

Lime kilns in the Erme estuary

Lime kilns, belching acrid fumes, were a common feature of the South Devon landscape in the 18th and 19th centuries. Today, the remains of about a hundred are scattered across the South Devon countryside, with three in the Erme estuary alone.

At the Erme's mouth the remains of an 18th-century lime kiln nestles in the rocks at the southern end of Wonwell Beach. Coastal erosion has removed about half the lime kiln's structure, revealing its 'double skin' of curved walls surrounding a chamber.

A lime kiln was effectively a furnace, fuelled by coal and fed with limestone, rich in calcium carbonate. At temperatures above 800°C the limestone was gradually turned into lime (calcium oxide).

To load the lime kiln, vessels carrying limestone and coal were beached on the high tide, their cargoes loaded onto carts and then emptied into the top of the kiln in alternating layers. A wood fire at the bottom started the process, with the 'burn' taking at least three days. The lime was shovelled out at the bottom and packed into wooden casks.

The lime had two main uses. It could be 'slaked' by carefully adding water in controlled amounts. This would turn the lime into calcium hydroxide used in traditional mortar, plaster and limewash. Even today, these materials are still used in repairing and renovating listed buildings.

Alternatively, local farmers spread and harrowed the untreated lime into their fields, allowing the wet soil to naturally 'slake' the lime. This had the effect of lowering the acidity of the soil, so enabling plant crops to absorb nutrients more readily and effectively improving the soil's fertility.

Running a lime kiln was dangerous and unpleasant. The labourers, called limeburners, worked long hours at high temperatures, shovelling heavy loads into and out of the kiln. The inhaled smoke could cause lung damage and the fumes, reacting with sweat, could produce chemical burns.

With the development of railway infrastructure in the late 19th century, large lime kilns were built alongside limestone quarries, with coal transported to the site by rail. Smaller lime kilns, such as the one at Wonwell, were phased out, falling into disuse by the early 20th century.

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