

A Guide to the **INDUSTRIAL**
ARCHAEOLOGY of
CUMBRIA



EDITED BY
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Association for Industrial Archaeology
Cumbria Industrial History Society

This booklet is published by the Association for Industrial Archaeology for the annual conference of the AIA held at Ambleside in 1993. The AIA was established in 1973 to promote the study of industrial archaeology and encourage improved standards of recording, research, conservation and publication. It aims to support individuals and groups involved in the study and recording of past industrial activity and the preservation of industrial

monuments, to represent the interests of industrial archaeology at national level, to hold conferences and seminars, and to publish the results of research. The Association is a voluntary one. It publishes the *Industrial Archaeology Review* which is sent twice yearly to all members who also receive the *AIA Bulletin*. Further details may be obtained from the Membership Secretary, AIA, The Wharfage, Ironbridge, Telford, Shropshire, TF8 7AW

CUMBRIA INDUSTRIAL HISTORY SOCIETY

CIHS was formed in 1985 by members of the Cumberland and Westmorland Antiquarian and Archaeological Society with a particular interest in industrial history. The regular programme includes winter evening meetings, guided field trips in summer often to sites normally closed

to the public, an annual conference and a regular Bulletin. In addition the Society is actively involved in the recording and conservation of important IA sites.

Further details may be obtained from the Membership Secretary:

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Front cover: Site S7: Duddon Charcoal Furnace Photo: Andrew Lowe

Back cover: Charcoal Burners Hut, High Furness, c1900

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K15.9: Stott Park Bobbin Mill in 1971, prior to closure (see page 32)

Photo: David W Jones

CUMBRIA – AN INTRODUCTION TO THE COUNTY

The administrative area of Cumbria was created in 1974 by the combining of the ancient counties of Cumberland and Westmorland together with part of North Lancashire (Furness or Lancashire over the Sands) and, in the east, part of the West Riding of Yorkshire.

To the average visitor Cumbria means the English Lake District, a land of mountains, valleys and water. Many would be surprised to learn that they are surrounded by, and indeed have beneath their feet, a large number of remains of once thriving industries. Whilst the visual impact of quarries is obvious the effect on the landscape in Furness by years of coppicing of the woodland is less apparent.

The area has a mountainous core of three main forms of rock with Skiddaw slate in the northern area around Keswick, and outcropping at Black Combe in the southwest, Borrowdale volcanic in the central massif, which includes the highest mountain in England, Scafell Pike, at 3210 feet (977m), and the Silurian slate of the Windermere and Coniston areas. A narrow band of limestone crosses the area from Shap to the Duddon estuary. From earliest times rock has been worked by man. In

the Neolithic age stone axes were produced in Great Langdale in large quantities. Quarrying was started to satisfy local demand and expanded to supply further afield and abroad. The presence of limestone ensured a lime-burning industry and the building of numerous kilns in the south of the county. Beneath many fells, mining took place to win principally copper and lead.

The high fells have from monastic times been sheep runs providing wool for cloth making and in the east of the area for the hand-knitting industry.

To the north, west and south of the area the land falls from the uplands to fertile coastal plains where after forest clearance agriculture became the main industry. The coastline holds four major and several smaller river estuaries, and shipping and fishing developed as did shipbuilding in a number of locations. In two coastal areas, one in the south and the other in the northwest, large deposits of iron ore were found and subsequently mined on a large scale. Also in the north west an extensive coalfield was discovered and led to the development of Whitehaven and Maryport.

In the south of the county a number of woodland related industries arose including coppicing, bark peeling, besom, swill and hurdle making, and charcoal burning.

Apart from the beauty of the area, the Lake District is renowned for its rainfall. The head of the Borrowdale valley, near Keswick, has the highest recorded precipitation in England of up to 200 inches (5000mm) a year. This vast amount of moving water has been harnessed from medieval times, originally by water wheels, the first ones driving corn and fulling mills.

This abundance of water power and availability of raw materials, either locally or easily obtained, led to the proliferation of industries which included textiles, woodworking, iron forging, paper making, marble polishing, comb making and blacking manufacture.

In 1764 the manufacture of gunpowder commenced in the Kent valley. This was a major industry and most of the black powder in use in the country came from Furness and Westmorland. Water power was readily available. Of the three raw materials, charcoal was also available locally, saltpetre came from India, then Chile and at one time from Germany, and sulphur was imported from Sicily. The traditionally made charcoal was often contaminated with soil, stones and bark so cylinder retorts were brought into use. There are very few remains of the sites as the mills were all required to be destroyed by fire after closure.



2 K15.6: One of the old waggons on the site of Low Wood Gunpowder Mill, near Haverthwaite (see page 31)
Photo: David W Jones

Tobacco was imported through Whitehaven and carried by pack pony over the fells to Kendal. This method of transport resulted in some damage to the fragile loads and the broken stalks and leaves were used to found the snuff industry.

Transport and communications have always been a problem due to the wide estuaries in the south of the county and the mountainous centre. The Romans first tackled the problem as they required supply routes between their 23 forts and so built the first paved roads. In medieval times some Roman routes remained in use but many new ways were created between settlements usually just as tracks without formal maintenance.

In the mid eighteenth century turnpikes were constructed.

Three canals were built in the county. A short one at Ulverston was to provide a safe harbour from the Leven estuary. The Lancaster canal reached Kendal in 1819 and stimulated industrial growth by allowing the importing of coal and the exporting of slate and lime. The third canal, the Port Carlisle, was short lived and was soon converted to a railway.

The first major railway in the county was the Lancaster and Carlisle opened in 1846. By 1857 various small railway companies had joined to form the Furness Railway along the coast. The growth of the railways encouraged tourist traffic and the building of large hotels at Grange, Keswick and Windermere. More importantly it led to the growth of slate and mineral extraction due to the ease of exporting produce. The building of the South Durham and Lancashire Union Railway allowed coke from Durham to be brought to the iron furnaces of West Cumberland. In 1880 some 40 furnaces were in blast, now all obliterated.

In 1993 quarrying is still viable with the Burlington company shipping slate all over the world. Mining has virtually ceased. Mineral mining finished with the closure of Force Crag mine near Keswick, coal mining with the closure of Haigh Pit at Whitehaven although coal is still being extracted by opencast working further north.

Ship building continues in Barrow albeit at present restricted to submarines.

The woodland industries survive in the hands of a stalwart few who still carry out coppicing and bark peeling, and produce swills, hurdles, besoms, and charcoal.

Gunpowder production ceased in 1937 when ICI concentrated manufacture in Scotland. Snuff is still made in Kendal.

The main industry today is tourism which will doubtless be a subject for study by IA devotees of the future.

