Coniston Copper

THE PEOPLE OF CONISTON COPPER

Life and death in a mining village

CONISTON MINE & VILLAGE, A TIMELINE

BEFORE 1500

- There is no evidence for prehistoric, Roman or medieval mining at Coniston

1500 - 1599

1558
- Elizabeth I is crowned

1591
- First Shakespeare play performed

1599
- The Company of Mines Royal starts mining at Coniston using skilled German miners; copper ore taken to Keswick for smelting

1600 - 1699

1605
- Gunpowder Plot

1620
- "The old Myn at Coniston is now quite given over not a thing theyr to be had"

1630
- The Company of Mines Royal stop mining in Cumbria

1641-1651
- English Civil War

1655
- Sir Daniel Fleming inherits his estate, including Coniston Manor

1685
- Mines Royal Act ends royal monopoly on copper mining and opens industry to private investment

1691
- Richard Patrickson and Thomas Anison propose a lease on the mines

1692
- John Blackwell, a 'miner of Coniston', and others take out a lease on the mines

1700 - 1749

1714
- George I is crowned

1721
- Lease on the mines taken by William Millford, John Shaw—'a moneyed man'—and Mr Wildhagen

1727
- George II is crowned

1746
- The Jacobites are crushed at Culloden

1748
- Lease taken by Thomas Gorsuch, 'a gentleman of London', and over 20 miners employed

1749
- Lease transferred to Mr How, Mr Hicks and 'other Whitehaven gentlemen' and miners discharged

1750 - 1799

1756
- Charles Roe of Macclesfield and Rowland Atkinson of Chester working the Bonser Vein at Coniston

1759
- Anthony Tissington, a Derbyshire mineral agent, working the Paddy End Vein at Coniston

1760
- George III is crowned

1771
- Richard Arkwright introduces water powered loom

1774
- Roe forms Macclesfield Copper Company

1776
- American Declaration of Independence

1795
- Macclesfield Copper Company, re-named William Roe and Company, stops work at Coniston

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Introduction

Copper ore - this is what it was all about. ▲
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The Coniston Copper Mines represent an array of mining structures and old mines. They are spread across 57 hectares of the Lake District National Park, close to the village of Coniston. The remains reflect Coniston's rich industrial heritage, which stretches back over 400 years to the reign of Queen Elizabeth I.

The Coniston Copper project was a partnership between the Lake District National Park Authority, land owners, Ruskin Museum, YHA Coniston, Grizedale Arts and Cumbria Amenity Trust Mining History Society. The Heritage Lottery funding for the project enabled conservation of the area's copper mining heritage and provided opportunities for interpretation, learning and participation. As part of the wider project, a group of Coniston Copper Archive and Social History Group volunteers were recruited from the local community to delve into the copper mines' historical sources to help improve our understanding of the area's heritage and make it accessible to more people. Fourteen volunteers worked as researchers over the course of a year, mining the area's rich documentary evidence and locating historical information about the Coppermines Valley and its neighbour, Tilberthwaite.

An introductory session held at the Kendal Archive Service in December 2016 prepared the volunteers for their research roles. The archivist explained how to undertake archive research and presented a selection of the historic documents held at Kendal that related to copper mining heritage, including 19th-century leases, notebooks and estate papers. A follow-up session at the Armitt Museum, Ambleside, took place in January 2017. The Armitt Museum holds collections related to the copper mines, including the archive of the Cumbria Amenity Trust Mining History Society (CATMHS) and Eric Holland. Holland was a founder member of CATMHS and responsible for exploring and promoting Coniston's copper-mining heritage. The group looked at cost books, a labourer's ledger and mine plans. With the support of CATMHS members Ian Matheson and Warren Allison, a variety of research areas were identified, including health and safety, industries that supported the copper mines, and conditions at the mines. Volunteers selected the areas of interest that they wished to explore further.

The group met on a regular basis throughout the year to present and discuss what they had found out about their selected area of research. Some of the volunteers spent hours poring over the archives. Others found online resources invaluable, such as Ancestry's census records. One of the most useful collections proved to be the British Newspaper Archive. While this booklet is not a definitive history of the Coniston Coppermines, it presents some of the information from the Coniston Copper Archive and Social History Group volunteers' research.

Coniston
A Mining Community

Copper has been mined at Coniston for over 400 years. The earliest workings were comparatively small surface operations, but deep underground mining was well underway by the mid-18th century. The mines were at their height in the 1850s, when they provided work for over 400 men, women and children. At this time, they produced between two and three thousand tons of copper each year, but by the 1870s the Coniston mines were finding it increasingly hard to compete in a world of falling copper prices. By the 1880s, underground mining had finished and the workforce was reduced to a handful of men. Some attempts were made to rework the old spoil tips, but these proved unviable and the mines were finally abandoned during the First World War.

Copper mining had a huge impact on Coniston, especially during the boom years of the mid-19th century. Hundreds of skilled miners and other workers moved to the village, overwhelming the local population. They brought their families with them, transforming a small agricultural village into an industrial community.

◀ Irish Row, miners' housing in Coppermines Valley.

Mining families

Mining was a labour-intensive occupation and by the 1830s it was not uncommon for whole families to be employed at the mines. Men worked underground either as skilled miners or labourers, while women, children and older men laboured at the surface, where they processed or 'dressed' the copper ore.

Where did the families come from?

The 1851 census has a column showing where each person was born. Some families were attracted to the Coniston area from the lead mining areas of the North Pennines because of the availability of steady mine work. Others came from the mines of the Cumberland west coast and were often born in Ireland, or from north Lancashire, with some of these having quarrying experience. A few came from Cornwall and brought experience of similar metal mining. Lastly, one or two came to the area from Yorkshire and Wales.

Irish miners

In common with the coal and iron mines of West Cumbria, the majority of non-local workers at the Coniston mines came from Ireland. Most of these men and their families had been forced to emigrate during the Irish Potato Famine of 1845–49. Reports of court cases in the local papers indicate that there was a lot of ill feeling between the English and the Irish.

KENDAL MERCURY
23 OCTOBER 1852

'It is true to say that the great influx of Irish into the place, has, I am sorry to say, converted my native vale into a complete little Ireland, where they now almost outnumber the original inhabitants and where rows among female portions, are, I believe, of frequent occurrence.'

(extract from a letter by George Dixon (aka Mop George) of Gregg's Lodging House, Coniston)

WESTMORELAND GAZETTE
23 JULY 1853

'Wars between the English and Irish Miners at Coniston. William Raven, an Englishman, appeared (at the Hawkshead petty sessions) to answer a summons for an assault preferred against him by Jerret Taylor, an injured son of "Erin"s Isle." There is hardly a petty session but the assembled magistrates have some differences to settle between the English miners and the sons of the "gem of the ocean," and almost invariably the Britons are the aggressors.

Saturday last was the monthly pay day at Coniston Mines; and on the night of that day, a number of Irishmen employed at the Mines were drinking in the Crown Inn, in that village, when two or three Englishmen entered, and sat down in the same apartment. The latter, however had hardly got seated, when one of the Irish commenced quarrelling with one of them challenging him to fight, and, shortly after, the whole of the Irish commenced a most murderous attack upon the other party with tongs, pokers, chairs and any other weapon they could lay hold of ... a very unfavourable feeling exists towards the Irish in Coniston, which their conduct in other respects does not tend to remove.'

Children in the mines

In 1840, a national investigation began into the employment of children. Inspectors visited mining areas and spoke to parents. Anthony Austin visited the mines and quarries of North Lancashire in 1842 to gather information for the Kinnaird Commission. At Coniston, he found 70 children and young persons employed above ground in open-fronted sheds, principally washing and sorting rock containing the copper ore. The working day was from 7am to 6pm in summer and shorter hours were worked if it was dark. In 1842, the youngest child employed was a girl aged six.

A mother's evidence

Mrs Anne High told the commission that her family of ten ***"could not get a living without the children's work"***. Her 15-year-old son earned 8d per day for "wheeling", her 13-year-old got 7d for "wheeling and picking", her 10-year-old got 5d per day and her 7-year-old 2s 9d per month, probably for washing and sorting. Mrs High had four other children who were too young to work. Her children complained of the cold but, she said, ***"it does not give them chilblains"***. The company gave out clothes during the cold winters.

