

# Kenilworth's Story in Stone



1 *Kenilworth Castle*



2 *Abbey Gatehouse*

## Kenilworth Sandstone

Many buildings in Old Kenilworth, notably the Castle (photo 1), the Abbey (photo 2) and St. Nicholas Church, are built of the local Kenilworth Sandstone. This reddish stone was used for houses and walls from Norman times up to the nineteenth century. Kenilworth Sandstone was laid down about 275 million years ago during the Permian period when Britain was c.15° north of the Equator. It was deposited in a tropical, semi-desert environment, like parts of northern Nigeria today. Iron oxides coating the grains give the rock its red/brown colour.

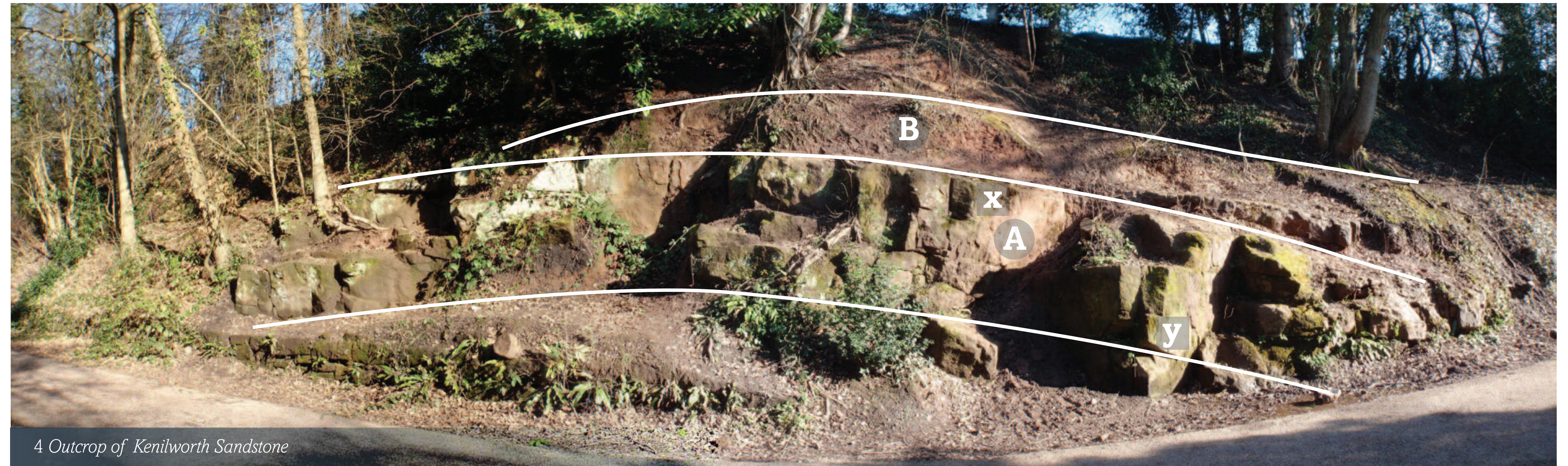


3 *Railway cutting in use.*

*Location of exposed outcrop*

## The Railway

The Kenilworth to Berkswell branch line, opened in 1884, cut through the Kenilworth Sandstone between Common Lane and the Coventry Road, revealing a fine rock section 6m deep in places (photo 3). After closure in 1969, the cutting became overgrown but was cleared in 2009 to create the cycle route.



4 *Outcrop of Kenilworth Sandstone*

## What can we see?

The outcrop (photo 4) consists of beds of mudstone (originally mud) and sandstone (originally sand).

- Bed A is a thick bed of sandstone
- Follow the surface above Bed A – this is a bedding plane at the top of the sandstone and is gently arched.
- See how this bedding plane drops away to right and to left
- A bed of mudstone (Bed B) (now weathering and eroding) overlies the sandstone
- In the centre of the section at 'X' the bedding planes dip (slope) into the section at 10° away from you into the hill slope.
- In places e.g. at 'Y' thin beds dip at steep angles (15°) away from you (i.e. to the south-east); this is an example of 'cross-bedding'

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This outcrop tells a story of when Kenilworth lay just north of the Equator in a semi-desert climate with marked wet and dry seasons. The rivers were seasonal. When it rained, the river moved a lot of sand which it laid

## What does the outcrop tell us?

- The cross-bedding and the shape of the sand grains (photo 6) tell us that the sands were moved by a river flowing away from you. So, imagine you are standing in the bed of this river . . .
- Bed A is an upstanding sand bar with river channels to either side.
- At times flow slowed down (Bed B) and muds were laid down in the channels as drapes over the sand.

down as sand bars, but with the main flow in channels on either side. In the dry season, flow almost ceased exposing the sand bar and then muds settled out in the channels