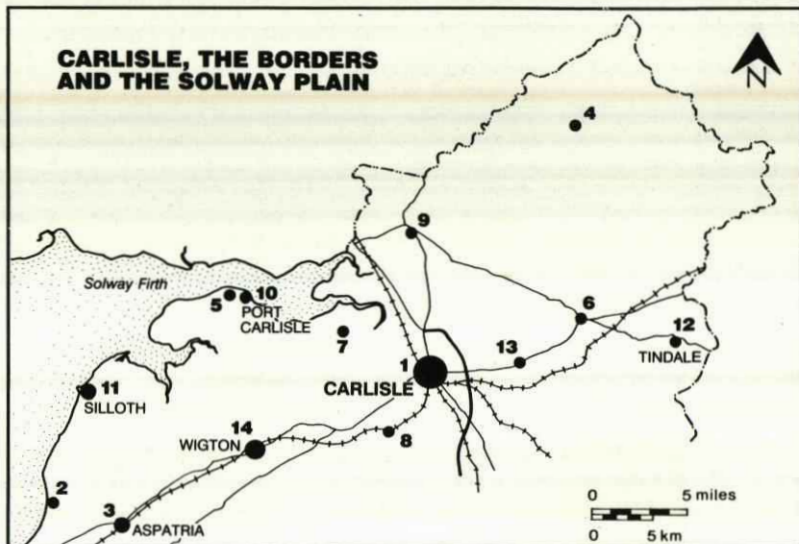
GAZETTEER

For the purposes of this guide the 'county' of Cumbria has been arbitrarily divided into six geographical areas. In a publication of this size it is impossible to cover more than a few of the innumerable sites which would be of interest to the industrial historian. An attempt has been made to include entries of significance for each area with the hope that this will sufficiently whet the appetite of the reader to seek further information from some of the items in the suggested reading list and from the wealth of material to be found in the Tourist Information Centres of the region.

KEY TO GAZETTEER SYMBOLS

- SC** Scheduled Ancient Monument
- CA** Conservation Area
- *** Easily viewed from a road or public place
- Open to the public—see page 42
- DEM** Site of demolished remains

Sites of old mine workings and quarries can be dangerous.



C1 CARLISLE

NY 400555

The principal town and administrative capital of Cumbria. First settled by the Celts, it became the town of Luguvalium under the Romans and in 1092 was captured by William Rufus. During the Border Wars, Carlisle moved back and forth between English and Scottish hands until the failure of the rebellion of 1745. Wade's new Military Road from Newcastle encouraged trade with the continent and the importing of flax from Hamburg laid the foundations of the textile industry.

C1.1 TULLIE HOUSE MUSEUM

Castle Street, Carlisle

NY 400560

Extensive archaeological collection with a section on railways

C1.2 CARRS BISCUIT FACTORY

NY 393559

Founded in 1834 by Jonathan Carr of Kendal. Original buildings remain although now much altered. *

C1.3 CITADEL STATION

NY 402555

Built in 1847 by Sir William Tite to a Victorian-Tudor design.

C1.4 COWAN, SHELDON ENGINEERING WORKS

NY 405552

DEM

Founded in 1847 to produce railway equipment and became a major manufacturer of cranes. The works closed and the site was cleared in the late 1980s.

C1.5 LONSDALE BRICK AND TILE WORKS

Cumwhinton

NY 468515

A series of Victorian brick kilns, still standing but not in use. *

C1.6 DENTON HOLME

NY 400550

A nineteenth century cotton milling area consisting of a series of mills with their associated housing. Numerous mill buildings remain but the majority are much altered and many have been demolished.

C1.7 SHADDON MILL

NY 394557

Built by Peter Dixon in 1836 as a seven storey steam-powered cotton mill with a chimney of 320ft (97m), at the time the tallest in the world. Cotton spinning ceased in 1883 and the mill changed to woollen production with weaving sheds added. *

C1.8 GAS HOLDER

NY 401551

A Victorian gasholder built in 1878. One of the first to use concrete in its construction.

C1.9 FERGUSON'S MILL, HOLME HEAD

NY 398546

Bleach and dyeworks established in 1824. In 1865 spinning and weaving was also carried out.

C1.10 OLD BREWERY

NY 395561

Some old buildings still standing but the rest of the site has been cleared and used for housing

C1.11 TRAMSHEDS

NY 411511

Constructed of brick and built on a curve.

C1.12 WARWICK BRIDGE

NY 477568

A woollen-mill colony with sandstone cottages.

C1.12.1 WOOLLEN MILL COMPLEX

Warwick Bridge

NY 478567

The original three storey building had a four storey extension. The mill race with sluice gates is still present, as are numerous out-buildings and three rows of workers cottages. Date stone bears the years 1790, 1840 and 1890.

C1.12.2 WATER CORN MILL

Warwick Bridge

NY 474569

A square three storey mill with two storey kiln attached. Leat, tail race and escape stream are still present and all machinery is intact, including the enclosed cast iron water wheel, 10 ft (3m) wide and 15 ft 4 in (4.5m) in diameter. There is a large mill house on site.

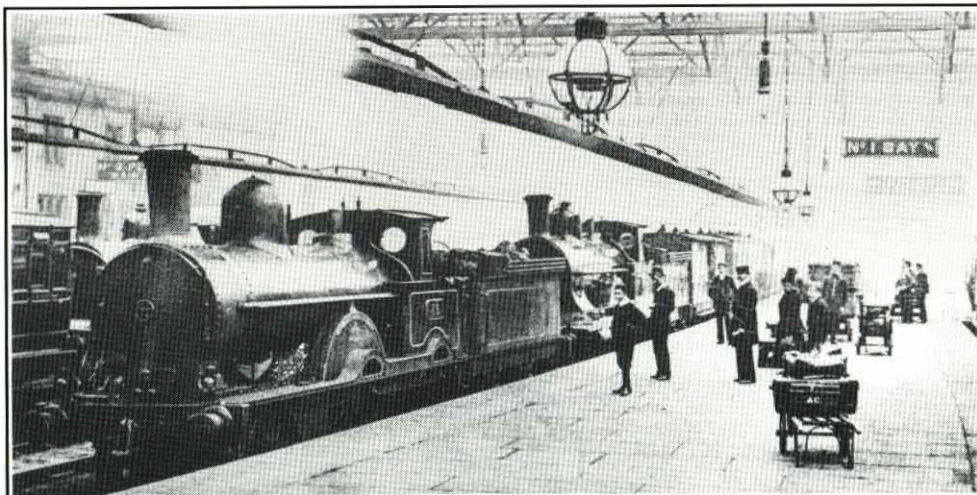


C1.2: Carrs Biscuit Factory

C1.13 WETHERAL VIADUCT

NY 468547

Built 1831-34 for the Newcastle and Carlisle Railway by Francis Giles and has five arches with 80ft (24m) spans and a height of 99ft (30m). The viaduct incorporates a pedestrian way which was formerly a toll path.