The manager's evidence

John Barratt, the mine manager or 'captain', told the commission that some child applicants were too young to work but their parents were desperate for extra wages. Boys and girls were separated as far as possible, no corporal punishment or swearing was allowed and children were supervised by an 'overlooker' who also guided their behaviour (one mother described the overlooker as ***"nice a little man as could be"***).

A child's evidence

John Borrick, a ***"fine healthy looking boy"***, said that he had his breakfast before starting work at 7am. He took his own dinner and left the mine at 6pm. He found ***"wheeling harder than picking"***.

A widow's evidence

Anna Fleming, a widowed mother of seven, told the commission that her late husband, a miner, had kept his sons out of the mines. She approached the Poor Law overseer for help with burial costs and feeding her family, but this was refused, and she was told to send her children to work. One child, 12-year-old Eleanor, was taken in as a maid by Miss Beevers of Thwaites.

Earning a living

In 1845, Richard Duke, 14 years old, earned 5s a week filling kibbles (mine buckets) underground, the equivalent today of £5.65. His father, a skilled miner, earned around 11s and 3d a week. One pound in 1845 would be worth around £113 today. In 1843, mine manager John Barratt had a monthly salary of £25.

In 1845, one pound would be enough for 20 loaves of bread, 80 pints of beer, or rent of an unfurnished room for 4 months. Bread is much cheaper today but rent and beer are much more expensive. Coniston's miners also had to spend a hefty slice of their wages on the expensive candles that they used to light their way.

Iron kibble or bucket used for raising ore in mine shafts. *© Minerva Heritage courtesy of The Ruskin Museum*

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Regalia of the Rising Sun Friendly Society.
© Minerva Heritage courtesy of The Ruskin Museum

Friendly Societies

Friendly societies were self-help groups. They met monthly in local pubs and members paid a small subscription that provided a weekly benefit when sickness stopped them from working, as well as a lump sum when they died. Coniston's friendly societies helped many mining families during times of crisis.

The societies were also part of the social life in Coniston. Members and their families joined in events like dances or cricket matches. In 1851, the mines' doctor, Alexander Craig Gibson, praised one of the friendly societies at its annual dinner for raising £270 to help widows and orphans.

The Duke family

The first record of Thomas Duke is of his baptism on 22 March 1796 at his birthplace, Dalton in Furness. His father's name was William and his mother was Sarah. Thomas' wife, Sarah, came from Millom.

1841 UK Census entry for the Duke family

Title	Name	Age	c. Year of Birth	Employment
Father	Thomas	45	1796	Copper Miner
Mother	Sarah Jane	35	1806	-
	William	15	1826	Copper Miner
	Thomas	12	1829	Copper Miner
	Richard	10	1831	Copper Miner
	Nancy	9	1832	-
	Sarah	6	1835	-
	Agness	5	1836	-
	John	3	1838	-
	Fanney	1	1840	-

In 1841, The Duke family of ten were living at Mines Cottage with two other families, the Dixons and the Hodgsons. John Dixon was a blacksmith, and he and his wife Elizabeth had seven children. Their eldest child, William, aged 15, was a shoemaker. William and Elizabeth Hodgson's family of nine was made up of their five children, William's brother and a young orphan girl. All the male Hodgsons were employed in copper mining.

It seems that the Duke family moved to Coniston around 1836–7. Here, Thomas found work as a general labourer. They had moved around south-west Cumbria before this, presumably as Thomas followed work. The 1851 census records that their eldest son, William, was born at Bootle, whereas Richard and Nancy were born at Millom.

Thomas found day work at the copper mine, where initially his wage would have been 2s 3d a day. He worked for about 10 days in any month. Two entries from the ledgers of the Coniston Copper Mining Company throw light on what Thomas was doing at the mine and how much he was earning. He and a partner 'waggoned' 2,253 kibbles (a bucket in which ore was placed) in June 1843, being paid 8s per 100. A deduction for the 29 lbs of candles he had used meant he earned £8 2s 4d during the month. In August of the same year, he and his partner only managed to handle 1,732 kibbles, which earned him £5 13s 7d. By April 1845, he was more versatile, performing better paid tasks, such as kibble filling, which earned him and his partner a total of £10 4s 11d that year. Richard assisted his father underground in October 1845 and earned 5s for five days of kibble filling. The mining company's records show that Thomas earned about £6 18s during five months in 1845.

An article from The Westmorland Gazette records an inquest on 13 June 1845 into the accidental death of Sarah Duke, aged 10, at the mine. The accident happened around midday on 4 June near the entry to the mine level.

Sarah had been struck by a waggon, leaving her leg badly bruised. It was stated at the inquest that a number of girls were playing near the level when a train of laden waggons came out of the mine. Sarah hitched a ride on the couplings between two waggons, but then her clothes caught the coupling pin and she fell down, a waggon wheel riding over her leg. Mr Gibson, the surgeon to the mines, was called to Sarah the same day and recorded an extensive lacerated wound on the posterior side of her right leg. He dressed and stitched up the wound. On the 11 June, Mr Gibson noticed the symptoms of tetanus and Sarah died the following day.

Eric G. Holland, in his book Coniston Copper, records that both parents died shortly after the accident and the family split up. The 1851 census provides information about the whereabouts of the Duke children. Nancy and Agness had found work as domestic servants. Agness is recorded as a visitor in a lodging house at Clevedon, Somerset, on the night of the census. Nancy found work in the household of James Crellin, a mason, at 52 Holborn Hill, Millom. Thomas Duke junior had found work as a servant with the Park family at Pennington, near Ulverston. William, Richard and their young brother John, aged 13, are all recorded as coal miners in Cleator Moor, near Whitehaven, and were lodging with the Rudd family. The two youngest children, Mary Ann and Jane, lived with their uncle in the Ulverston workhouse.

Fanney later married a mason, John Braithwaite of Ulverston. The 1861 census shows Richard was now married, living at 81 Riley Terrace, Cleator Moor, and working as an iron ore miner.

The Millican family

Thomas Millican was brought up by a step-mother from the age of four and eventually had 11 step brothers and sisters. In September 1809, aged 20, he married Mary Gill in St. Augustine's Anglican Church, Alston.

It is clear from the birthplaces of the children of Thomas and Mary Millican listed in the 1851 census that the family moved about the lead mining areas of Cumberland and Westmorland to wherever Thomas found work. Employees of the London Lead Mining Company were given a Bible inscribed with their name and this entitled them to work for the company at any of their network of mines. Another son, Joseph, was born in 1818 at Hesket Newmarket. He was absent from Coniston in the 1841 census.

