



**Bull's Hill Top Quarry
Geology Report – March 2020
Draft Part 1a**



**Registered Charity No 1144354
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Registered Office: Geological Records Centre, University of Worcester, Henwick
Grove, Worcester WR2 6AJ.**

General Features of the quarry

The small disused quarry which is situated on the north-west facing slope of Bulls Hill, above Cherry Tree Lane was visited on 1st February 2020. The quarry is located on a steep slope and previously worked into the hillside. The upper face of the back wall is still exposed, the rest now covered in debris and /or vegetation. From the vegetation it is likely that the quarry ceased work at least 75-100 years ago.

The current back wall face is alighted along the hillside just east of north (005°). The exposure is some 3.5m high by about 12m wide, with another 1m exposure above the main back wall set further back into the hillside. The original face must have been at least some 10m high. The dip and strike are variable due to the uneven nature of the bedding planes (Strike approx. 175° and a dip of 2-14° SW).

Main face details



Figure 1. Main face of Bull's Head Top Quarry. The three different rock types present are labelled 1-3. See log below for details. X= cross bedding.

Rock Type	Thickness	Description
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Sandstone	Approx. 30cm	Tan coloured medium grained well-sorted mature sandstone. Quartz grains clear, sub-angular to rounded, with occasional larger grains (up to 3cm). Occasional smaller muscovite flakes and dark minerals. Likely to be classified as a quartz arenite.
Exposure gap		
Pebbly Sandstone Horizon 3	90cm	Massive sandstone horizon, containing frequent well rounded pebbles up to 5cm in length. Mainly white coloured with occasional brown and dark pebbles
Cross bedded Sandstone Horizon 2	60cm	Tan coloured medium grained well-sorted mature sandstone. Composed of clear quartz grains (sub-angular to rounded) with minor muscovite, dark and brown grains. Most joints, surfaces and some specific oval shaped areas are reddish coloured. This is a secondary alteration due to the presence of iron. Frequent cross-bedding was noted (X). This is a common sedimentary structure found in sandstones deposited by fast flowing rivers.
Sandy Shale Horizon 1	15cm	Reddish coloured sandy shale.

Table 1. Detailed log of the main face.

Local geology

The rocks seen in the quarry were formed from sedimentary material laid down by rivers, towards the end of the geological time period known as the Devonian. They are part of the Tintern Sandstone Formation that was laid down during the Upper Devonian some 370 million years ago.

The oldest rocks of the Upper Devonian Period, seen in Herefordshire, are called the Quartz Conglomerate Formation. They underlie the Tintern Sandstone Formation. On Bull's Hill they can be seen in the cliff beside the footpath below 'The Rocks' on Cherry Tree lane (Figure 2). The younger Tintern Sandstone Formation overlies the older Quartz Conglomerate and is exposed in the quarry.

Above the quarry, almost coincident with the upper boundary of the site, the grass covered land in the field slopes much more gently. This change of both vegetation and slope of the land is likely to mark an underlying major change of geology from the Devonian Period rocks deposited on land to the overlying marine Carboniferous rocks. These are part of the Avon Group, which is composed of mudstone, shales and thin limestone horizons deposited in a coastal marine environment.



Figure 2. The Quartz Conglomerate below 'The Rocks'