C3: Carlisle Station with a L&NWR Scottish express



C1.10: Carlisle Brewery (see previous page)

C1.14 ARMATHWAITE SIGNAL BOX

NY 505464 *
Erected by the Midland Railway in the 1870s and recently renovated and repainted in original colours.

C2 ALLONBY

NY 083430
See *Maryport-Crosscanonby*

C3 ASPATRIA

NY 148419
C3.1 ARKLEBY MILL

Aspatria *
NY 144403 *
A square plan two storey corn mill now converted to farm use and surrounded by modern farm buildings.

C3.2 PLUMBLAND MILL

Aspatria *
NY 158404 *
A two storey corn mill still containing some of the original fittings.

C3.3 MECI FARM

NY 174411 *
A Georgian model farm built in stone. Unfortunately it is surrounded by modern buildings and little is visible from the road.

C4 BAILEY MILL

NY 516784 *
Now a house but mill features and races can still be found.

C5 VIADUCT, BOWNESS-ON-SOLWAY

NY 213627 *
West of Port Carlisle and one mile (1.6km) beyond Bowness-on-Solway is the trackbed of the Solway Junction Railway. A 440 yard (401m) stone-faced embankment crosses the sand to the Solway Firth. From here the one mile (1.6km) iron viaduct was built in 1869 by James Brunless to carry Cumbrian iron to Lanarkshire.

6 Twice damaged by storms and ice-floes and

expensive to maintain it was declared unsafe in 1921, and demolished in 1934-5.

C6 BRAMPTON

NY 611528
Ancient market town with weavers cottages on Sands. It was the gateway to the moorland coal mines of the Earl of Carlisle who built the Brampton Light Railway in 1798. The original route is largely obliterated but the later track bed of 1836 may be seen from the Alston road. Part of the railway lasted into NCB days but most went in the 1920s. Stephenson's Rocket was on the line in the late 1830s.

C6.1 LIMEKILN, FORESTHEAD

Brampton *
NY 584577 *
A huge bank of four massive kilns, 110ft (33m) long and 30ft (9m) high, in good condition. The pots have been filled although the fronts are open. Accessible from Foresthead.

C6.2 GELT VIADUCT

Brampton *
NY 534573 *
A three-arch sandstone structure constructed for the Newcastle and Carlisle Railway in the 1830s. At an angle of 63 degrees with 30ft (9m) spans and a height of 64ft (19m) above the river Gelt it was at the time of erection the largest of its kind in Britain.

C7 BURGH by SANDS

NY 320590 *
There are numerous clay dobbin cottages in the village. Many have recently been re-thatched.

C8 BUCKABANK MILL, DALSTON

NY 371493 *
A two storey stone built cotton mill with a large brick chimney. The extensive mill race is still in existence.

C9 LONGTOWN

NY 379679 *
Former Fauld Mill with interesting hipped roof.

C10 PORT CARLISLE

NY 242662
The original entry point for the Carlisle canal built in 1823. The stone wall of the harbour and the lock entrance are still visible although the latter is partially filled in as is the canal basin. The canal was replaced by the Port Carlisle Railway in 1854, the platforms of which can still be seen. The goods yard is now a childrens playground. The Port Carlisle branch was famous for having its passenger services provided by a horse-drawn 'Dandy' cart, an example of which may be seen in the National Railway Museum at York.

The course of the railway can easily be followed back to Carlisle. Two of the canal

over-bridges are listed structures, the reason being that during conversion to the railway, the original cast-iron decks were jacked up and additional courses of stone introduced into the abutments to give clearance for rail vehicles.

C11 SILLOTH

NY 110535

*

The docks were constructed in 1857-9 and led to the development of the town by the Carlisle and Silloth railway, which in turn led to Port Carlisle (see C10) falling into disuse. In 1880 the stone entrance wall of the dock collapsed and was rebuilt by the railway company, at the same time the inner dock was added.

C11.1 CARRS FLOUR MILL

NY 106535

*

The five storey brick mill of 1831 occupies the north side of the dock but is now surrounded by later buildings and silos. The mill contains a Carel steam engine of 1904, in use until 1975 and still in working order but driven by an electric motor. There is also a unique floating grain silo.

C11.2 RAILWAY STATION

NY 110534

*

Surviving remnant of Carlisle and Silloth Bay Railway, now a private residence and greatly altered.

C11.3 FERTILISER FACTORY

NY 115533

*

Little now remains and is likely to be demolished (1993).

C11.4 AERODROME

NY 130540

*

A second world war airfield with a wide variety of types of aircraft hangers now mostly used for light industry. Hangers are spread throughout the surrounding countryside to minimise damage during an air raid.

C12 TINDALE

NY 617594

Former mining village which was built to service the zinc smelter built in 1845 by J H Attwood. Only a large spoil heap containing broken retorts remains. Many buildings survive including the Wesleyan chapel, reading rooms and co-operative shop but none used for original purpose. Many railway tracks are now foot-paths including a very large embankment to carry Lord Carlisle's railway over the stream.

C12.1 LIMEKILN, BISHOP HILL

Tindale

NY 615591

*

Two very large kilns with tall barrel-vaulted arches. Alongside the Tindale Waggonway from Tindalefell spliterworks to Tindale Tarn. On a branch line of Lord Carlisle's railway.

C12.2 HALLBANKGATE

NY 580596

*

Centre of coalmining enterprises of the Earl of Carlisle. The large Co-operative shop originally had its own coal siding now part converted to housing. (See C6).

C12.3 LIMEKILN, CLOWSGILL

Tindale

NY 591593

*

Remains of two very large kilns in a disused quarry, one set now totally demolished, the other pair have lost facing stones but the pots are open. The quarry was operated by water power and a wheel pit and inclines are still visible. Access from Hallbankgate.

C13 LITTLE CORBY MILL

NY 478573

*

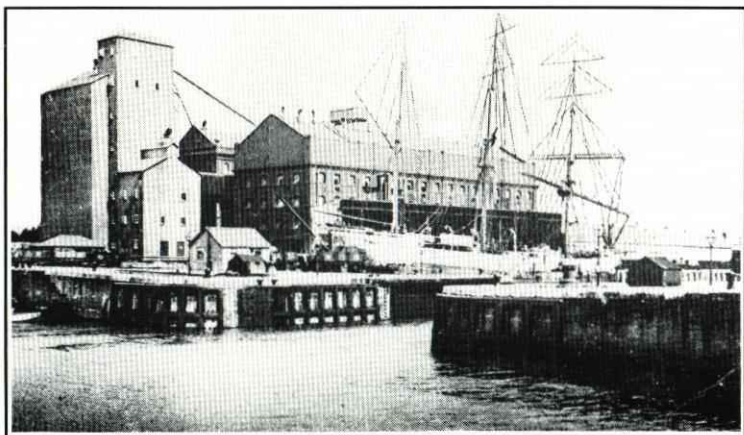
Water-powered corn mill, on private land.