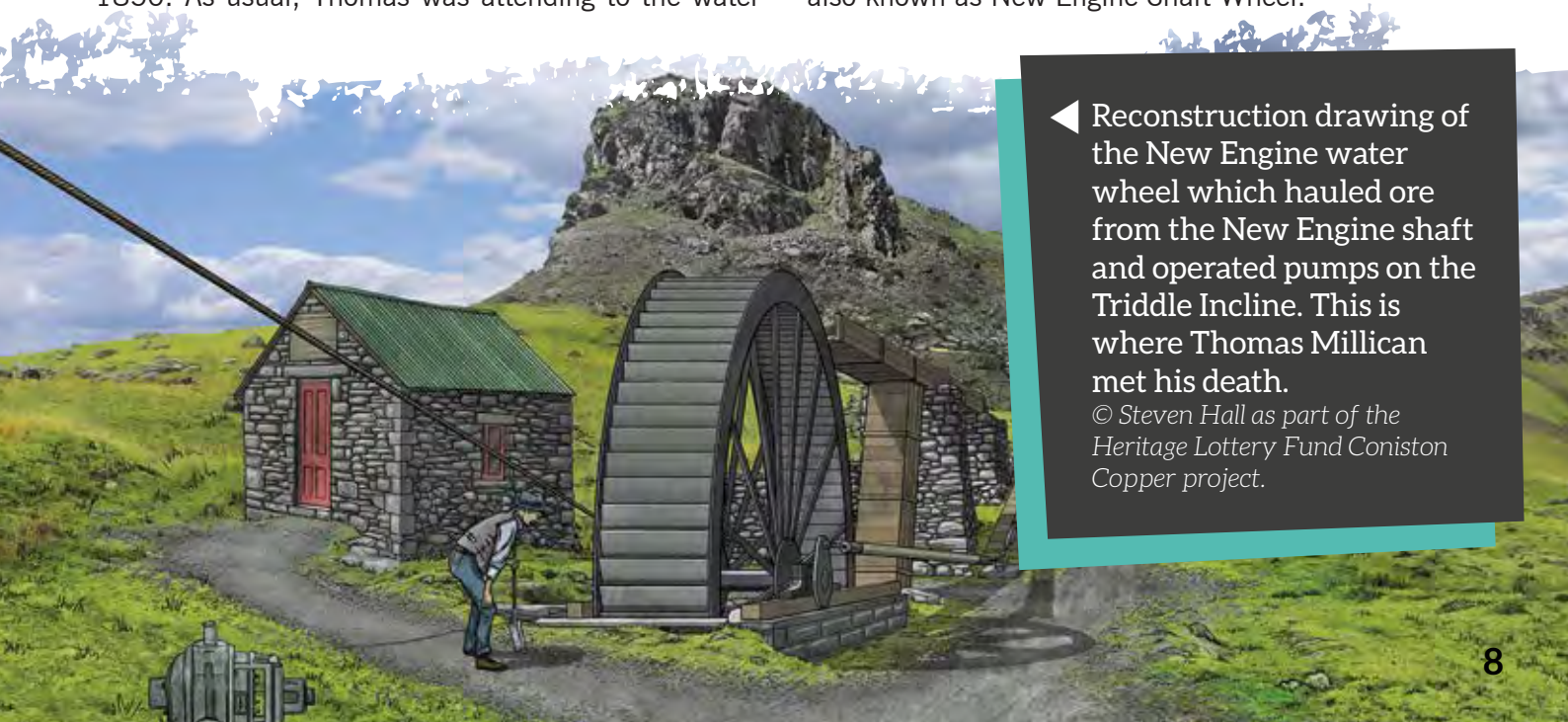
1841 UK Census entry for the Millican family

Name	Age	c. Year of Birth	Employment	Place of birth
Thomas Millican	50	1789	Copper Miner	Garrigill
Mary Millican	50	1787	-	Garrigill
John Millican	25	1815	Copper Miner	Long Marton
Thomas	20	1820	Copper Miner	Caldbeck
Mark	15	1824	Copper Miner	Garrigill
Wesley	12	1828	-	Garrigill
Martha Fisher	14	-	-	-
Thomas Fithney	20		-	-

The 1851 census shows that Joseph married and lived at Silver Bank, Coniston, with his wife, Elizabeth, and four children, two of whom were scholars. Joseph's occupation is recorded as a copper miner.

In January 1843, the company ledgers record Thomas Millican as a machine man, earning a meagre £2 14s. In March 1843, he managed to earn £3 14s, but his income fell to £2 15s 3d in May. In April the same year, his son, John, was working as head of a team of six stoping (mining the copper vein) in the roof of the 50 Foot Level east of Denver's Sump, which earned him and his team £13 12s 2d.

Several newspapers record the tragic events of Thomas Millican's fatal accident on Wednesday 21 August 1850. As usual, Thomas was attending to the water wheel early in the morning, a task he had carried out for some 15 years. The wheel drew water and ore out of the mine and he was required to stop the pumps when given a signal. On the fateful morning, the signal to stop was repeatedly given but not acted upon. The pump master went to investigate and stopped the wheel, as Thomas was nowhere to be seen. He was found in the bottom of the wheel. His severed head was located outside the wheel pit and parts of his body had been carried down the watercourse. At the inquest in Broughton-in-Furness, it was deduced that Thomas Millican may have been greasing the axle of the 30-foot wheel when he slipped or stumbled on wet ground. A verdict of "accidental death" was recorded. The water wheel, high on the hillside above the mine in Red Dell, became known as Millican's Wheel; it is also known as New Engine Shaft Wheel.



Reconstruction drawing of the New Engine water wheel which hauled ore from the New Engine shaft and operated pumps on the Triddle Incline. This is where Thomas Millican met his death.

CUMBERLAND PACQUET

27th August 1850

On the 22nd inst, an inquest was held before W. Blendall, Esq, coroner, at the copper mines, Coniston, on view of the body of Thomas Millican, aged 61 years, who, it appeared from the evidence, had charge of a water-wheel used in pumping water out of the mine. It was the duty of the men in the mine to ring a bell when all the water was pumped out, in order that Millican might turn off the water and stop the wheel. On the morning of the 21st the bell was rung repeatedly, but as the wheel still kept in motion one of the men ascended to ascertain the cause. Millican was not found at his usual post, but the water was turned off the wheel by the man who had ascended from the mine, lest injury should be done to the machinery. On search being made for the deceased he was discovered inside the wheel, with his head severed from his body and both legs fractured. As no one was present when the sad affair occurred, it is unknown how or by what means the unfortunate man had become entangled with the wheel. The jury returned a verdict a verdict of "Accidental Death." The deceased was a steady, trustworthy man, and had charge of the wheel for the last fifteen years.

1851 UK Census entry for the Millican family

Name	Age	Employment	Where Born
Mary Millican	63	Annuitant	Cumberland Garrigill
Mark Millican	25	Copper Miner	-
Wesley Millican	22	Copper Miner	-
Martha Fisher	24	Servant at mining office	Isle of Man

The description of Mary, Thomas' widow, as an 'Annuitant' suggests that she had a pension. Mark Millican married in 1852. The 1871 census records him as a widower, lodging in Eagle House, Patterdale, and working as a lead miner. It is thought that he died there in 1887. Wesley and his wife emigrated to Adelaide, Australia, in 1864. Mary Millican is believed to have died in June 1857.

Life after Coniston

Both families had differing fortunes. After the early deaths of both parents, probably through contagious illness, the Duke children went their separate ways. The two youngest, born after the 1841 census and probably below the age of five at the time of their parents' death, found themselves in the local workhouse.

The Millican family were cast further afield, with a couple of members emigrating to Australia to fill demand for miners in the mid-19th century, as new mineral fields opened up.

Schooling

There has been a school in the village since 1720. A new school and master's house were built beside the church in 1854. Many of the pupils either worked at the mines or were the children of miners. The mine company, together with Lady le Fleming and Mr Marshall of Monk Coniston, gave £100 per year to help run the school. The fees were 1d per week per child.

Children employed at the mine had the opportunity to attend night school at the end of the working day. Attendance was reported by John Barratt, the mine manager, to be good. Children also received schooling at Sunday School where 'the 3Rs' were taught.

Extracts from the primary school's log book show how school life was influenced by work at the mines:

1864 **11 August. Many children still absent – be paying weekly at mines.**

1866 **19 March. Attendance small, several boys have gone to work at the mine.**

1868 **5 October. Admitted another boy from the mines.**

1869 **31 May. More boys gone to work at the mines.**

1870 **23 June. Att(endance) small – wet day + pay day at the mines. F Mitchell left school to serve his apprenticeship at the mines as a wheelwright.**

27 June. Some boys gone to the mines and others have left the village.

27 November. 3 boys entered school – had been working at the mines

1871 **March. Many children absent – monthly pay at the mines.**

13 October. Meeting some boys who have been working at the mines during summer.

1872 **9 February. Boys beginning to leave school as usual for the Mines.**

1873 **6 May. Attendance falling off – going to the mines and to bark peeling.**

1878 **4 June. The Coniston mines having been closed this week many children are absent. 75 present.**

Tools and Mining Methods

All the underground mining at Coniston was done by hand. Skilled miners used hammers and drills to bore shot holes into the unrelenting rock that contained the copper ore. The holes were filled with gunpowder, the copper vein was blown apart and the ore and rock were loaded into wagons and taken to the surface. Then the tough, physical work of hammering and drilling began again and was repeated day after day.

Gunpowder

Gunpowder was probably not much used for mining until the second half of the 18th century. Blasting was one of the most dangerous tasks, particularly before the introduction of the safety fuse in the 1870s, as the powder was fired by straws filled with fine gunpowder and ignited by touch-paper. Miners were responsible for providing their own straws and usually oat straw was preferred because of the length from the ground to the first joint. Bundles of these carefully prepared straws—each batch tested for running speed—were a common feature in miners' kitchens in the 19th century.


