

# ST FAGANS BUILDINGS STONE TRAIL

Click on the 'icons' to find out more....

A wide range of interesting and attractive stones can be found in the buildings of St. Fagans village.

This walk includes three disused quarries, and where and how stone from these quarries have been used in local buildings and walls.

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## KEY



Stone Trail



Path Network



Directional signage



St Fagans Castle and Gardens



Coed Bychan Quarry



Greenwood Quarries



Stone walls



Church of St Mary's



Stone Drinking Fountain



Plymouth Great Wood Quarry





# Trail Start

From the end of Bwlch Road, the Ely Trail continues up the valley, running behind some houses before rejoining the banks of the River Ely. Continue along this path until you pass through a metal kissing gate and into a large sloping field. Leave the Ely Trail at this point, taking the footpath that heads diagonally up the hill. At the top of the hill the path passes through some scrub, up a set of concrete steps and onto the side of Cardiff Road between St Fagans and Fairwater. Turn right and walk along the footpath for about 100m, then cross over the road to take the footpath that passes through a metal kissing gate before climbing up the hill into Coed Bychan woods. At the top of the hill, as the path levels out, take the path branching off to the right, into Coed Bychan Quarry, Stop 1 on the trail.

📍 Kissing gate into Coed Bychan Woods



📍 Ely Trail



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## Stop 1. Coed Bychan Quarry

Lying just above the main footpath, Coed Bychan Quarry is the largest of several quarries around St Fagans. The quarry walls are made of a pile of irregular layers of rock, each a slightly different shape and thickness. This rock is called limestone and was formed from the accumulation of layer upon layer of mud, rich in the mineral calcite (calcium carbonate), in warm shallow tropical seas. Each limestone layer is separated from those above and below by a thin layer of mudstone, which is rich in clay minerals. The change in make up of the layers reflects changes in the environment at the time of deposition and possibly even climatic change.

This distinctive sequence of limestone and mudstone is called Blue Lias, formed in Jurassic times, between 200 and 190 million years ago. Although not obvious at this quarry, you can often find fossilised sea creatures in these rocks, including ammonites and oyster-like shells.

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# Coed Bychan Quarry

The seas in which the rocks were formed would also have been home to fossil marine reptiles such as ichthyosaurs, and fossil bones from these animals can sometimes be identified. One of the best fossil-hunting localities in the South Wales area is along the Vale of Glamorgan coast, where Blue Lias limestone is exposed dramatically in the cliffs.

Retrace your steps to return to the main path, and turn right. As the path passes the western end of the quarry, look to your left. Underneath the path are two circular stone-built structures. These are old lime kilns which can be viewed by descending from the path slightly.

The lime kilns give the first clue as to how the stone from the quarry was used. The calcium carbonate in the limestone is useful to farmers, but first it needs to be processed. To do this, the rocks must be heated to great temperatures (around 1000°C), to change the calcium carbonate into calcium oxide, known as lime (or quicklime). Farmers spread the lime on their fields to increase their crop yields. The kilns may have also been used to produce lime mortar used for pointing and rendering, as evidenced by the group of estate buildings clustered below St. Fagans Castle. Modern factory produced materials mean that small kilns like these are no longer used.

From Coed Bychan Quarry and the lime kilns, continue along the footpath as it heads westwards into the woods. Continue past the circular brick remains of an old water reservoir associated with St. Fagans Castle, and 200m beyond this the path splits into two, either side of a fencepost. Take the left hand fork, and the path descends down into the floor of one of the Greenwood Quarries. This is Stop 2.

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📍 Lime Kilns



📍 Limestone walls





A photograph of a wooded hillside. In the foreground, there are many bare, thin tree branches and some fallen logs covered in moss. The ground is covered with dry leaves and some green plants. In the background, there is a stone wall and more trees. The sky is overcast.

📍 Blue Lias rocks with their characteristic layered appearance



## Stop 2. Greenwood Quarries

This quarry is one of two that were dug either side of Greenwood Lane, which used to extend much further up the hill than it currently does. The Greenwood Quarries are much smaller than Coed Bychan Quarry, but operated at about the same time with active stone extraction between 1840 and 1880. The quarry faces to your right, in amongst the trees, can be difficult to spot, so take care if straying from the footpaths. The same Blue Lias rocks are exposed here, easily identified by their characteristic layered appearance of alternating pale yellow and grey colour. These quarries once had lime kilns too, but have long since been destroyed. The close proximity of these quarries to the village of St Fagans gives a clue to the second use to which Blue Lias has been put in the local area –building stones.