C14 WINDMILL, WIGTON

NY 544989

*

A stone built tower still in good repair with roof but no sails.



C11.1: Silloth Docks and Carrs Flour Mill

2: PENRITH AND THE NORTHERN LAKES

P1 PENRITH

NY 514301

A market town on the main highway between England and Scotland which was frequently raided during the border wars.

P1.1 RAILWAY STATION

NY 512299

Built by the Lancaster and Carlisle railway in 1846 in a gothic-revival style to complement the adjacent Penrith castle.

P1.2 PENRITH STEAM MUSEUM

NY 513303

On the site of a blacksmith's shop founded in 1822 by Jonathan Stalker but soon expanded, with the aid of sons Jonathan and Joseph, into agricultural engineers and founders. Cast iron products were made up to 1962. Houses a collection of steam engines and vintage farm machinery.

P2 LIME KILN, ASKHAM

NY 508243

Within walking distance of the nearest road, a typical late nineteenth century kiln with oval pot characteristic of the area.

P3 LIME KILN, BAMPTON

NY 514181

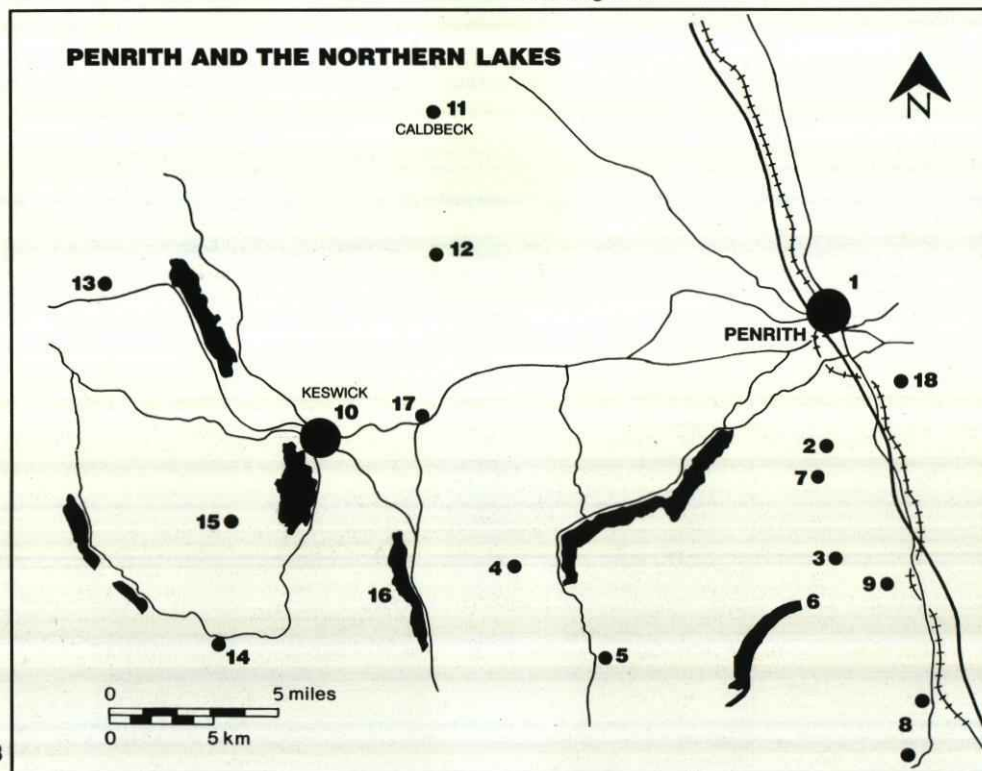
Just behind the St Patrick's Well Inn. A very unusual feature is the datestone above the arch bearing the inscription TK 1848.

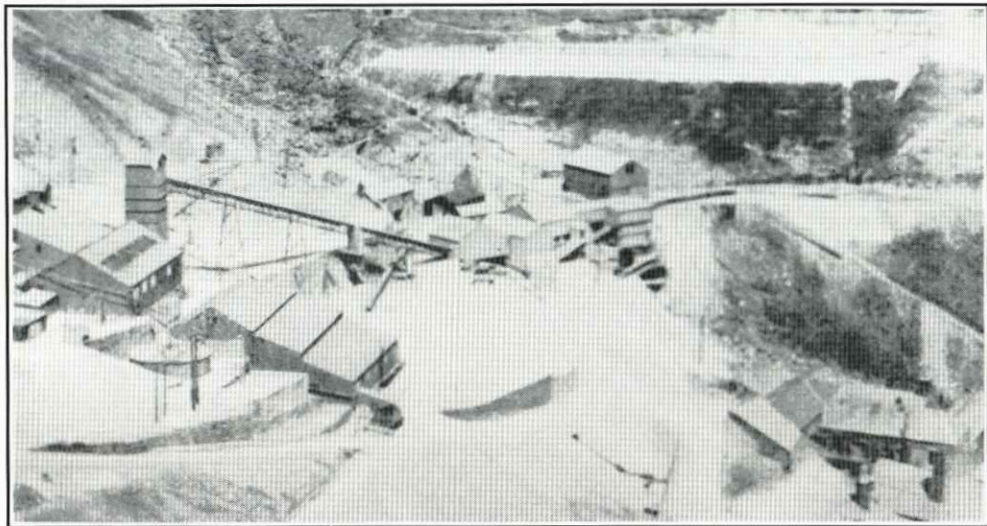
P4 GREENSIDE LEAD MINE

NY 365174

The Lake District's largest lead mine operated from around 1800 to 1962. The lower mill site and smelter buildings have been converted to various types of hostels. Remains of higher workings and a mill of about 1840 are visible as are the mile-long smelter flue and leats cut into the fellside to bring water to the wheels of the crushing mills.

CA □





P4: Greenside Lead Mine

The site is jointly managed by English Heritage and LDNP and is an SSSI.

Please do not enter enclosed areas.

P5 HARTSOP LEAD MINE

NY 394119

One of the oldest mines in the area being worked from 1696 to 1942. The adits are open but beware of shafts in the floor. Remains of the miners bothy and part of the crushing mill are still standing.

The open-hearth smelter, the Lake District's oldest surviving example, is along the footpath to Hoggett Gill.

P5.1 MYERS HEAD MINE

Low Hartsop

NY 416128

This lead mine is at the junction of Pasture Beck and Hayeswater Gill. A small corn mill with stones in situ is adjacent. Due south are the remains of Dodd End mine. A massive water-wheel pit and stone supports for launders are visible

Both mines worked in the 1860s. Further up Pasture Beck are two superb stone-arched levels, being trial bores dating from around 1800. Both sites are of interest to mineral collectors.

P6 HAWESWATER DAM

NY 502157

A 120ft (36m) high granite and concrete construction of the 1930s built by Manchester Corporation to contain Haweswater Beck as a water supply. At times of low water level, ruins of the drowned hamlet of Mardale are visible.