A


B

A. Powder keg , used by the miners for carrying gunpowder. *© Minerva Heritage courtesy of The Ruskin Museum* ▶

B. Lead fuse. *© Minerva Heritage courtesy of The Ruskin Museum* ▶

Boring Shot holes

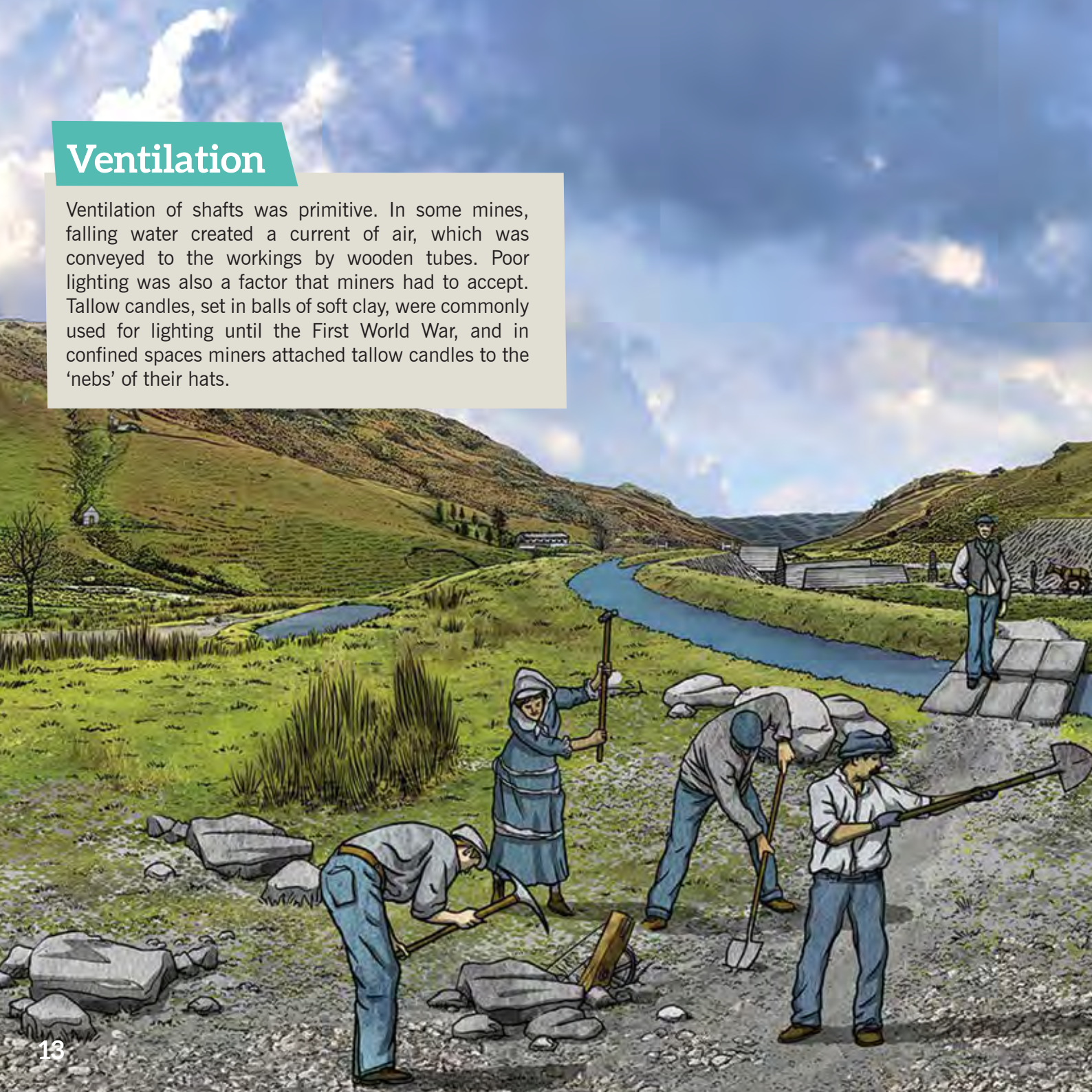
Copper pricker, used to make a hole for the fuse once a shot hole has been filled with gunpowder. *© Minerva Heritage courtesy of The Ruskin Museum*

Gunpowder blasting necessitated the use of a shot-hole made using a jumper and, later, a drill. Alexander Craig Gibson, in The Old Man, or Ravings and Ramblings around Coniston, published in 1849, describes the method used at Coniston:

" Having bored their holes to a sufficient depth, they proceed to clear them out with an iron instrument something like a yard-long needle, with its point bent and flattened—first scraping out the borings or fragments of stone, with the point, and then drying the hole with a small wisp of straw, or dried grass, drawn through the eye, and worked up and down in the hole until all moisture is completely mopped up. They then fill a tin tube with gunpowder, and conveying it into the hole, withdraw the tube and leave the hole filled to one-third, or one-half its depth with the power. Having corked down, by way of wadding, the wisp used in drying, and carefully cleaned away any stray grains of powder which may possibly adhere to the sides, they next thrust a long sharpened rod of copper, called a "pricker," down one side into the powder, and pass an iron "stemmer," or ramrod, grooved on one side to fit the pricker, to feel whether it work easily, which it will not do, if the pricker be improperly inserted. They then beat in with the stemmer a quantity of soft rotten stone, called "stemming," sufficient to fill up the hole, finishing off with a little clay, and commence the withdrawal of the pricker, an operation of some nicety. Having got it out, they pass down the hole it leaves a long straw filled with powder, having a piece of match-paper attached to its outer extremity; and having secured their tools, and uttered two or three indescribable warning shouts, the precise sound of which it is difficult to realize, but which consist of the monosyllable "fire," they ignite the touch-paper and immediately retire to a respectful distance. About three blasts in this hard rock is considered a fair day's work, the men working eight hours a day in shifts. "

Ventilation

Ventilation of shafts was primitive. In some mines, falling water created a current of air, which was conveyed to the workings by wooden tubes. Poor lighting was also a factor that miners had to accept. Tallow candles, set in balls of soft clay, were commonly used for lighting until the First World War, and in confined spaces miners attached tallow candles to the 'nebs' of their hats.



Clothing

Formal protective clothing was virtually unknown until the 20th century. In their place, 19th-century miners wore thick woollen trousers and long leather jackets. Clogs with iron caulkers were the preferred footwear, as boots were difficult to dry and more expensive. These were lined with soft straw for warmth, and experienced miners were supposed to have worn footless stockings, so that when their feet got wet they could replace the wet straw with dry stuff, which was always carried for this purpose.

Reconstruction of the area around the mine office (now the YHA).

Accidents

Hazards were an accepted part of the miner's lot but, despite the difficult working conditions, serious accidents were infrequent. Analysis of 23 fatal accidents recorded at the mines in the 19th century indicates that the initial causes were:

9 - fall from height
6 - struck by falling object
4 - explosion
4 - machinery

Reports of some of these accidents are detailed below. From these accounts, often described in gruesome detail in local newspapers, it appears that serious injuries usually resulted in death. The relatively lower standard of medical practice in the 19th century means that they are not comparable with present day fatal accident statistics. Many people who ultimately died from blood loss, tetanus or shock for example, would today have been saved. By today's standards many of these accidents would be non-fatal or 'lost time injuries'.

Falls

A ladder run or shaft could be over 100 feet deep, and a fall from one was likely to be serious. As with all workplaces and equipment, the responsibility was on the user to check before use and take care.

In 1840, Thomas Hamilton fell 30 or 40 yards when his hand slipped off the chain of a tub that he was pulling at the top of a shaft:

WESTMORLAND GAZETTE
23 MAY 1840

On Monday last an accident, which was attended with death, occurred at the Copper mines in Coniston. It appears that a man of the name of Thomas Hamilton was attending the shaft of the mine which is carried by an engine, when he by some means or other, at present unknown, had got entangled in the machinery of the shaft and was precipitated to the bottom of the mine, which was seventy feet deep. His remains when discovered were mutilated in so shocking a manner as to leave but faint traces of humanity. Hamilton"s sudden and frightful end has caused a degree of sensation among the workmen of the mines that will not soon be forgotten. The deceased"s remains were removed to their last resting place a day or two after, when about a hundred members belonging to the order of Mechanics, of whom Hamilton was a member, walked in procession to and from the grave. The procession is described as being very imposing and respectable.

