

**Mines, Moors & Minerals....** Discover so much more about the industrial archaeology of the Liskeard District with a range of new and exciting FREE podcasts, narrated by knowledgeable local experts. Learn more about each area and get out and explore!

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Both leaflet and podcasts are designed to be used in conjunction with OS Explorer maps 107 & 109.

Always follow the Countryside Code

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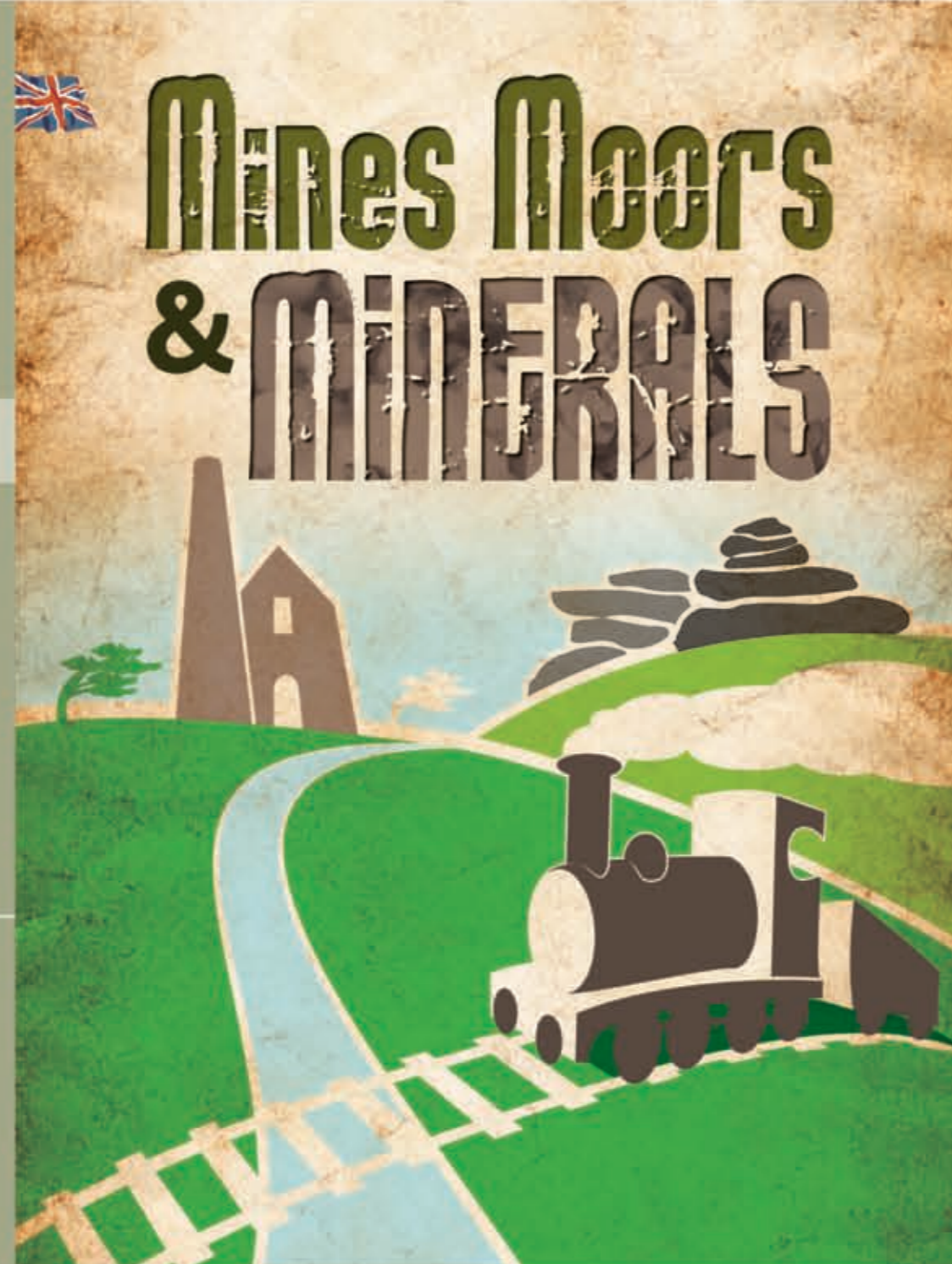


[www.naturalengland.org.uk/countrysidecode](http://www.naturalengland.org.uk/countrysidecode)

[www.bestofbodminmoor.co.uk](http://www.bestofbodminmoor.co.uk)



[www.caradonhill.org.uk](http://www.caradonhill.org.uk)



The industrial archaeology of the Liskeard District

## Introduction

The Caradon mining area is a magnet for industrial heritage enthusiasts. The remains of engine houses on the south eastern edge of Bodmin Moor tell of 19th century mines producing copper, tin and other minerals. They circle the dramatic Cheesewring quarry which eats into the dark grey granite of Stoves Hill.

