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Delve Deeper

Wendron: Ghosts of mining amidst peaceful pastures

Wendron Mining District

If you wish to delve deeper into the history of Wendron's links with Cornish Mining then this short guide will provide you with more information.

As you explore Wendron's quiet farmland or walk along its tinkling streams, it's easy to feel like you've stepped back in time. But if you did step back 150 years or so, you would find yourself in a very different landscape – a noisy, dirty, smoky industrial area. The parish of Wendron is one of the oldest mining districts in Cornwall and the Cober Valley was one of the most important tin streaming areas.

Tin streaming has been important in the area since medieval times. Then, from the late 1700s, Wendron became part of the Cornish mining boom – the parish had very rich deposits of tin. For this reason, Wendron is one of the ten areas of the Cornish Mining World Heritage Site.

More than 800 people were employed in the parish in 1870. Yet by 1880, Wendron's mining industry, like that of other Cornish districts, had utterly collapsed due to foreign competition.

TIN STREAMING – WENDRON'S EARLIEST INDUSTRY

Why was tin in streams?

Cornwall's granite contains near vertical veins (lodes) of minerals such as tin, copper and tungsten. In the Wendron district, the tin lodes were narrow and close to the surface, allowing early miners to dig it out.

Erosion of the rocks carried deposits of tin ore downstream to the valley bottoms. There it was buried in sands and gravel.



Tin stream at Portreath.

Ancient tin streamers

Since pre historic times, men have dug through the beds of rivers and streams to extract the grains and pebbles of tin which had been deposited there. This they used for the production of the metal alloys bronze and pewter. Early tin streamers used simple water troughs to separate the heavy tin ore from the lighter waste material. Later, more sophisticated systems were set up around streams and rivers with leats, channels, reservoirs. Stamping mills were built to crush the ore, and settling tanks and buddles to concentrate and separate the ore from the waste.

Tin stamps in the Cober Valley

The River Cober was the life-blood of Wendron's mining industry. Over time, its waters were diverted along leats to power machinery. It's possible that Cornwall's first ever tin stamping mill was erected at Lower Trenear in the late 1400s.



Tre near became the residential and industrial hub of Wendron (audio track 9). By 1650, there were wheelwrights and blacksmiths workshops, a blowing house (for smelting tin), and crazing and stamping mills (for grinding and crushing the ore bearing rock). During the 1800s, at least four stamping mills operated in the area – known as Salena, Bodilly, Glebe and Wendron Stamps.

Tin production – a family affair

By the late 1800s, the beautiful rural valley would have been largely treeless and dotted with dirty pools and mounds of waste rock from the mine shafts and mineral processing. The air would have reverberated with the thud of ore crushing stamps and the ring of hammers on stone.

Women and boys worked to break up the tin stone with spalling hammers, and girls carefully sorted the valuable ore from the waste rock. Men did the heaviest rock breaking with sledge hammers, and also brought the graded rock to the stamps where it was crushed to fine sand.

Tre near Dairy

Wendron Stamps closed down in 1885, but reopened in 1897 as a dairy. The dairy reused the existing waterwheel of the tin stamps to power its machinery. The dairy continued to operate for much of the 20th century during which time it became part of United Dairies and then Unigate. In the 1970s, the dairy buildings were incorporated into Poldark Mine to house a museum and craft workshops.

WENDRON'S MINES – GOOD THINGS COME IN SMALL PACKAGES!

Wendron isn't known for its large and famous mines, but for the extended period over which prospecting and mining took place, and the number of 'mine' names associated with this. Around 640 tin bounds (land claims) and mine workings are understood to have been recorded in the parish, with this figure including numerous stamping mills and smelting houses. The only area in Cornwall that is comparable is St Agnes Parish with 883.

Wendron became known as a rich tin producing area and the sheer number of individual concerns here is testament to this. However, many of these would have produced very little tin. The mineral deposits of the required quality were not sufficiently widespread to support sustained working across a large number of mines.

In 1779, the Wendron area was the most populated mining district in Cornwall with 9,000 inhabitants – this was double the size of the combined populations of Camborne, Redruth and Illogan!

You'll see the remains of these mines on the audio trail:

Trumpet Consols

The engine houses of Wheal Trumpet and Wheal Ann are the only visible remains of Trumpet Consols (audio track 4), formed in 1845 as an amalgamation of several local mines. In 1870, the group employed 320 men, and its shafts had been sunk to 1,320ft. These were the deepest mines in Wendron and amongst the most successful.



Wheal Ann. Photo: Audio Trails

From 1812 to 1848, a 45 inch cylinder pumping engine connected to a wooden beam or bob drained the workings at Wheal Ann. The wooden bob was unusual as cast iron bobs were well established by this time, making this installation amongst the last of its type in Cornwall.

