troughs there. Scrub, bramble and trees gradually took over and, after a brief period when game birds were raised, the site became derelict. The building in front of the lime kiln was demolished and the stone taken away. Further east Marrowbone Quarry was filled in, the lime kiln there razed and the ground landscaped in the 1970s so that only a slight indentation in the large field indicates its former presence. Towards the top of the ridge, east of the Reservoir, the two quarries with high back walls and lime kiln were similarly infilled and landscaped into a large grass field. Agriculture had replaced quarrying.

It was not until the late 20th century that Wanderwell Quarry was transformed. During 1993/94 the lime kiln was restored by Dorset County Council. In 1994 Bothenhampton Local Nature Reserve was established. In 1996 the Upper Quarry was registered as a Regionally Important Geological Site (R.I.G.S.) due to its geological and educational interest and important local industrial history. Shortly after, the drystone wall running up the western slope was restored.

Lower Quarry opposite Quarry Cottage and on private land was partly infilled in the late 20th century, the original floor being 3-5 metres below the present surface. The steep, irregular and unstable bank to the stream here is formed from the overburden removed in the late 19th century to expose the building stone then quarried.

In the 21st century the Nature Reserve is being managed by Dorset Countryside with a team of volunteers on behalf of Dorset County Council. The RIGS site is managed by Dorset's Important Geological Sites (D.I.G.S.) Group. Both have an interest in the lime kiln.

Forest Marble exposure, Upper Quarry Local Geological Site.

The R.I.G.S. scheme was initiated by English Nature (now Natural England) in 1993 to supplement Sites of Special Scientific Interest. The sites are now known as Local Geological Sites. They are sites which are accessible to the public with the co-operation of the landowner and have particular scientific, educational and historical significance.

Bothenhampton Brick Works

This fifteen acre site exploiting an area of Kellaway's beds and Oxford Clay has close associations with the Forest Marble quarries. The Works which were only just over a mile away off Long Lane, Bothenhampton, were established in 1888 by the same Cooper family who operated Wanderwell and Marrowbone Quarries. It may also be that the Wanderwell narrow gauge tramway, with its side-tipping trucks, were relocated there in the 1920s. During the 20th century the Brick Works reached an average production of 750,000 bricks per annum and many buildings throughout Bridport and the surrounding villages display the distinctive red coloured bricks indicative of this site. Production ended in 1952 due to the exhaustion of good quality clay, high transport costs and competition from large manufacturers. The site became a landfill until 2000 when it was landscaped and its former presence is only identifiable by a methane extractor.

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