From here the trail of the Liskeard & Caradon Railway can be followed for much of its route to Moorswater from where first a canal and later a railway carried the copper ore and stone to Looe for transportation by sea. Strong mining communities developed in the villages of Herodsfoot and Menheniot where lead and silver were mined and explosives were made.

## Geology

The oldest rocks in the area were formed around 400 million years ago when sea levels were much higher and muds were deposited on an ancient sea bed. During a tectonic collision around 300 million years ago these deposits were compressed to form slates (locally called killas) and uplifted to form a huge mountain chain.

The base of the mountains melted under the immense pressures and temperatures to form magma which rose into the core of the mountains and solidified into granite. The granite slowly cooled and fractured. Hot water, rich in various elements, circulated through these cracks depositing minerals containing tin, tungsten, copper, silver and lead.

Millions of years of erosion lowered the mountains and shaped the moorland we see today. Where the killas was worn away tors and outcrops of harder granite such as the Cheesewring have been left exposed.

During the last ice age the area became an icy tundra, the rock and minerals were shattered and broken down filling the valleys. When the climate warmed, the returning rivers washed away less dense rock leaving behind deposits of heavy minerals such as the tin-bearing cassiterite.



## Cornish Mining Vocabulary

### Adit

horizontal tunnel used for draining water from a mine, or to look for ore

### Adventurer

investor/ shareholder in a Cornish mine

### Assay House

building where ore samples were tested (assayed) for their metal content

### Bal

Cornish term for a mine

### Bal Maidens

women who worked on the dressing floors

### Beam Engine

a versatile steam engine used for pumping, winding and stamping

### Coinage

tax paid on refined tin (abolished in 1838)

### Counthouse

the mines office, pay office

### Crib

mine workers food (often pasties)

### Consols

a group of mines 'consolidated' under joint management

### Dip

a candle fixed to miners' helmets with lumps of clay

### Dry House

miners changing room

### Dressing Floors

land and buildings at the surface where ore was processed

### Kibble

An egg shaped iron bucket for lifting ore up a shaft

### Lode

Cornish word for a vein of minerals running downwards through the bedrock

### Mineral Lord

The owner of the land to be mined

### Mine Captain

person in charge of the mine, sometimes mines had a surface and an underground captain

### Pitch

the cubic area of rock worked by tributers in each contract

### Stannary Law

mediaeval law governing tin mining in Cornwall and W Devon

### Sett

the boundary of a mine leased to adventurers

### Shaft

the vertical tunnel

### Stope

space left when ore bearing rock is dug out from the lode

### Skip

a wheeled container for ore which ran on rails

### Tributers

paid by weight for the ore they extracted, crushed and cleaned

### Tut Workers

paid by the measure in fathoms for digging out shafts, levels and stopes

### Tull

felt hat dipped in resin to harden it

### Wheal

a mine

### Whim

winding machine used for hauling things up shafts, often powered by horses

### Winze

shaft mined downwards from a tunnel not from the surface

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## Minions

The village of Minions was formed by immigration to the area following the discovery of copper ore in Caradon Hill. A few moorland farmhouses were joined by rows of miners' cottages and a Methodist chapel. New roads and railways linked the settlement to Liskeard and the coast. In 1900 the village was called Cheesewring Railway and sometime in the 20th century it acquired the name Minions.

The village has an open aspect with animals grazing freely in the centre. This is because it is on common land. From Minions you will see mine engine houses in every direction reflecting the mineral wealth of the granite underlying Bodmin Moor. The fascinating granite Cheesewring was formed by millions of years of erosion. You can walk along the old railway to the quarry and see the grey stone which was used to build much of 19th century London including the piers of Tower Bridge.

## Moorswater

Moorswater village formed at the junction of the Liskeard & Caradon Railway and the Liskeard & Looe Canal. The flat valley floor was ideal for a goods yard and the reliable water supply helped other industries develop including a concrete works and wool factory. As freight increased the canal was replaced with a railway. At its height the village was well populated and had a Methodist Chapel.

Copper ore was taken from Looe to Barry in South Wales, the barges returning with coal to heat buildings, power steam engines and make town gas. Horse-drawn wagons carried coal and passengers up the New Road to Liskeard. An old kiln beside the level crossing is a reminder that lime was an essential import both for the building industry and agriculture, Roasted lime was spread on fields to reduce soil acidity and toxin levels in crops.