A miner called Birkett died after a ladder he was ascending gave way:

WESTMORLAND GAZETTE

11 MAY 1850

CONISTON MINES—FATAL ACCIDENT

One of those accidents which are of such painfully frequent occurrence at these mines, took place on Friday last, by which a man named Birkett lost his life, leaving a disconsolate widow and young family with no means of support but the parish. It appeared at the inquest that he was ascending a chain ladder from a lower to a higher gallery in another part of the workings, for the purpose of borrowing a hammer from a brother who was employed above, when the ladder or the fastening to which it was joined gave way, and he was precipitated down the dark and rugged chasm some thirty to forty yards to a lower part of the mine. His companions heard something falling, but thought it was nothing more than some fragment of rock. They did not witness the accident, for into the depths of those gloomy and extended workings the light of day cannot penetrate, and the minders" glimmering candle stuck against the rock serves little more in the way of light than to render the darkness visible, and not the many dangers that surround those employed. It was only by his failing to return in due time, and the reply to their calls that he was not arrived above, and they suspected that had occurred. On descending with his brother to a lower level of the mine they found him lying perfectly insensible, and after remaining so until the next morning he died. It may be remarked as proving how many dangers attend such employment that the father of the deceased had been previously killed in the same mines, and a brother much mutilated at different times.

Miners could also be knocked off a ladder by falling rocks or other objects dropped from above:

ULVERSTON ADVERTISER

12 January 1854

Another Fatal Accident happened on Saturday last, at Coniston mines, to a miner named T. Birkett, aged 65 years. He was going to work at the time the accident happened, and was in the act of climbing some ladders, when a quantity of rubbish fell from above and knocked him down a height of 20 fathoms. He was taken up dead. An inquest was held upon the body when a verdict of "Accidental Death" was returned. In 1860, Stephen Relph, aged 15, lost his footing and fell heavily among some stones. He was so seriously injured that he died the same evening.

ULVERSTON ADVERTISER

1st November 1860

An inquest was held on Saturday last, at the house of Mr. Edward Barrow, the Black Bull Inn, Coniston, on the body of Stephen Relph, aged 15 years, son of William Relph, miner, Coniston, before W. Butler Esq., coroner. It appears that the deceased and his father were working together in a "driving" or shaft, at the Coniston mines, and each had bored a hole, when deceased went to fetch two straws. He had got to the top of a wall, about 15 feet high, which he had to descend, and his foot slipped, and he was precipitated to the bottom, falling heavily among some stones, and was so seriously injured that he died the same evening. Verdict "Accidental death."

Falling objects

Falling rock was an ever-present hazard:

WESTMORLAND GAZETTE
24 JUNE 1841

SHOCKING ACCIDENT—
Last Saturday, while the workmen in Coniston mines were employed in throwing ore down into a hopper, where it goes into the wagons, a man got into the hopper unknown to the men above. He was hit by a piece of ore on the head, and when taken up, was quite insensible. He lingered about an hour and then died. On Monday last an inquest was held on the body before Wm. Blendall, Esq., the coroner, and a respectable jury, when a verdict of accidental death was returned. This unfortunate young man entered the Mechanic's club a few weeks ago, and his parents will now receive from that society the sum of £6 for his interment.

WESTMORLAND GAZETTE AND KENDAL ADVERTISER
20th August 1846

FATAL ACCIDENT, CONISTON—
On Monday last as Benjamin Atkins, a pitman, in the employ of Coniston Mining Company, was at work securing a roof in one of the interior levels of the mine, with timber, a piece of rock fell upon him, and crushed his back very severely. He was immediately conveyed home by his fellow-workmen, and the mine surgeon attended him; but after lingering in great pain about three hours, death terminated the man's sufferings. An inquest was held on Wednesday, on view of the body, before Wm. Blendall, Esq., coroner, and a respectable jury, when a verdict of 'Accidental Death' was returned. Deceased was a sober and industrious man, and has left a widow and eight children to mourn his irreparable loss.

Isaac Holliday died in 1853 from falling debris that had been loosened by the firing of shots:

ULVERSTON ADVERTISER
14th July 1853

An inquest was held at Coniston, on Monday last, before W. Blendall Esq., Coroner, on view of the body of Isaac Holliday, miner, in the employment of the Coniston Mining Company, who met his death from the falling of a quantity of stones and rubbish whilst he was at work. From the evidence adduced it appears deceased was engaged along with some others at work, at a place considered perfectly safe, and having fired a few holes resumed their work, when hearing a crash, they instantly sprang from their places for the purpose of escape, when a stone as is supposed had fallen on deceased's head and stopped his progress, and he was immediately covered over with stones and rubbish—the work of a moment. No one being very near at the time, except a man of the name of Kidder, who himself had a narrow escape, and the place also being full of smoke, he could not give a clear account of the accident. It is supposed, however, that the debris had been loosened from the firing of the shots, and thus caused the fatal casualty.—Verdict "Accidental death."

William Duggan was killed by a fall of ore in Kernal Level:

WESTMORLAND GAZETTE
20TH MAY 1865

FATAL ACCIDENT AT THE CONISTON COPPER MINES—On Tuesday last a man named William Duggan met with an accident which terminated fatally. He was working at a place called Kernal Level, when a quantity of rock fell upon him, which crushed him so that he fell to a 'level' below, a distance of forty-two feet. The poor fellow only lived till he arrived at home. An inquest was held the following day at the Ship Inn, Bowmanstead, before W. Butler, Esq., coroner, and a respectable jury, when a verdict of accidental death was returned.

Explosions

Considering the obvious hazards from gunpowder and its regular use, fatalities from explosions were relatively rare. Rather than emphasizing the dangers of mining, this fact should be regarded as a testament to the miners' skill and their attention to safety. However, the earliest recorded fatality at the Coniston mines involved gunpowder:

Hawkshead Parish Register,
30 June 1693

Michael Nolon a workeman which wrought in the mynds of Coniston Fell that was slayne when hee was burtinge a Cragg with Gunpowder.

In 1853 Edward Holliday was killed by premature explosion of a shot:

ULVERSTON MIRROR
13th November 1853

FATAL ACCIDENT AT CONISTON COPPER MINES—On Friday a shocking accident occurred at the above place to a miner named Edward Halliday, 38 years of age. According to the evidence given by his partner, at the time the accident happened, deceased was in the act of stemming a hole, previous to firing, when the shot prematurely exploded, blowing out the stemming, etc., which came in contact with deceased's head, and caused instant death. Deceased had a brother killed in July last, who was a partner to a person named John Wilson, who was killed about three months ago. Deceased's wife had a brother killed at the mines and two others severely injured; one is William Gregg (well known in the district as "Old Fudge"), who has only one leg, one arm, and one eye. At the inquest held on Monday, a verdict of "Accidental Death" was returned. Deceased has left a widow and three children.

Bryan Kennedy died in 1854 whilst stemming a hole with powder:

ULVERSTON ADVERTISER
11th May 1854

Another Accident resulting in death, connected with mining operations, we are sorry to say, occurred at Coniston on Saturday last, under the following circumstances: — Bryan Kennedy, a young man, 19 years of age, was engaged with his brother, a youth of 15, in boring the rock in the mines at the above place, for the purpose of blasting and as deceased was stemming the powder, in one of the holes, it exploded, and the poor fellow was thrown to the ground. He was found to be much injured about the head, and had both legs broken. He survived the accident only two hours, and died whilst being conveyed on the road home. The accident is represented as having been purely accidental, and without the least blame being attached to anyone.

The Ulverston Mirror (24th March and 23rd April 1866) reported that Thomas Richardson, aged 45 "was drawing the pricker, after stemping a blast, when the shot went off and killed him on the spot, his head being literally blown off and his brains scattered about in all directions."

21-year-old miner William Richards was struck by the blast from a shot:

ULVERSTON MIRROR
8th April 1871

On Wednesday night a sad accident happened at the Coniston Mines. William Richards, a young Cornishman aged 21, whilst engaged in blasting, was struck by a shot, and received such injuries on the head that few hopes were entertained at the time of writing of his recovery.