Continue along the path through the quarry area. Cross the remnants of a low stone wall and turn left, heading down the hill alongside a modern garden wall. Cross over the residential street of St Fagans Drive and down the flight of steps onto Greenwood Lane. The stone walls and residential buildings on either side of this lane at this point form Stop 3 on the trail.

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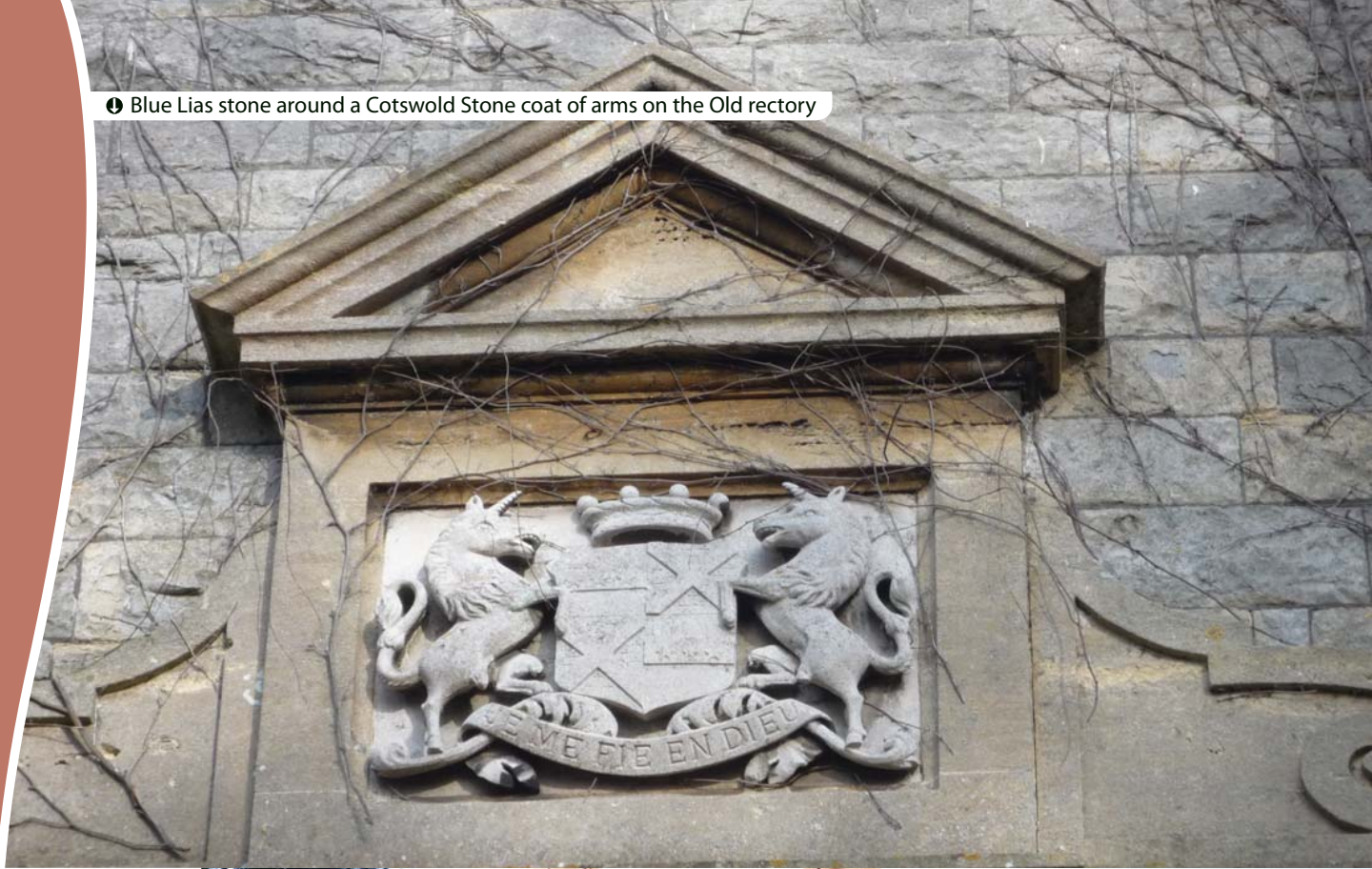
## Stop 3. Stone Walls

Radcliffe Lodge and The Old Rectory are privately owned houses. Please respect the owner's privacy and property by viewing from the public road only.