In the 1830s, a boiler exploded on the Wheal Ann sett, the report of which could be heard in Wendron Churchyard, around half a mile away.

Between 1854 and 1877, Trumpet Consols sold 4,292 tons of black tin, sometimes fetching as much as £70 a ton. The mines worked narrow lodes of ore that were just 12 ins wide in places, but extremely rich. In 1876, a writer said that Trumpet Consols had 'so much tin being sent away that the harvest wagons of the farmers were required to carry it to Penzance'.

Lovell Mines

There were at least 30 Cornish mines with 'Lovell' in the name! In Wendron, the scattered remains of the Lovell Group can be seen around Manhay (audio track 5). The most famous was East Lovell which had been mined since the 18th century. In 1870, it employed about 80 mine workers and raised £17,000 of tin ore at a cost of just over £4,000. This profit was described at the time as '*never exceeded in any tin mine in Cornwall*'.

Great East Lovell was opened in 1864, and produced no tin at all – but at huge expense. It was reputedly a scam designed to fleece unwary shareholders!

East Wheal Lovell operated until 1881, and reportedly had the last steam beam engine to work in the Wendron district.



Beacon Hill Mine

The blunt finger of a chimney stack is that of Beacon Hill Mine (audio track 5). It was worked until 1870, with the aid of an engine. Although the tin lode was reportedly 'fairly good', it wasn't good enough to continue operations.

Wendron Consols/Wheal Roots

Wendron Consols adjoined the site of the current Poldark Mill. In 1864, the mine sold 117 tons of black tin for just over £7,000. It had a workforce of 184 men, 61 women and 50 boys. All the women were employed above ground in dressing the tin ores.

Its machinery included a 60 inch cylinder Cornish pumping engine and a 20 inch cylinder winding engine. The tin ores were brought to the stamps in the valley at Trenear, where they were crushed and dressed ready for sale to the smelters.

During excavations to house an electricity generator at Poldark Mine in the 1970s (audio track 8), historic mine workings were discovered in the hillside. They were identified as part of Wheal Roots, an ancient tin mine dating from 1720 to 1780, which later became part of Wendron Consols.

Did you know?

Beneath many of the oldest farms in Wendron are tunnels left by mining. Known as 'hulls', many were used as vegetable stores – or even as hiding places for smugglers' contraband.

MAIN MINING STRUCTURES IN WENDRON



Wheal Peevor engine house. Photo: Audio Trails

Engine houses

Engine houses are often the most conspicuous remains of Cornish mining – you'll see several on the audio trail. Each contained a vertical cylinder steam beam engine. These were usually used to either pump water from the mines, drive stamps for crushing ore, or to operate a winch or whim. The whims lowered men and materials into the mine and hauled up kibbles (buckets) of ore.

If you walk around Wendron in winter, the water-logged, swampy ground will give you a good idea of the problems faced by the miners in keeping the underground levels (tunnels) dry.

Dressing floors

Ore was taken from the mine to the dressing floors where it was broken up with long handled spalling hammers. The ore was then crushed in the stamps – iron headed 'pile drivers' powered by a waterwheel or steam engine. This reduced the ore to particles the size of sand which were then washed to separate the heavier tin from the much lighter waste. The fine ore was then shovelled into a calciner (furnace) where contaminating arsenic and sulphur were burnt off.

Smelting houses

After the tin ore had been purified by calcining and washing, it was smelted, firstly in charcoal, and later in coal fired furnaces. The molten tin was poured into granite moulds where it cooled as blocks or ingots, ready for coinage, or local taxing by the Duchy of Cornwall. After 1838 taxing was abolished and the ingots were sold to the end user.

LIFE – AND DEATH – IN THE MINES

Working conditions in the mines were unpleasant. It could be unbearably hot, damp, cramped and dangerous. Mine workers usually spent around eight hours a day underground, often after having walked several miles to work. Few miners over the age of 40 were fit for heavy manual labour. Following the introduction of the first compressed air rock drills in the 1880s, many miners succumbed to pneumoconiosis, a lung disease caused by inhalation of fine rock dust caused by dry drilling.

Despite the conditions, mining was often a first choice of occupation for Cornish men and women because of the ready availability of work and better wages.



Photo: Cornwall Centre Collection

Women in mines

Women didn't work underground – in fact, many miners were superstitious about women in mines. It wasn't until the 1980s that the first woman was employed underground at a Cornish mine: Karla Reikstins was then a mining graduate of the Camborne School of Mines.