P7 LIME KILN, HELTON

NY 51228

Within walking distance of the nearest road. The arch has two draw eyes, both with hinge pins and catches for iron fire doors.

P8 SHAP

NY 565150

Best known for its association with the summit of the Lancaster and Carlisle Railway.

P8.1 QUARRIES

NY 555083

The 'pink' quarry opened by Curtis of Dalbeattie in 1868 produces the famous Shap Granite, actually a felspar porphyry, which in its polished form adorns many public buildings including the Albert Memorial. The 'blue' quarry (NY 565105) output is largely used as road stone.

P9 LIME KILNS

NY 551160, NY 539171

Two of a number of kilns along the road from Shap to Bampton, both having oval straight taper pots.

P10 KESWICK

NY 265235

A small market town which developed as a centre for the woollen and mining industries.

P10.1 BRIGHAM

Keswick

NY 280230

An important nineteenth century water power complex with a woollen mill, spade forge, pencil mill—later a bobbin mill, dye mill, and forge. Many buildings still standing and now private dwellings or holiday flats.



P10.1: Brigham

P10.2 MILLBECK

Keswick

NY 257263

Structural remains of an eighteenth century woollen mill, built about 1760 and closed in 1894. Original main mill converted to a house. Remains of a fulling mill and carding mill are visible.

P10.3 PENCIL MILL AND MUSEUM

Keswick

NY 263238

Factory built 1937 by Cumberland Pencil Company to replace 1920s buildings on same site. Across the road is earlier pencil factory of Ann Banks and Company of 1886, weir still visible. Museum on site records history of pencil making from discovery of graphite to modern technology.

P10.4 PLUMBAGO MINE

Keswick

NY 235127

This mine produced the most valuable product ever found in the Lake District: Graphite, also known as plumbago, wad or pencil lead. Mining started in a crude way about 1550. The value of wad steadily increased from a few pounds to about £4000 per ton in 1804. The mine closed around 1900 due to cheaper imports. The adits with guard houses can still be seen.

P10.5 FORCE CRAG MINE

Keswick

NY 195215

The last metalliferous mine to work in the LDNP produced lead, barytes and zinc. The stone buttresses of the 1904 Lobbs mill can be seen with later red brick additions replacing earlier timber construction. 770ft (234m) above are the remains of High Force Crag mine from which ore was transported down to the mill by aerial ropeway.

P11 CALDBECK

NY 324598

This general locality is regarded as the finest mineral collecting area in the Lake District, and within a few square miles are numerous mines. Mining finished in the area with the closure of Potts Gill barytes mine. For details of sites see Wainwright : *The Northern Fells, High Pike 3*. Caldbeck village is even better known in that the elaborate grave of John Peel, the renowned huntsman, is to be found in the churchyard.

P11.1 PRIESTS MILL

Caldbeck

NY 328399

A water mill built by the Rector of Caldbeck on the river bank just below the church. Worked as a corn mill from 1702 to 1933, then as a sawmill to 1965 when the dam was destroyed by floods. The building has been restored along with the waterwheel, and houses a mining museum, craft centre and cafe.

P11.2 HOKW BOBBIN MILL

Caldbeck

NY 319397

This water-powered mill had one of the largest wheels in the County at 42ft (13m) diameter and 3ft (1m) width. It dates from 1847 and was rebuilt in 1857 as a small mill of red sandstone blocks. The coppice shed is complete although the roof of the main building was lost in a fire in 1958.



P11: Clog Maker at Caldbeck

Photo: David W Jones

P13: Butter making at Wythop

Photo: David W Jones



P11.3 ROUGHTON GILL MINE

Caldbeck

NY 324598



Mining started here in the 1560s under Daniel Hechstetter of the Company of Mines Royal. Lead and copper were produced and, later, zinc and barytes. There are numerous remains of buildings.

P12 CARROCK MINE

NY 325329



Many of the mine buildings have been demolished and the area landscaped except the Coomb Height Mill. Opened in 1852 as a lead mine, Wolfram, from which tungsten is obtained, was discovered and mined commercially from the 1900s. The mine worked intermittently, and always during the war years, and closed in 1982.

P13 WYTHOP MILL, EMBLETON

NY 178297



A water-powered saw mill with overshot wheel and working machinery. Exhibition of hand tools. Coffee shop.

P14 HONISTER SLATE QUARRY

NY 215140



On the summit of the notorious Honister Pass is the massif of Honister crag. Over 200 years its interior has been honeycombed by intensive mining of the three slate veins, until closure in 1985. The YHA is established in the mine barracks, and other buildings around the car park are slate dressing sheds. Various inclines and levels can be seen on the face of the crag and a winding drum house has recently been restored by MOLES.

P15 GOLDSOPMINE, NEWLANDS

NY 226188



First recorded in the thirteenth century. A number of lead veins are intersected diagonally by a copper vein and gold has been won. Mining ceased in 1651 due to the civil war and recommenced in 1847. 500 tons of lead ore were produced in 1858. Abandoned 1865 due to difficulty of removing water. Remains to be seen are a dressed stone adit level, water courses, spoil heaps and dressing floors.

P16 THIRLMERE

NY 310190



A solid masonry dam constructed in the 1890's to contain the twin lakes of Wythburn. 58ft (18m) high, 857ft (260m) long. A 96 mile (154km) aqueduct carries water to Manchester entirely by gravity.

P17 THRELKELD

NY 328243



A large micro-granite quarry, now defunct, with several remaining buildings being used by Lakeland Mines and Quarries Trust as a nucleus for a museum of the industry, and craft centre.

P18 WETHERIGGS COUNTRY POTTERY

NY 556263



Dating from 1855 the pottery is largely intact and still producing red clay ware. There was a short private siding from the North Eastern railway, presumably for coal deliveries. Cafe.

SE1 ALSTON

NY 718465

Renowned as the highest market town in England at over 1000ft (300 metres) above sea-level. In an area rich in minerals. Lead mining was carried out from the mid fourteenth century with a climax in the first half of the nineteenth century. After 1757 the London Lead Company was the largest owner.

SE1.1 SOUTH TYNEDALE RAILWAY

Alston

NY 717467

Narrow-gauge railway (2ft) run by local preservation society on the track bed of the former Haltwhistle to Alston branch of the Newcastle

and Carlisle Rly which closed on 1 May 1976.

SE2 APPLEBY-IN-WESTMORLAND

NY 684205

Still retains the name of the ancient county of which it was the county town, the smallest such in England.

SE2.1 RUTTER MILL

Appleby

NY 682158

On the Hoff Beck south of the town. A small rectangular red sandstone building, now a barn. It was a corn mill in 1829 and 1851, a bobbin mill in 1894 and a generation plant for the Great Asby Electric Light Co in the 1930s.