Miner's gad or wedge, used for breaking rock by hand. *© Minerva Heritage courtesy of The Ruskin Museum*

Accidents involving machinery

Patrick Nelson injured his leg and thigh when feeding stones through a hopper above an ore crusher:

WESTMORLAND GAZETTE
14TH FEBRUARY 1846

INQUEST AT CHURCH CONISTON—
An inquest was held on the 7th instant, before W. Blendall, Esq., coroner for the Liberty of Furness, at Park Gate, in Church Coniston, on view of the body of Patrick Nelson. The deceased had to attend the regular feeding of stones, impregnated with copper ore, from a hopper to iron rollers, through a space less than four inches wide, when his foot got through the space, and along with his leg and thigh were seriously injured about three o"clock in the afternoon, and in consequence of which he died about twenty-four hours afterwards. Verdict, 'Accidental death, owing to his own improper act and inadvertence.'

In 1858, a collapse of a mine tramway resulted in a fatality:

WESTMORLAND GAZETTE
3RD MAY 1858

SERIOUS ACCIDENT AT CONISTON MINES—
A melancholy and fatal accident happened at Coniston copper works on Saturday week, by which one man was killed and another most seriously injured; two others having a very narrow escape. It appears that the party were going along a tramway with some laden wagons, and one part of the tramway being carried across a piece of boggy ground, and as soon as the wagons entered upon it the rails gave way, and the wagons with the men fell down, by which one life was lost and another left in a state of great suffering. The unfortunate man who was killed was a native of Ireland, and had not been long at the works. The one injured was Birkett, and had previously lost an eye by an accident at the same works.

"Plug and feathers", tools used for breaking rock. *© Minerva Heritage courtesy of The Ruskin Museum*

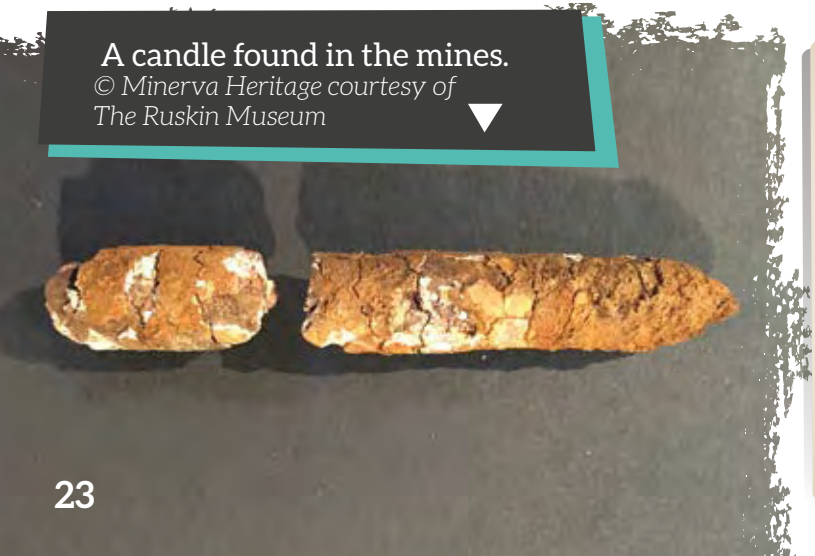
Reconstruction drawing of the copper mill at Paddy End. In the background is the incline which brought ore to the mill from the Middle Level mine workings.
© Steven Hall as part of the Heritage Lottery Fund Coniston Copper project.

Supporting Industries

Great quantities of tools and materials had to be supplied to keep the mines running. The miners needed candles, drills and gunpowder; the mine horses had to be shod and fed; timber was required to support the underground workings; and machinery had to be made for the dressing floors where the copper ore was processed. Then the ore had to be transported to Ulverston, where it was shipped to the smelting furnaces in Lancashire. Directly and indirectly, the mines supported scores of other workers and businesses.

Candles

Candles were the only source of light used underground. They were bought from Kidd & Co, Kendal, Shakeshaft of Preston and William Ripley of Ulverston. In 1868, a total of 3,900 candles were received. The total number of candles purchased in 1876 was 3,471, and in 1877 it was 4,416. The standard weight of a candle was one pound.



A candle found in the mines.
© Minerva Heritage courtesy of The Ruskin Museum

Coal

Coal came from the Wigan Coal Co and Furness Railway Co. The total weight recorded for 1876 was 367.5 cwt (18.85 tonnes). Different types of coal were recorded—slack, main, kitchen and nut.

Gunpowder

Gunpowder, used by the miners for blasting rock, came from the Elterwater Powder Company It was delivered in 25lb casks, which were returned when empty. The Elterwater works mainly made slow blasting powders. It was coded CBX, standing for coarse blasting powder. Records show that, between March and November 1876, 698 kegs (7.9 tonnes) of powder from Elterwater were received at the mines. John Case, Ulverston, supplied powder cans, oil cans and lamps, while fuse was supplied by R Kendal.

When carrying gunpowder from Windermere Station along the rough road to Coniston, carters had to comply with the following safety rules:

RULES

- DRIVER TO BE OVER 16
- WHIP TO BE NO MORE THAN 7 FEET LONG
- LOAD MAXIMUM OF 15 CWT
- MAXIMUM SPEED TO BE WALKING PACE (OR FINED 10/-)
- NO MATCHES TO BE CARRIED
- CARTS IN THE CONVOY TO BE AT LEAST 60 YARDS APART
- SHOULD A HORSE LAMP GO OUT IT MUST BE TAKEN 20 YARDS AWAY TO BE RELIT
- THE HORSE TO BE LED AND ON NO ACCOUNT MUST THE DRIVER LEAVE HIS POSITION

Horses

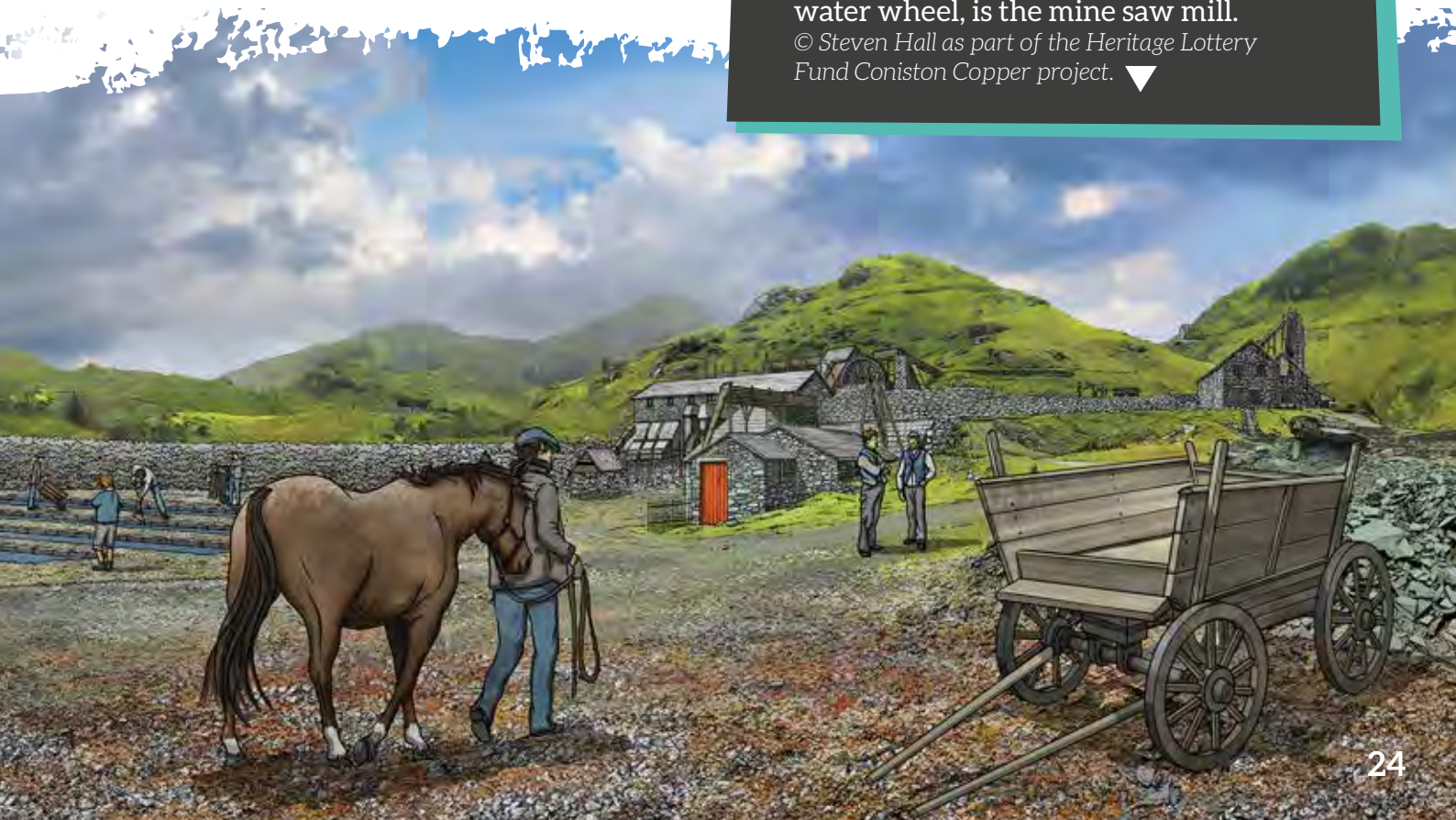
Horses were used to haul wagons underground and at the dressing mills. Saddles and horseshoe nails were supplied from Satterthwaite. Sacks of bran, oats and beans came from J Todd at Tilberthwaite and Roger Fleming (at Bootle?).