Great Wheal Lovell in Wendron has a unique claim to fame as being the only mine in Cornwall known to have been overseen by a woman. Between 1840 and 1845, a Mrs Lydia Taylor was the mine manager.

A woman's usual role in mining was to work on the dressing floor as a 'bal maiden'. They crushed up ore bearing rock into small pieces on special anvils with large hammers, and carefully sorted the valuable ore from the waste mineral. Bal maidens usually wore large bonnets called 'gooks' to protect their heads and faces from flying stones, and a coarse hessian apron (a 'towser') to protect their skirts. Their legs were often wrapped in strips of material to protect them from the cold and damp.

Many mining tragedies

Mining was a dangerous profession and many mine workers were injured or killed. Wheal Lovell in Wendron had its share of tragedies. In 1841, William Oliver fell 180ft down a shaft and died five days later from horrific head injuries. Thomas Dunstan (54) died instantly after falling down a shaft in 1842. One miner died and two others were almost asphyxiated in 1875 due to poor ventilation – and the manager was fined £10 for negligence.

At Wheal Trumpet, in 1848, miner Bennett Pryor stepped on rotten planking and fell 60 feet down a shaft at Wheal Trumpet. He died, leaving a wife and six children. In 1850, Philip Rogers and his 15 year old son were blasting at the 90 fathom level when a fuse failed to ignite. They began to pick out the charge, but suddenly Philip spotted a light. He flung his son backwards but was himself killed by the explosion. A misfiring fuse also killed John Shuggs at Wheal Ann in 1841.

An unusual and dramatic tragedy happened at Porkellis United Mine in 1858. As bal maidens were working on the dressing floor, the earth suddenly opened up beneath them. The women

and girls leapt for their lives, while below ground, a wave of ore dressing slimes cascaded down the mine. Six men and a boy were killed. The collapse left a hole in the ground 30ft deep. The accident was said to have been caused by miners removing a tin bearing pillar of rock which had been deliberately left as a support – and which they had been forbidden to touch.

Fetes, fairs and feast days!

A normal working week for miners was usually from Monday to Friday with a half day on Saturday. In addition to Christmas and Good Friday, they also had a number of feast days throughout the year.

The annual Wendron Rambuck Fair took place on the field opposite Wendron Church (audio track 2). It began about 100 years ago as a sheep fair and still continues today as a horse show. Look on www.rambuck.co.uk

The Helston and Wendron Fair was a general livestock fair – in 1847, the West Briton described that year's event in somewhat disparaging tones as being 'well supplied with cattle' but that 'the horse fair was very ordinary'.

The Wendron Consols Festival was a popular event, according to this report in the West Briton newspaper in September 1859:

From the church a procession was formed, comprising the agents and persons employed in the mine, with their families and, preceded by the Porkellis Band, they marched to the Account House, where tables were laid and nearly 700 persons sat down. A happier party can scarcely be imagined – there sat the miner with his goodly wife and healthy children – the fine muscular sumpman – the intelligent tributor, and the bold tut worker, with many a fair bal maiden and those who constitute the stamps pare – all looked grateful and pleased, and even the babe seemed to enjoy the festival by crowing in its mother's arms. After partaking of excellent cake and tea, the grace and doxology were sung, and the band played for some time. The festival concluded with the Flora Dance, when a party comprising many of the youth and beauty of Wendron and Helston danced around the mine. A bonfire and tar barrels lit up the barren moor, and thus terminated a day which afforded great delight to the interested assembly. Refreshments were prepared in the Account House for the wives and daughters of the adventurers and their families.

(Tut workers were miner workers employed on contracts for clearing ground, such as sinking a shaft or driving a tunnel for a set price. Tributors operated in small gangs known as pares and were usually paid in proportion to the ore they produced.)

Millionaire miners

Although most mine workers lived in relative poverty, it wasn't unusual for some to hold shares in mines – often mines were started by groups of miners and local merchants. Occasionally the share would become of great value. When William Penrose invested in 16 shares in a silver lead mine near St Newlyn East called East Wheal Rose, he could never have guessed that after his death it would make his wife a millionaire. In 1845, she received dividends of £6,616 the equivalent of almost £4 million today!

The end of mining

By the late 19th century, most Cornish tin mines had become uneconomic. This was due to the globalisation of the mining industry and competition from new producers in countries such as Malaysia and Bolivia. By 1880, Wendron's mines had closed, causing an immediate and dramatic fall in the population of surrounding hamlets and villages.



In 1861 there were 43 men from the hamlet of Trewennack working in the nearby mines. When the mines closed in the 1870s, there was a mass exodus as the men left Cornwall to find work, either elsewhere in the UK or overseas to find work. Only seven miners remained in the hamlet, and nearly half the households were headed by women.