SE3 AUGILL LEAD SMELTING MILL

Brough

NY 825135

Erected in 1843. The outer walls are intact and main chambers and flues are visible.

SE4 DENTDALE

NY 705869

An area of limestone some of which is hard enough to be polished, producing 'Dent Marble'

SE4.1 ARTENGILL

Dentdale

NY 773859

High Mill and Stonehouse on Artengill Beck used water-power for cutting and polishing 'Dent marble'. Artengill viaduct on the Settle and Carlisle Railway is built of the same material.

SE5 HOWGILL MILL

Sedburgh

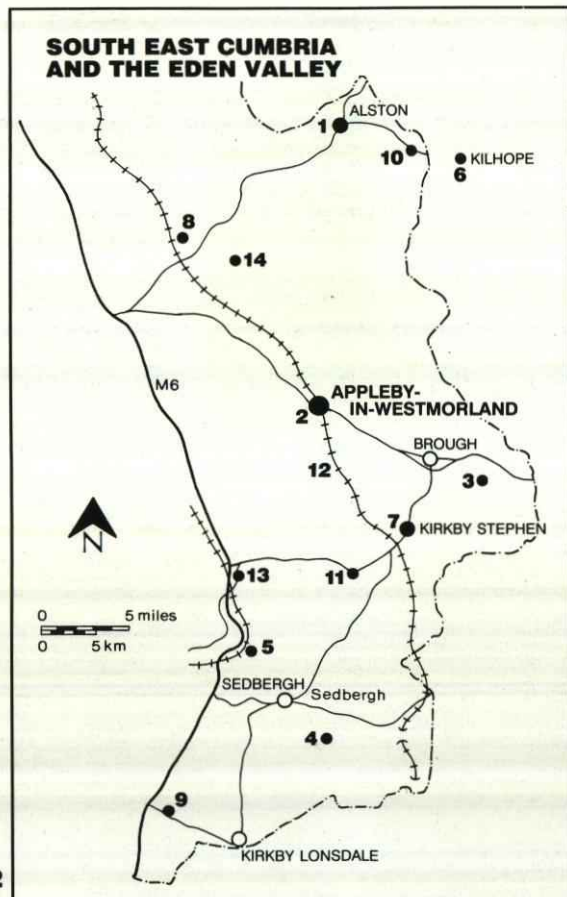
SD 619963

Disused woollen mill which once employed over 100 people.

SE6 KILHOPE MILL

NY 826429

Although not in Cumbria this scheduled Ancient Monument has to be included. On the site of the Park Level lead mine the crushing mill was built by the Beaumont Company in 1860 and operated by the Weardale Lead Company from 1883 to 1916. Most of the machinery was removed but the 34ft (10.3m) overshot waterwheel survived and has been restored to working order.





SE2 Rake Maker at Dufton

Photo: David W Jones

SE7 KIRKBY STEPHEN

NY 775088

A small market town, formerly the centre of the hand-knitting industry of the eighteen and nineteenth centuries.

The saw mill on Hartley Road was built as a woollen mill around 1799 and was water-powered, latterly by a Gilkes turbine until 1963 when floods destroyed the weir. The news-agents in Market Place was originally a brewery and later a printing works. In Nateby Road the Temperance Hotel was once a bark house for

Dixon's tanyard next door, where the remarkable Temperance Hall now stands ironically opposite the site of Richard Winter's brewery.

SE7.1 NORTH EASTERN RAILWAY STATION

Kirkby Stephen

NY 770075

*
The junction for the former Tebay and Eden Valley lines and the locomotive depot for trains over Stainmore. The station buildings were on a central platform with a double overall roof. The buildings and the north side of the roof remain. The station had a private power supply from a hydro-electric plant at Skenkrith Falls.

SE7.2 BARRAS STATION

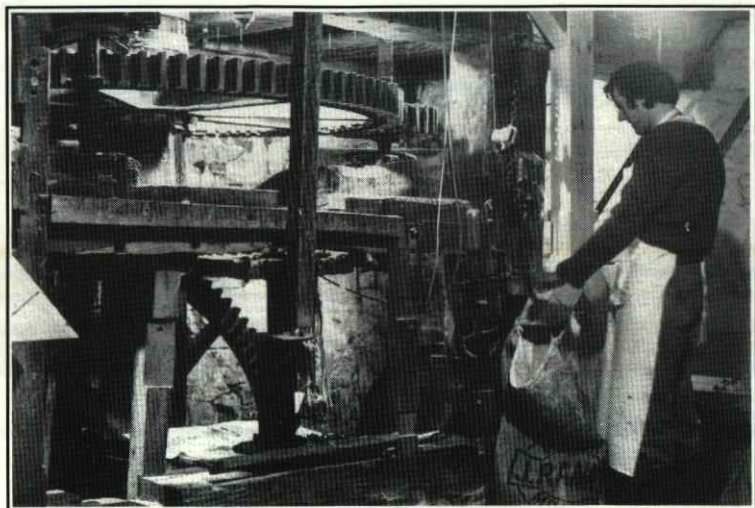
Kirkby Stephen

NY 845120

*
Different from other South Durham and Lancashire Union Railway stations, with a large house, and waiting rooms on platforms surviving. Legend has it that the house was originally to be a hotel. The site is famous for appearing in BR films of snowclearing on railways. The line of the railway can easily be traced as can the foundations of many viaducts such as Belah (NY 838105)



SE3: Augill Lead Smelting Mill



Little Salkeld Corn Mill
Photo: David W Jones

SE8 LITTLE SALKELD MILL

NY 566360



A three storey corn mill of the late eighteenth century, partly rebuilt in the mid to late nineteenth century. There are two cast-iron overshot wheels. The upper one drove oatmeal milling machinery which was removed in 1950, and the lower one drives a pair of French Burrs.

The mill has been restored and grinds locally produced cereals to produce wholemeal flour.

SE8.1 GYPSUM MINE AND PLASTER WORKS, LONG MEG

Little Salkeld

NY 564380



Gypsum was quarried from 1879-95, then mined 1895-1914. The product was ground and heated in coal-fired pans to drive off moisture to leave commercial plaster of paris.

Many remains can be seen including rail connections.

SE9 CORN MILL, LUPTON

Kirkby Lonsdale

SD 564803



On a medieval site, a small mill with mid-breast wheel, which worked until 1964.

SE10 NENTHEAD

NY 781437

A mining community created by the London Lead company in about 1760 and subsequently re-planned as a 'model village' in 1825 when the Reading Room and houses for miners, overmen and smelters were built.

In 1886 the mines were acquired by a Belgian firm, the Vieille Montagne Zinc Company, which re-opened some mines and worked new and deeper levels. A five-storey concentration plant

or gravity mill was built with riveted steel framework. The building survives as the garage of a coach firm.