The walls on either side of Greenwood Lane show the Blue Lias used as building stone. As you continue through the village, you will notice that all the old buildings are built using Blue Lias limestone as it was prized as a building stone because it splits naturally into distinctive layers. Joints within the layers easily form blocks for building stones that then required only minimal shaping. When fractured the blue-grey colour of the un-weathered stone becomes obvious, and the name Blue Lias suddenly seems more appropriate.

Set back from Greenwood Lane to the right is The Old Rectory, built with stone walls of coursed, squared, Lias limestone with Bath Stone dressings in 1859 by Reverend W. David. It is highly likely that the Lias stone used for its construction came from Greenwood Quarries just up the lane. It is probable that the walls on either side of the lane were constructed at a similar time.


Blue Lias stone around a Cotswold Stone coat of arms on the Old rectory



Radcliffe Lodge

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Stone wall along Greenwood Lane



## Stone Walls

Look carefully at the walls on either side of the lane and you will notice that, whilst the majority of the building stone is made up of the same Blue Lias limestone, there are occasional building stones that look completely different. You should be able to spot a number of red stones, some of them containing pebbles. These stones are Triassic in age and have come from Plymouth Great Wood Quarry on the other side of the Ely Valley (see Stop 7 for more details on the origins of this striking red rock). Together the red Triassic rocks from Plymouth Great Wood and the Blue Lias from Coed Bychan & Greenwood Quarries make up the majority of the stone used to build the old heart of St Fagans. This is typical of building methods at a time when transport of heavy goods such as stone was extremely expensive and labour was relatively cheap to extract the stone locally.

Continue down Greenwood Lane until you reach St Mary's Church, Stop 4 on the trail. Enter the churchyard by the small gate on your left.

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## Stop 4. St Mary's Church

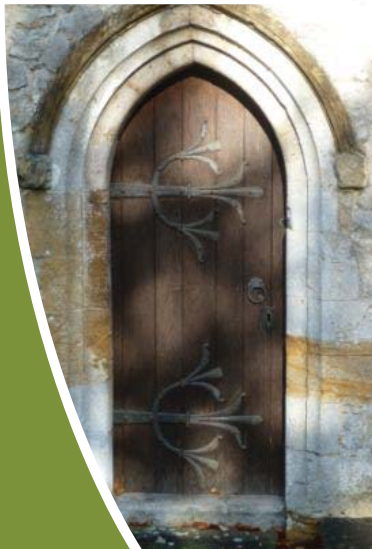
The church itself is, like the rest of the village, mostly made of Blue Lias, but if you look carefully you will also see the odd Triassic sandstone and conglomerate from across the valley too. Very occasionally you can also spot a sandstone that looks very similar to the Triassic rock, but is much more purple in colour and much harder. This is Old Red Sandstone which, as the name suggests, is much older than the other rocks used in the church. It is also relatively local in origin, but comes from slightly farther afield, with the nearest quarry at Tongwynlais, to the north.

In addition to these three local rocks, there are a number of exotic ones to be seen in the church and churchyard, which have come from even farther away. You will notice that the stone around the windows and doors looks different from the stones seen in St Fagans so far. This honey-coloured stone is reminiscent of the streets of Bath, and for good reason: It is Cotswold Limestone, imported to bring a touch of glamour; indicative of the importance of the church to those constructing it, and also of their wealth. There is also a practical purpose behind using Cotswold limestone, as it is sufficiently strong to form dressings and can also be carved into three dimensional sculpture.

📍 Church of St. Mary's the Blessed Virgin



📍 Cotswold Stone Door detail



📍 Spot the Old Red Stone



📍 Cotswold Stone Window detail



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📍 Lych-gate



📍 Exotic stones can be seen in the churchyard



## St Mary's Church

It is recorded that the church was restored in 1860, and it is probable that building stone was taken from both Greenwood and Coed Bychan Quarries for this purpose.