By 1910 mine traffic had fallen off and a new railway linked Liskeard to Coombe Junction. Moorswater lost its function as the transfer point for passengers and freight. The declining village gave way to the A38 road widening in the 1960s. Only a weekly cement train still departs from Moorswater.

Dominating Moorswater is the mainline railway viaduct. In 1881 Brunel's weaker wooden-topped structure was replaced with stronger piers and a cast iron parapet. The original piers can be seen next to the viaduct.

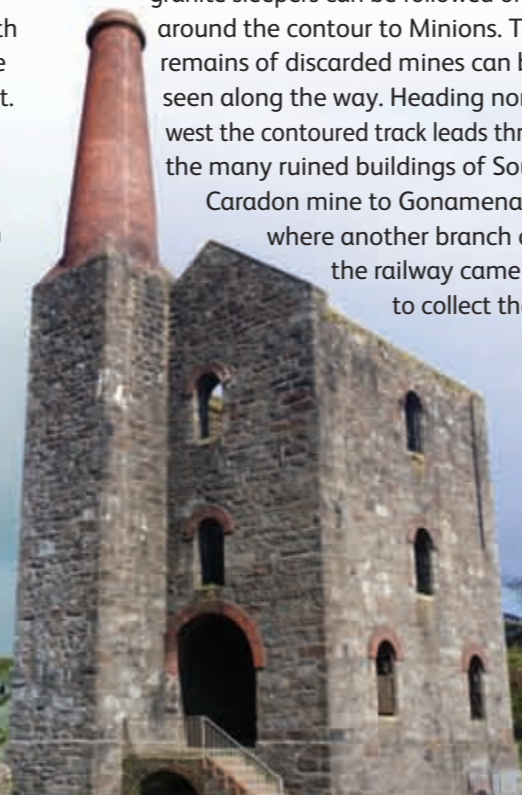
## Tokenbury Corner

From this open land on the side of Caradon Hill you get an idea of the wider landscape which gave birth to the District's industrial history. To the north the granite hill rises beyond 1000ft above sea level making a convenient site for 20th century communication masts.

To the south and east the killas bedrock has been eroded to wide valleys where the fault lines have

created settlements. Here veins of galena were mined for lead and silver. The distant River Tamar cut through the granite spine to provide a border between Devon and Cornwall. On a clear day you can see the granite tors of Dartmoor where Devon's hard rock mines are found.

Heading east from the car park, the railway's granite sleepers can be followed on foot around the contour to Minions. The remains of discarded mines can be seen along the way. Heading north west the contoured track leads through the many ruined buildings of South Caradon mine to Gonamena where another branch of the railway came up to collect the ore.



## Herodsfoot

Herodsfoot lies in a steep sided valley carved out by a river and undisturbed by the last Ice Age. The killas rock here holds lodes of galena, an ore containing lead and silver. From at least the 17th century these were mined by digging sideways into the hillsides, a practice known as adit mining.

By the 19th century the mines had gone underground: first water then steam power were used to work the pumps and lifts. For about 20 years the mines were highly productive, but by the end of the century they had run down.

The characteristics of the valley made it suitable for the production of explosives. The forest provided a supply of charcoal, an ingredient of traditional explosives. The wooded steep valley absorbed the impact of explosions – a regular occurrence - with little damage to other property.

The original owners of the East Cornwall Gunpowder Company were quakers and,

being pacifists, they only sold their product for industrial use. Herodsfoot explosives were transported around Britain until production stopped in 1965.

For a century Herodsfoot was alive with industry and a church was built, but when production ceased the hamlet returned to its agricultural identity.

## Menheniot

Farming was the main industry of the ancient parish of Menheniot until, in 1843, a road digger near the church exposed a shallow lode of lead ore. The landowner, Charles Trelawney, granted mining rights to James and Peter Clymo, who had discovered copper in Caradon Hill. Wheal Trelawney was joined in 1845 by Wheal Mary Ann named after the landowner, Miss Mary Ann Pollard, a farmer.

By the 1860s, an influx of miners doubled the population to 2,500 and the rural spot had become an industrial village. The first two mines were worked down to 1400 feet below the surface. Eventually more than twelve lead and silver mines were worked in the Parish.

Peak production years for lead and silver were between 1857 and 1872 but by 1875 the mines were closing. Rising costs, low mineral prices and falling production made them unprofitable. However, rock was recovered from the workings during World War I.

A silver salver made from Menheniot silver and presented to Peter Clymo in 1859 is on display at Liskeard & District Museum.

- Steam engines introduced to mining
- 1826 - Explosives works opened at Herodsfoot
- 1828 - Liskeard & Looe Union Canal
- 1836 - Copper discovered at South Caradon
- 1844 - Liskeard & Caradon Railway opened
- Famous architects working in Liskeard including George Gilbert Scott, John Foulston and Henry Rice
- 1880s - Caradon copper becomes uneconomic, mass emigration to New World copper mines begins
- Early 1900s - Mines and railways close

## Podcast Narrators

Be captivated with stories uncovering the industrial heritage of Liskeard in our fascinating series of audio podcasts.