SE10.1 SMELT MILL

Nenthead

NY 785433



Many remains are evident although much vandalism has occurred. Still to be seen are the carpenter's shop, the laboratory and assay house, and the barracks or miners' living quarters. Most spectacular is the vast pit of the 60ft (18 metres) diameter water wheel which drove bellows to force fumes from the smelt mill through condensers and along the half mile flue to the chimney on the moor above.

SE11 RAVENSTONEDALE

NY 723043

This village was a centre of the hand-knitted stocking industry with hundreds of pairs being sent weekly to market. A well preserved spinning gallery can be seen adjacent to the Black Swan Hotel.

SE11.1 SMARDALE GILL

NY 726063



Dominated by the viaduct of the South Durham and Lancashire Union Railway of 1845, designed by Thomas Bouch and restored by the Northern Viaducts Trust in the late 1980s. Quarries for the viaduct and the linking tramway can be seen on the east side of the valley. The line closed in the 1960s and the area is now a reserve of the Cumbria Wildlife Trust. Access is from the Trust car park near Smardale Hall.

SE11.2 LIME KILNS, SMARDALE GILL

NY 724067



Two very large commercial kilns alongside the

disused railway line over Smardale Gill viaduct, with their own siding. Remains can be seen of the large inclined plain and engine house used for hauling wagons to the kiln head.

SE12 SETTLE AND CARLISLE RAILWAY

NY 825765 to NY 405550

This famous 73 mile (117km) railway from Settle Junction to Carlisle was completed by the Midland Railway Company in 1876. The railway enters Cumbria in the confines of the 2629 yard (2.4km) Blea Moor tunnel and, apart from a slight detour into North Yorkshire at the summit of the line at Ais Gill, remains in the county to its junction with the Newcastle and Carlisle line at Pettekill Bridge. Adjacent to most stations, and at Aisgill (NY 964727), are rows of Midland Railway cottages built for railway workers. Most are now in private occupation.

The line abounds with spectacular Victorian engineering, some of the most notable being:

SE12.1 DENT HEAD VIADUCT

NY 845778

Built from the local hard blue limestone, known as Dent marble, the viaduct is 596 ft (181m) in length and has ten arches, the highest of which is 100 ft (30m). *

SE12.2 ARTEN GILL VIADUCT

NY 858775

Neighbouring Dent Head, this viaduct is 645 ft (196m) long with 11 arches, the highest being 117 ft (35m). The stone for Arten Gill came from the quarry beneath the Dent Head viaduct. *

SE12.3 GARSDALE

NY 918789

Once the junction for the abandoned branch to Hawes and near the site of the highest water troughs in the British Isles. Also home to the notorious stockaded turntable on which an engine was reputed to have revolved for some hours in a gale. The table is now restored and

in use at Keighley on the Worth Valley Railway.

SE12.4 SMARDALE VIADUCT

NY 740079

With 12 arches and a length of 700 ft (212m) this was the highest viaduct on the old Midland Railway system, being 130 ft (39.5m) above Smardale Beck. *

SE12.5 NAVY CAMP

NY 773034

Where the minor road crosses Birkett tunnel there are clear remains of the temporary camp for the workers building the tunnel. The road is known locally as the 'Tommy Road', a reference to supplies being bought from the contractors 'Tommy shops'. *

SE13 TEBAY

NY 615045

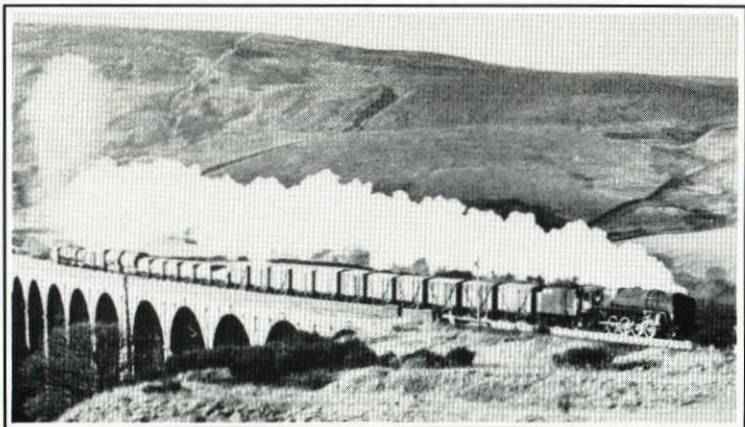
This railway settlement, developed after 1861 when the South Durham and Lancashire Union Railway joined the London and North Western Railway at this point, should be known as 'New' Tebay, the old village being beyond the motorway access on the Orton road. The railway link closed in 1962, starting the decline of the village, which was exacerbated by electrification of the West Coast Main Line and the closing of the steam depot which had provided banking engines for the steeply graded line to Shap summit. The trackbed of the SD & LU is now under the A685 as far as Newbiggin-on-Lune (NY 703054). The stations at Gaisgill (NY 40054) and Ravenstonedale (see SE11) survive as private houses.

SE14 LIME KILN, TOWNHEAD

NY 647344

A very large kiln of rather ornate design. It has two arches, each with three draw eyes and one oval pot and is in very good condition—well worth the half-hour walk to visit it. *

SE12: Settle and Carlisle Railway



4: WEST CUMBRIA AND THE WESTERN LAKES

W1 CLEATOR

NY 015135

*

The River Ehen at this point supported a number of water powered mills. A flax mill (NY 020137) was probably built by Thomas Ainsworth on the site of earlier flax and sailcloth mills.

Three substantial structures can be seen at Forge Garage (NY 013131)

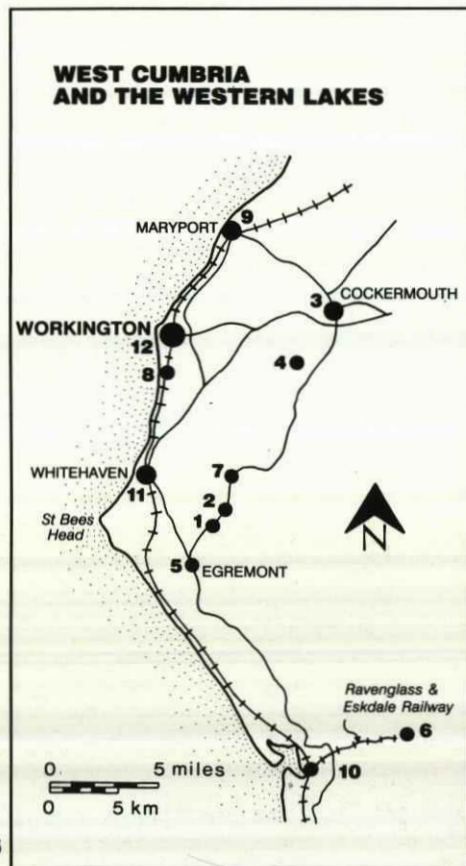
W2 CLEATOR MOOR

NY 020150

A planned mining community which developed mainly in the 1880s, this small town is laid out on a generous plan with a large square. Adjacent is the large Co-op flour, mill.