Several gravestones within the churchyard give examples of types of granite and other rocks that are not found in the local area, or even within Wales! In many cases they may have originated from overseas. In recent times such exotic rocks are relatively commonplace, but in the nineteenth and early twentieth century the use of such rocks for gravestones would have represented great wealth.

Walking through the lych-gate at the front of the church, cross the road and enter the grounds of St Fagans Castle through the gate in the wall. This is Stop 5 on the trail, which is only accessible during opening hours of the St Fagans Museum.

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## Stop 5. St Fagans Castle

This stop provides a further chance to admire the Blue Lias stonework typical of the village, with its occasional red Triassic stones which appear randomly within the wall. The stone mullioned windows of the Castle are surrounded by what is believed to be Cotswold Stone. One notably exotic stone can be seen in the entrance porch of the castle. The commemorative plaque marking the opening of the castle as a museum is made of travertine marble. Traditionally, travertine used in the UK would have originated from quarries to the east of Rome, but there are also now large travertine quarries in Iran and Mexico, amongst others.

Return back through the gate, leaving St Fagans Castle. Turn right and look across the road t-junction to the left where the former village school can be seen, now converted into houses. This school was built from stone quarried in Coed Bychan Quarry in 1860, and it had an initial roll of 111 children. Turn right at the road junction and look to your right. Just as the road starts to descend you will see the Stone Drinking Fountain set into the stone castle walls. This is Stop 6

St Fagans Castle - National History Museum



Former Village School



Commemorative stone plaque



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## Stop 6. Stone Drinking Fountain


This well is recorded as a source of village drinking water in several historic records, with mains water not brought to the village until 1938. The drinking fountain dates from the late 19th century made using local materials. The two decorative columns running down either side of the fountain have been shaped from the Triassic conglomerate that originates from Plymouth Great Wood Quarry (see stop 7).


Continue down the road, at the foot of the hill cross the road and walk down the sign-posted track to rejoin the very end of the Ely Trail. Follow this track past the sewage works and across the field. After about 1km you will reach the point at which you left the Ely Trail.

Alternatively, there is an extension to the building stone trail that takes in Plymouth Great Wood Quarry. This route takes you to the quarry at which point you retrace your steps to this point. Cross the railway using the level crossing, then after 20m take the public footpath on your left, into Plymouth Great Wood. Once in the wood walk through the remnants of the iron railings and then take the track heading up the hill. Plymouth Great Wood Quarry lies at the upper edge of the wood, just above the track. This is Stop 7.

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 Pebbles make up the majority of the rock in the Quarry



## Stop 7. Plymouth Great Wood Quarry

This quarry was opened to provide stone for building the railway through the valley. The type of stone exposed in the quarry is known locally as Radyr Stone, because it was also quarried in the Radyr area. Although this seems an unlikely place (as there is no limestone in the quarry), there are the possible remains of a lime kiln at the entrance to the quarry site. It may be that limestone was brought here from across the valley.

These rocks were laid down in the Triassic Period, approximately 210 million years ago, older than the Blue Lias limestone. The rocks are red in colour, indicating that they were formed on the land rather than under the sea. The quarry also contains some sandstone, but most of the faces comprise conglomerate – a rock made up of pebbles of other rocks.

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# Plymouth Great Wood Quarry

In Triassic times this area of South Wales lay between hills and a lagoon within a semi-arid desert. Drought was punctuated by heavy rainfall. This rain formed deep ravines; washing pebbles and sometimes boulders down from the hills towards the lagoon (you can see an example of a boulder in the centre of the quarry, towards the top). Over time these pebbles and boulders were slowly buried, forming the rock seen today.

Two types of pebbles can be seen, indicating that two types of rock were being eroded and deposited at the ravine mouth in Triassic times. Most of the pebbles in this quarry are red sandstone, Devonian in age (approximately 370 million years old). There are also occasional grey limestone pebbles, from the Carboniferous rocks (about 360 million old).

Can you find one of the grey pebbles in amongst all the red ones?

📍 Plymouth Great Wood Quarry



📍 In Triassic times the area of St Fagans was a dry desert-like environment



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