

Geological Heritage

# **Red Lane Quarry.** Abbotsbury

Abbotsbury village

### Village History

The village of Abbotsbury, Dorset, grew up around a Benedictine abbey founded in the middle of the 11<sup>th</sup> century. Many of the buildings in the village are made of stone from local quarries mainly Corallian limestone. After the dissolution of the monasteries in the reign of Henry VIII the monastic lands came to Giles Strangways of Melbury Sampford and they have been in the family ever since as part of the llchester Estates. Although there are sparse ruins of the Abbey church to the south of the parish church, the Swannery which was started by the early monks, and the Tithe Barn are maintained today by the Estate as tourist attractions.

## Access and location of Red Lane Quarry

Red Lane is on the north side of the main street in Abbotsbury (SY 575 855). The 19<sup>th</sup> century ironstone working is a registered Regionally Important Geological Site. There is permissive access to a recently cleared ironstone exposure on the left hand side beyond the open space.

#### Geology

The Abbotsbury Ironstone forms the earliest strata of the Kimmeridgian Stage in the Upper Jurassic Period. The outcrop is very limited in extent and only outcrops in the locality of the village of Abbotsbury. Attempts to

mine the deposits commercially in the 19<sup>th</sup> century failed as the ore contained too much silica and other undesirable impurities. A branch line railway linking Abbotsbury to Weymouth was built on the promise of a successful outcome but this was never a profitable venture.



Although the ironstone was found to be unsuitable for smelting, it was a useful building stone in local houses.



Abbotsbury lies in the hollow of a syncline (U shaped fold). Corallian Group rocks (Sandsfoot Grit, Osmington Oolite) form the hills to the south of the village. The Abbotsbury Ironstone underlies the village itself and is seen at the surface on the north side of Chapel Hill to the south of the village, and the fields immediately to the north of the village. The outcrop ceases abruptly where it meets the Abbotsbury Fault. A large landslip of Upper Greensand covers most of the fields immediately to the north of the fault so that the underlying Forest Marble is only visible in a few places.



#### The ironstone





the iron silicate mineral berthierine. The bertheirine is present as spheroidal concretions called ooids, and as discrete particles in the fine grained guartz sandstone matrix. The deposit is thought to have formed in a marine near-shore environment saturated with iron salts, possibly a barrier bar where gentle wave action rolled the ooids around building up concentric layers of iron minerals. PAS 2010

Section through the strata at Abbotsbury (M. Cosgrove)

The ironstone seen at the surface is oxidised and is a brick red colour due to oxidation of the iron minerals in the ore. Un-oxidised ironstone is dark green due to the presence of