

Lime was a material much in demand, and Bridgend County had plenty of limestone from which to produce it, but not until the 17th century was it first produced on a commercial basis.

Working the Lime

Lime is a product which has played an important but largely unsung part in the history of our country. Builders used it to make mortar, plaster and whitewash with which to finish houses and buildings with “a lick of paint”. The iron and steel industry added large quantities to iron ore as part of the smelting process, whilst in agriculture it was spread across the fields to “sweeten” and fertilize the land.

Here in Bridgend County most of the land on the coastal plain overlies limestone rock so the raw material for creating lime has always been readily available, but until the 17th century the quantity produced was severely limited by the lack of a suitable fuel to fire the kilns used in its production. Although peat could be used, wood or charcoal was normally the preferred option, and once lit the kilns were kept burning for several days in order to break the rock down into powder. So to produce just a ton of lime required large quantities of timber were needed, and historically our coastal area was not very heavily wooded. In the Elizabethan era, for example, it is recorded that the district around Newton and Stormy Downs was noted as having the least amount of growing timber anywhere in Glamorgan. Lime was therefore expensive to produce, and the quantities small.



Remains of a lime kiln at Weobley Castle, Gower

Change came about the middle of the 17th century with the first tentative exploitation of the coal measures along the northern fringes of the limestone district. Kilns could be operated using inferior (and therefore cheaper) “lime coal” and in lesser quantities than either timber or charcoal. Suddenly lime production mushroomed throughout the area. In the district around Pyle and Kenfig those farmers who were tenants of the Margam estate, probably with

encouragement from their landlord, began producing lime from stone quarried on their own land.

In return for permission to open a quarry the estate required them to perform a service known 'lime duty' which involved the haulage of a specified amount of lime produced by the estate itself to certain locations every year as and when required. Throughout the 1660s and 70s the growth in the number of tenants availing themselves of this option increased rapidly as is apparent from the Margam rental rolls of the time.

Whilst many of these farmers made use of 'lime coal' to fire their kilns, others nevertheless seem to have opted to produce charcoal from the timber resources on their land. For this Margam charged a 'coal duty' which was imposed on a similar basis as the one for lime.

Lime produced under these agreements could only however be used on those lands the tenant rented from Margam itself, and anyone wishing to produce a surplus for sale had to pay an additional fee in cash. With farmers on the lime-free lands away from the coast clamouring for a supply of the fertilizer, it was not long before small kilns operating on a commercial basis began appearing on the waste land of Stormy Down. By 1670 the Margam estate was issuing as many as thirty licences a year permitting the production of lime on common land in the manors of Stormy and Horgrove alone.



Remains of a limekiln from Co Kerry, Southern Ireland.

These early operations generally involved a partnership of just two men, though occasionally a third is mentioned, the latter apparently being a 'sleeping partner' who provided funding for the venture. The quarryman in the partnership excavated the stone and broke it down into pieces about the size of a fist, whilst the burner built the kiln then loaded it with this raw material. Once full he lit the furnace at the base and then tended it day and night until the process was complete and the lime could be drawn out through the furnace opening.

Although I field-walked this area extensively, and identified the sites of several of these former kilns, none remained sufficiently intact to give some idea of what they looked like other than the fact that they were roughly circular. It would seem however that in appearance they were similar in form to the two examples illustrated in the photographs above - one from Weobley Castle in Gower, and the other, cruder, example (which is probably more akin to those on Stormy Down) from Southern Ireland.

Normally kiln and quarry were situated alongside a road or track so as to provide easy access for carts and wagons delivering the coal and taking away the finished product. In some instances this proximity did not sit well with the local inhabitants and complaints against the operators were frequently aired at the manorial courts. "Dangerous for man or beast to pass that way" grumbled the Stormy jury regarding the manner in which one quarry was being operated in 1684. In 1709 the kiln attached to another quarry, probably in the vicinity of Laleston, had actually been built on the main road itself, and before agreeing to renew the operators' licence the Margam estate insisted that it be removed to another location because of the obstruction to the traffic.

Add to this the fact that "quick lime" fresh from the kiln is a highly volatile substance, these early lime-works must have been very dangerous places indeed! When water is added to lime fresh from the kiln a chemical reaction starts, the lime heating up and causing any small un-burnt nodules to explode. It was not unknown for a wagon-load of lime on its way from the kiln to actually catch fire in a shower of rain because the carter had failed to sheet it properly.



"The Blue Lagoon" – an abandoned and flooded quarry near South Cornelly

The produce from these early kilns was intended for use in agriculture and building, but with the arrival of the Industrial Revolution and the construction of iron works further inland these small scale workings were replaced by large scale commercial ventures aimed at producing lime in huge quantities. By 1850 iron smelters were operating at Kenfig Hill; Cefn Cribwr; Aberkenfig; and Maesteg, and when these declined towards the end of the century, demand was continued by the steelworks at Port Talbot and Briton Ferry.

Huge limestone quarries with their associated kilns therefore began appearing on Stormy Down, notably towards the western end around the

village of South Cornelly. Here many of us can still remember how the trees, hedges, and houses were almost perpetually shrouded in a film of off-white dust! How the local people coped with such incessant pollution one can only imagine, but today just a single quarry remains in production and strict pollution levels are in force. Gradually too the scars to the landscape created by its predecessors are being tidied away through landfill and planting schemes and the quality of life for its residents has at last been improved.



Modern lime-works at Pant Mawr, South Cornelly.