**Minions** – from the Bronze Age to the early 20th century, geologist **Calum Beeson** explores copper and tin mining. He digs deep into the industry on the moors.



**Liskeard & Caradon Railway** – railway expert **Alec Kendall** highlights the significance of the Liskeard and Caradon Railway, which serviced the mines on the moors. He reveals some of the shenanigans and politics in a fascinating story.



**Menheniot** – archaeologist **Colin Buck** uncovers some of the practices of the silver-lead mining around the village.



**Moorswater** – historian **Iain Rowe** explores the industrial heritage on the edge of the town, from granite and minerals to china clay. Along the way he uncovers some relics of Brunel's Great Western Railway.



**Herodsfoot** – Blue Badge guide **Mark Camp** leads you on a walk from the village of Herodsfoot, and around the forest of Deer-park Woods, once the site of an explosives works. There he meets **Paul Day**, one-time worker there, who explores some of the goings on at the explosives factory in the 1960s.

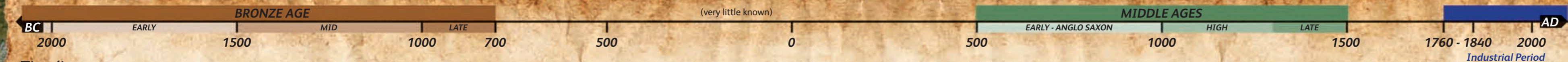


Tin Streaming on Bodmin Moor - Cornish tin exported to Ireland to make bronze. Burial at Rillaton Barrow

Cornish tribes settled in the area led by chiefs such as Doniert.

Anglo Saxons settle in Liskeard and build an early church

Liskeard becomes a coinage town in the 14th Century. Underground mining for tin on Bodmin Moor



# Minions

## Facilities:

- 👣 footpath from Crows Nest; old railway from Tokenbury Corner
- 🚌 Bus No 573 to Crows Nest & walk via Gonamena
- 🏠 Cheeswring Hotel
- 🍵 Hurlers Halt tea rooms; Minions shop & tea rooms
- 🅑 2 off main road
- 📮 Post Office general store
- 📍 not guaranteed



# Tokenbury Corner

## Facilities:

- 🅑 off main road
- 👣 old railway path to Minions
- 🚌 Bus No 573 or 236 to Tokenbury Corner
- 🏠 Wheel Tor Hotel; Crows Nest Inn; Victoria (Pensilva)
- 🍵 Millennium House (Pensilva)
- 📍 Millennium House (Pensilva)
- 🏪 General Store (Pensilva)



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**Did You Know?**  
Common Land is actually privately owned but cannot be fenced. People holding grazing rights may let their beasts loose on the common.

**Did You Know?**  
The word coinage does not refer to money. A corner (coin in French) would be taken from the ingots of tin to check the quality and calculate the tax.

# Moorswater

## Facilities:

- 🅑 on road
- 👣 pavement from Liskeard



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**Did You Know?**  
Herodsfoot is one of only 14 Doubly Thankful villages in the UK – this means that all the men who left the village to fight in both the First and Second World Wars came home alive.

# Herodsfoot

## Facilities:

- 👣 valley walk from West Looe
- 🅑 on road in village, off road in Deerpark Wood
- 🍵 Foest Retreat, Deer Park Cabins
- 📍 Foest Retreat, Deer Park Cabins



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# Menheniot

## Facilities:

- 🚌 Bus No 283 to Menheniot
- 🏠 White Hart Hotel
- 🅑 on road in village
- 📍 not guaranteed
- 📮 Post Office / general store



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**Map Key:**

- 🟢 Main road
- 🟡 Minor road
- 🚊 Railway line
- 🔴 Railway Station
- 🏙 Urban area
- 🌲 Forests / woodland
- 👣 Walking Route
- 🚌 Public Transport
- 🏠 Public House
- ☕ Café
- 🅑 Parking
- 📍 Toilets
- 🏪 General Store

0 0.25 0.5 1 1.5 2 Kilometers  
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## Audio Podcasts:

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 <b>1: Minions</b> Narrated by: Calum Beeson	 <b>2: Liskeard &amp; Caradon Railway</b> Narrated by: Alec Kendall	 <b>3: Menheniot</b> Narrated by: Colin Buck	 <b>4: Moorswater</b> Narrated by: Iain Rowe	 <b>5: Herodsfoot</b> Narrated by: Mark Camp & Paul Day	
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