John Mader, a shoe maker in Coniston, repaired horse collars and John Bowness worked as a blacksmith in the village.

Calkers

An unusual business was John & Son Biggins of High Park, calker makers. Calkers—sometimes spelt 'caulkers'—are pointed horseshoes that were placed so as to prevent slipping. The calkers gave horses a better grip on the wet uneven surfaces inside the mine.

Reconstruction drawing of the Bonsor Upper mill (behind the present YHA). This was the main processing mill at the mine. To the right, with a large water wheel, is the mine saw mill.



Cast iron stamp, part of the machinery used to crush the ore.
© Minerva Heritage courtesy of The Ruskin Museum

Ironwork

E Salmon & Co (or Salmon Barnes & Lee), at the Ulverston Canal Foundry, supplied iron heads and plates for the mine's stamping mills, as well as pulley and ratchet wheels, wagon wheels, pull plates, lever sockets and rods.

Timber

Huge amounts of timber were needed to support the underground mine workings. The account books record the purchase of larch, oak, spruce, pine and ash from a number of suppliers, including Thomas Barrow at Esthwaite.

Transporting the ore

Before the arrival of the railway, all the ore from the mines was shipped down Coniston Water to Nibthwaite and then taken overland to Ulverston. In June 1843, Ben Dixon was paid £25 5s 9d for 'boating ore' to Nibthwaite and J Lace received £45 10s 3d for carting ore to Ulverston.

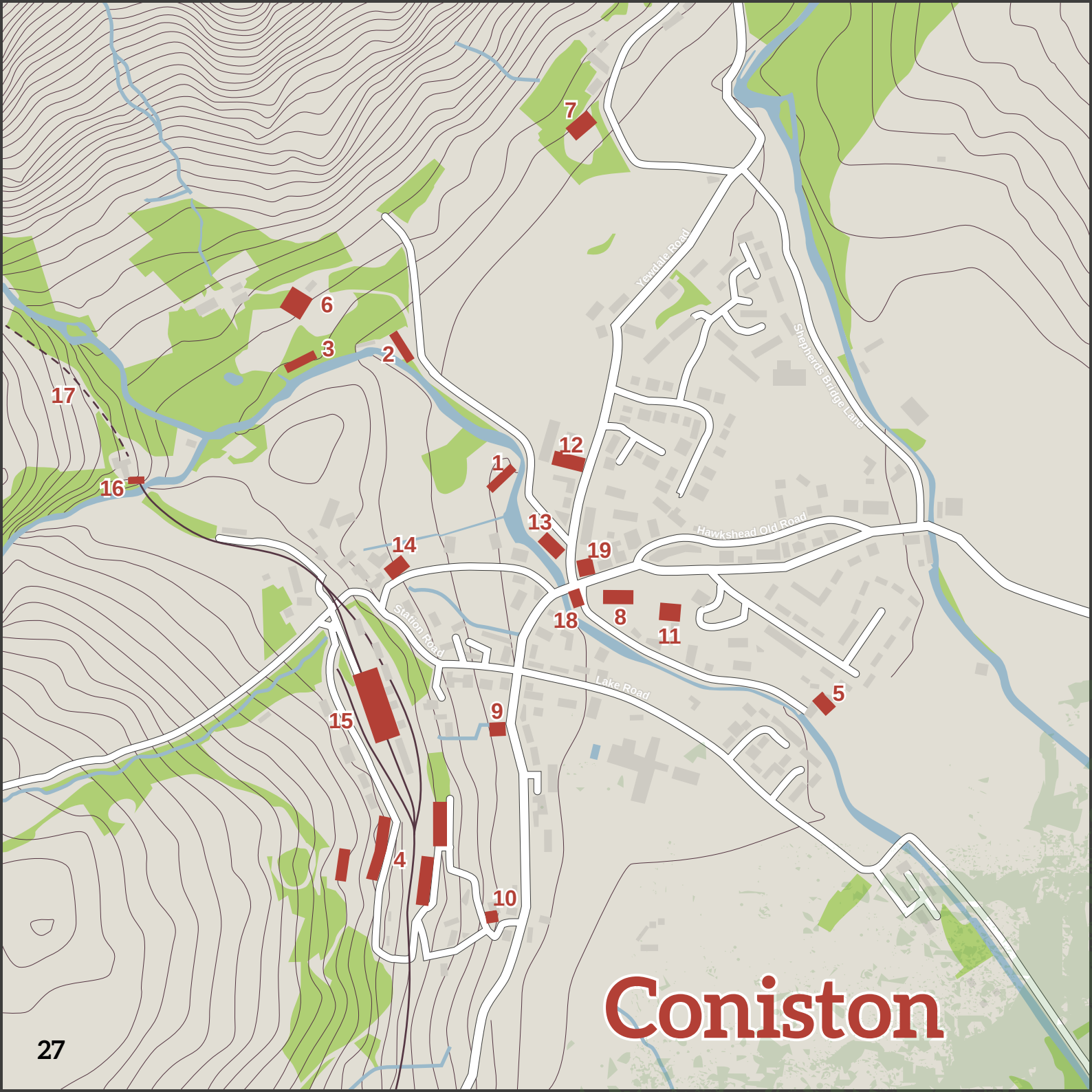
The railway

In 1849, John Barraclough Fell proposed building a railway with a gauge of 3 feet 3 inches from the mines at Coniston to link with Furness Railway at Broughton. A standard gauge line opened on 18th June 1859, with stations at Torver and Woodland. An extension from Coniston to the Copper House (a depot for the mines) was opened in 1860. The railway closed in 1958.

Records from 1866–1876 show that the following items destined for the mines were carried on the railway:

- **spades (from Thomas Barrow & Son)**
- **rope (from Bibby & Co and Henry Stuart, Barrow-in-Furness)**
- **grease (from J White)**
- **powder (from John Case)**
- **pitch tar, naptha (a petrol-based fuel) and grease (from K W Mackereth, Ulverston)**
- **oil (from Satterthwaite & Co, Ulverston)**
- **whip lash (from Sam Atkinson, Ulverston)**
- **pick shafts, hammer shafts (from Puch(?) Charnley Woodland)**
- **brooms (from James or Clint Dickinson, Nibthwaite)**

▲ One of the stamping mills where the ore was crushed. From a hand-coloured lantern slide, circa 1880.
Image courtesy of Warren Allison.


7
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18
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Yewdale Road
Shepherds Bridge Lane
Hawkshead Old Road
Station Road
Lake Road
Coniston

Village map

1 Forge Cottages: Used by Anthony Tissington's miners in 1756. Seven extra miners' cottages were built here by Lady le Fleming in 1834. By 1851 there were 51 miners and their families housed in 20 cottages.

2 Gate House Row: Former bobbin mill converted into miners' cottages.

3 Boon Beck: Three miners' cottages built by Lady le Fleming in 1834.

4 Cat Bank: A number of terraced rows built as workers' housing. Ten of the cottages were built by the mining company. In 1851 there were 46 miners and their families living in 21 cottages.

5 Bobbin Mill: Another former mill converted to miners' housing.

6 Holywath: John Barratt, the mine owner, bought a cottage here in 1842. He developed the site, laying out extensive gardens and building a large house. It became his principal residence.