On 31 March 1879, the West Briton reported 'now not a hammer ring, not an engine thud, not a teamster's "whoa" disturbs the oppressive deathlike silence which everywhere prevails. The grand granite engine houses are roofless and desolate, the tall and graceful chimney stacks smokeless and the swallows build their nests therein; they are but the monuments of colossal activities expired...'

PLACES TO VISIT

Poldark Mine

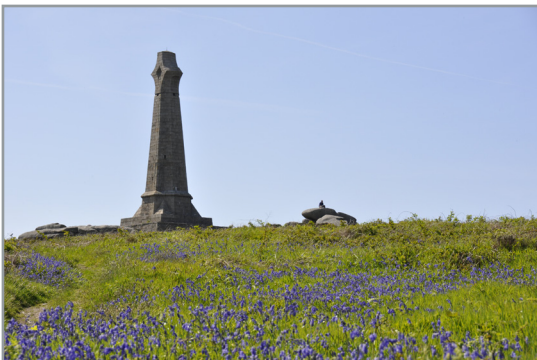
Highlights of a visit to Poldark Mine include a rare working Cornish beam engine and the fascinating guided tours through the shafts and levels of Wheal Roots, an 18th century tin mine.

Poldark Mine started life in 1966 when Royal Marine Peter Young bought the old smithy at the Trenear crossroads, and later the land across the road. It opened in 1971 as Wendron Forge, with a print-making workshop and growing collecting of old engines and machinery.

Later the buildings of the Trenear Dairy were acquired to house a museum and craft workshops.
www.poldark-mine.co.uk

Carn Brea – the De Dunstanville Memorial

Constructed in 1836, this 90 ft granite column at the summit of Carn Brea near Redruth was erected with money donated by the public in memory of Francis Basset, Lord de Dunstanville. The Bassets were one of the most important and influential Cornish mining families, and Baron Basset's funeral was probably one of the largest ever witnessed in Cornwall. The local mines were closed for the occasion and around 20,000 people gathered at Tehidy Park, his ancestral home, for a procession to Illogan Church where he was buried. Find out more about the Bassets on the Portreath audio trail.



Carn Brea. Photo: Cornwall Council

Tolgus Tin

Tolgus Mill near Redruth is one of a very few sites in Cornwall which retains authentic machinery used in tin ore dressing (processing). After full commercial production ceased, the mill was preserved as a visitor attraction.

www.tolgus-tin.org

Blue Hills Tin Streams

Blue Hills is owned and run by a Cornish family who have been involved with mining for generations and have been producing tin in the Trevellas Valley, near St Agnes, for 35 years. You can still see traditional tin streaming and smelting in operation at this fascinating site.

www.bluehillstin.com



King Edward Mine Museum

In Troon, near Camborne, the museum specialises in the history of Cornish mining and tells the remarkable story of how the mine, probably the oldest complete mine site in Cornwall, has survived for 100 years. The carefully restored machinery in the tin processing mill can be seen in action just as it would have operated in the early 1900s.

www.kingedwardmine.co.uk

Porkellis Moor

Explore Porkellis Moor, owned by the National Trust – where nature has reclaimed the ancient mining landscape.

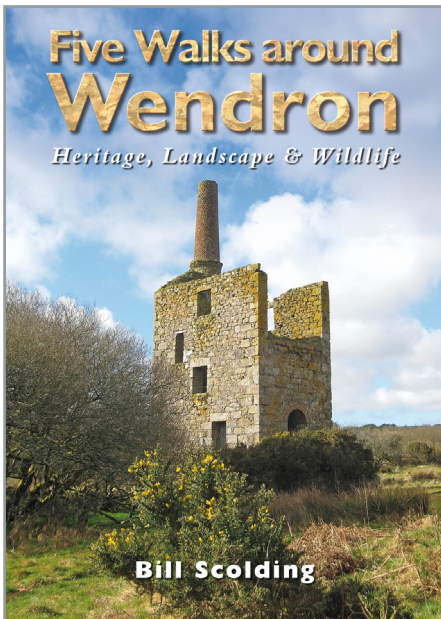


Photo: Bill Scolding

FOR FURTHER INFORMATION

We gratefully acknowledge our indebtedness to the following publication, which has proved invaluable in the writing of this guide:

Five Walks around Wendron by Bill Scolding, priced £4.50, available from Wendron Parish Council.

Additional information came from:

A Guide to the Poldark Mine and the Wendron Mining District, Richard Williams, published by Poldark Mine

Mines of Wendron Parish by K Brown & B Acton, Exploring Cornish Mines Vol 3, Landfall Publications