## Where were the building stone quarries?

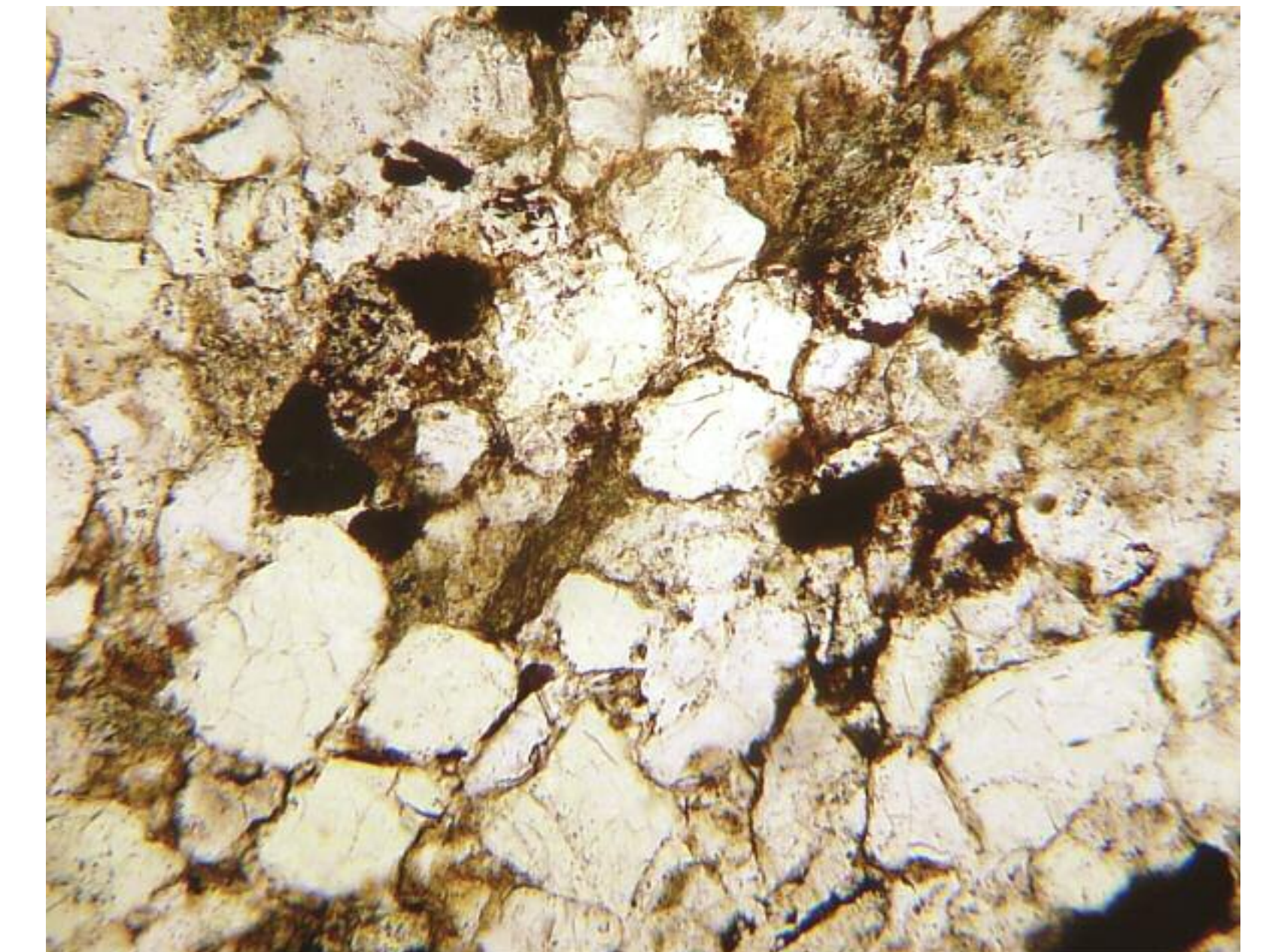
Until the coming of the canals and railways, building stone was always quarried very locally. In Kenilworth, the red sandstone only occurs north of Abbey Hill. The known and possible quarries are shown on this map (figure 5). By the end of the 19th century almost all the stone quarries had fallen out of use and were overgrown or backfilled.



This rock exposure has been interpreted by the Warwickshire Geological Conservation Group (WCGG). WCGG runs a programme of talks, field trips and conservation work. If you would like to join or obtain more information, visit [wgcg.co.uk](http://wgcg.co.uk)



5 *Location of sandstone quarries*



6 *Sandstone under the microscope*

## The stone under a microscope

The pale objects are sand grains in the Kenilworth Sandstone seen under a microscope (photo 6). They are covered by a very thin layer of iron oxide which shows brown in the picture. They are all much the same size (1/10 to 1/20 mm). When all the grains are a similar size we know they have been moved by wind or rivers. Wind-blown sand grains are spherical. Grains, like these, which are slightly angular but with most of the corners rounded off are river deposits



7 *Cross-bedding in sandstone*

## Cross-bedding of sandstones

The slope of the beds of sand in cross-bedding shows in which direction the water was flowing (photo 7).