7 Holy How: Bought and developed in 1842 by William Barratt, John Barratt's cousin. Now the Youth Hostel.

8 Parish Church: The original church of 1586, dedicated to St Andrew, was replaced by the present building in 1819. The church contains a number of memorials to the Barratt family.

9 Wesleyan Chapel: Built in 1875, the foundation stone was laid by Francis Barratt. Now the Methodist Chapel.

10 Primitive Methodist Chapel: Built in 1859 and later converted into a Masonic Hall.

11 School: In 1720, a small school was built in what is now the parish churchyard. A new school was built nearby in 1854.

12 The Institute: Opened in 1878 with a reading room, library and assembly room and extended in 1896. In 1905, a 'carving house' was added for wood carving classes.

13 Black Bull: In the 18th and 19th centuries, the Lords of the Manor held their court here and the coroner used the inn when dealing with deaths in the mines and quarries. The Domestic Comfort Lodge friendly society was founded here in 1840.

14 Sun Inn: Known in the 16th century as the Rising Sun, it was in enlarged in 1902 by the addition of the hotel. The Rising Sun Friendly Society met here in 1835.

15 Railway station: The railway opened in 1859 and linked Coniston with the Whitehaven and Furness Junction Railway at Broughton-in-Furness. During the 1904 season, 10,816 tourists passed through the station. The line closed in 1962.

16 Copper House: The railway extension to the copper mines wharf was completed in 1860.

17 Cart track: Cart track to the copper mines.

18 Bank of Liverpool: Built in 1905. It later became Martins Bank and is now Barclays Bank.

19 Lancaster Bank: Opened in 1897, it later became the District Bank. Now the Yewthwaite Hotel.

A

B

C

Further reading

Gibson, A. C. ***The Old Man or Ramblings and Ravings around Conistone*** (Whittaker and Co, London) 1849.

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The Coniston Copper Archive and Social History Project uncovered a wealth of information about the Copper Mines valley and Tilberthwaite. We would like to thank all the volunteers who contributed their time and effort. The information from their research is included in this booklet.

◀ A. An archive volunteer underground with CATMHS's Warren Allison. *© Minerva Heritage*

◀ B. Coniston Copper archive volunteers studying a Victorian mine plan in the Armitt Museum, Ambleside. *© Minerva Heritage*

◀ C. View of the Low Bonsor copper mill around 1880. *Image courtesy of CATMHS*

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There are a number of people without whom this booklet, and the work of the Coniston Copper Archive and Social History Group, would not have been possible. These include:

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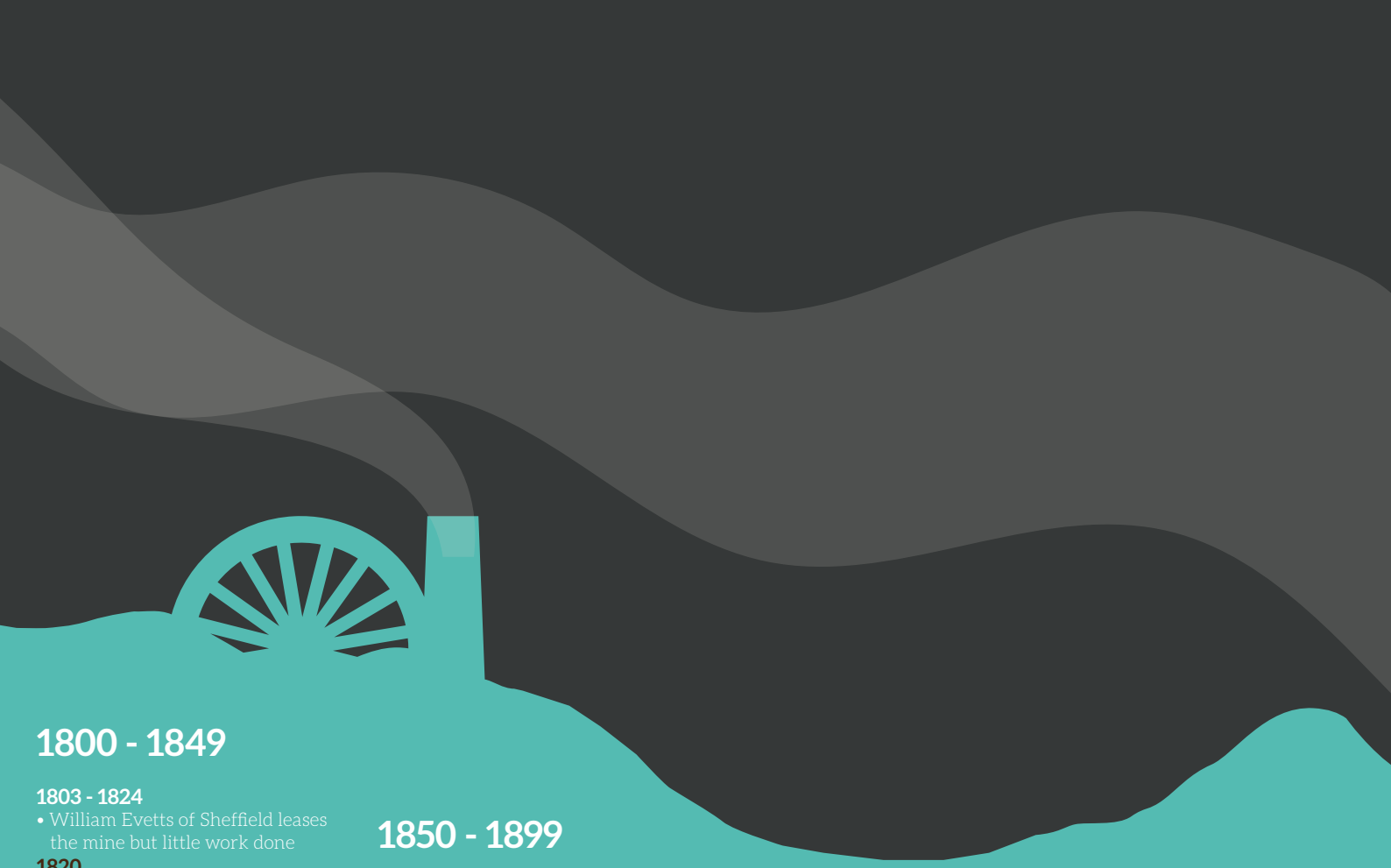

1800 - 1849

1803 - 1824
- William Evetts of Sheffield leases the mine but little work done

1820
- George IV becomes king

1824
- John Taylor, mining engineer, leases 'mines, veins etc of copper and other minerals within the manor of Coniston' from Lady le Fleming

1834
- John Taylor enters into partnership with his mine manager John Barratt and the mines undergo major development

1837
- Victoria becomes queen

1841
- John Barratt buys out John Taylor and takes control of Coniston copper mines

1850 - 1899

1854
- The Crimean War

1861
- Death of Prince Albert

1875
- Coniston copper mines sold to Thomas Wynne, HM Inspector of Mines

1884
- Copper prices drop and the Coniston mines are partially closed

1890
- The first electric underground trains run in London

1892
- Coniston Mining Syndicate formed under manager Thomas Warsop; reworking spoil tips

1900 - 1999

1908
- Coniston Mining Syndicate wound up

1910
- The Coniston Electrolytic Copper Company under Henri de Varinay starts processing the spoil tips at Coniston

1914
- The Coniston Electrolytic Copper Company stops work

1953
- Elizabeth II crowned

2000 - PRESENT

2001
- September 11th attacks

2012
- UK hosts Olympic games

2017
- UNESCO awards Lake District World Heritage site status

2016-2018
- Coniston Copper Project

The Coniston Copper project is a partnership between the Lake District National Park Authority, land owners, Ruskin Museum, YHA Coniston, Grizedale Arts and Cumbria Amenity Trust Mining History Society. It is funded through the Heritage Lottery Fund to conserve the mining heritage in the area and to provide improved opportunities for interpretation, learning and participation.

The Coniston Copper Mines represent a range of mining structures, spread across a total area of around 57 hectares in the south-west of the Lake District National Park. These structures cover an industrial archaeological heritage reaching back over 400 years to, at least, the late 16th century and the reign of Queen Elizabeth I.

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and awarded by the Heritage Lottery Fund

heritage lottery fund
LOTTERY FUNDED

Lake District National Park
World Heritage Site

NAA
Heritage Consultants

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