W1: Cleator Spade Forge



W3 COCKERMOUTH

NY 124307

A market town at the confluence of the rivers Cocker and Derwent. Between them the rivers provided power for over forty mills.

W3.1 MARYPORT PUMPING STATION

NY 114312

*

Built 1810 to pump water from a well to filter beds 200ft (60m) higher. Beam engine scrapped during World War Two. The square, stepped chimney demolished 1974 during conversion of building to flats.

W3.2 LOW GOTE MILLS

NY 114312

*

Two mills in use at various times for corn milling and from 1820 to 1847 by the Harris linen firm. One demolished, the second converted to flats in 1974 with the wheel preserved.

W3.3 HIGH GOTE MILL

NY 311116

*

Mill house dated 1802 but mill is certainly earlier. Used for corn milling and animal feedstuff. Closed 1969 since when the site has seen various uses.

W3.4 HOSPICE

NY 311115

*

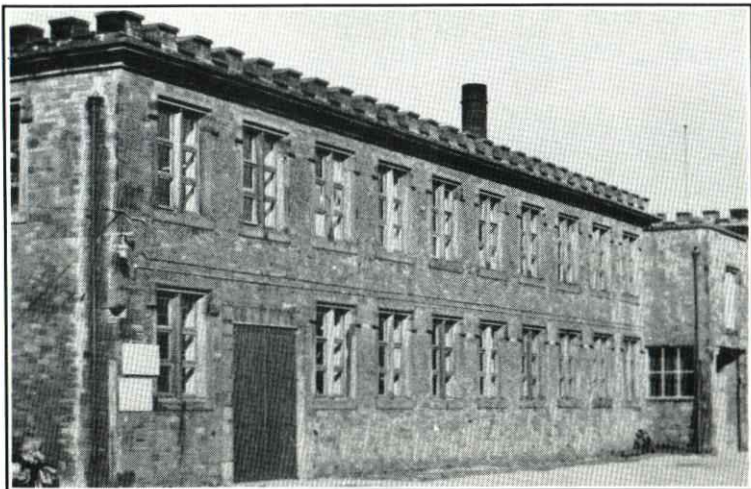
Flax drying building for the Harris linen firm. Converted to housing.

W3.5 DERWENT MILL

NY 119309

*

Linen mill of the Harris company from 1834 to the early 1930s, enlarged in 1847 and 1855. Also produced silk and embroidery thread. Millers shoe factory was evacuated here from Great Yarmouth in 1941 and remained until 1990. Main buildings now converted to flats and offices.



W3.6 GOTE MILLS RACE

NY 123309 *
A long race running from the castle along the north bank of the River Derwent. Remains of entrance sluiceway, weir, and byfall all visible.

W3.7 WHARTON'S MILL

NY 120308 CA *
A linen mill of 1820, converted to flats. A portion of the culverted brick-built race remains.

W3.8 FOUNDRY

NY 120308 CA *
Small remains on River Cocker bank behind a house. Chair, mangle roller, and churn factories on site all now replaced by dwellings. From the footbridge a stone support for a waterwheel may be seen upstream on the right.

W3.9 WINDMILL

NY 123309 CA *
An 18th Century building unusually built of brick. Dilapidated but to be restored as office and dwelling. Probably used for grinding bark for adjacent tanneries.

W3.10 CASTLE BREWERY

NY 123309 CA *□
Built on the site of an earlier brewery and tannery. Had various owners and passed to Jennings in 1887. Guided tours.

W3.11 STODDART'S COTTON MILL

NY 123309 CA *
On the bank of the River Cocker. 1800 date-stone at the south end. Now a store for the brewery.

W3.12 BANKS COURT MILL

NY 122308 CA *
Behind Banks ironmongers, an excellent example of development along burgage—the long garden behind the house had a narrow linen factory built down one side (1790) and workers dwellings down the other. All premises still in use.

W3.13 WILSON'S HAT FACTORY

NY 123307 CA *
South east of Cocker bridge, the largest of several factories in the town producing 4000 hats per week at the peak. Now a shoe shop.

W3.14 SKINNER STREET COMPLEX

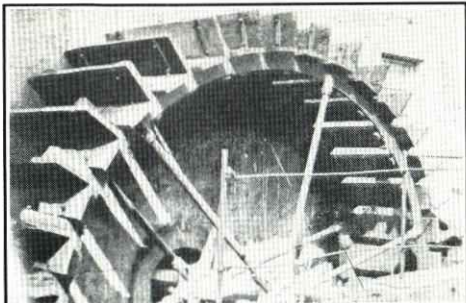
NY 124304 CA *
Sawmill, hat factory and five story tweed mill built 1824 but which failed. All buildings now dwellings.

W3.15 LITTLE MILL

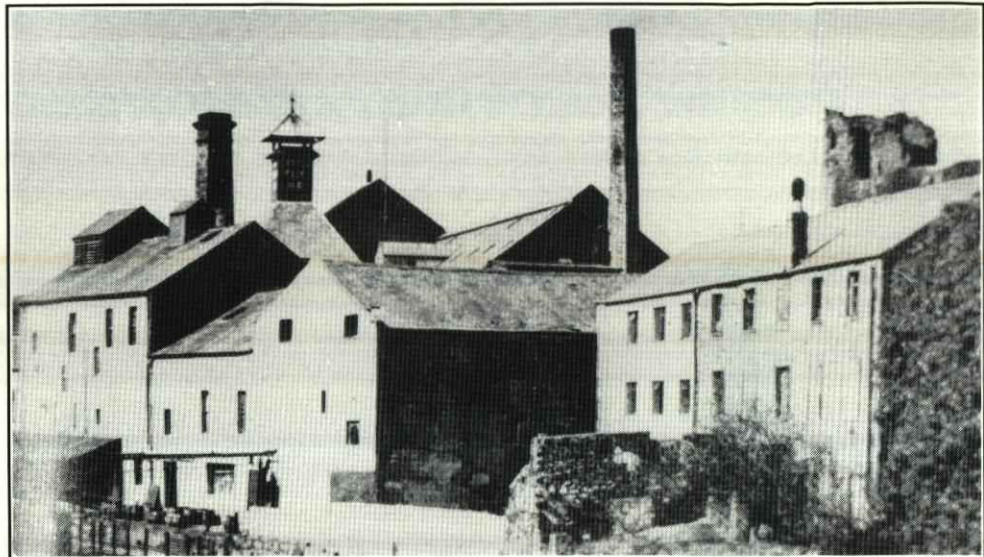
NY 128303 *
The corn mill of the Lord of the Manor, now a timber yard.

W3.16 LOW TOM RUDD TANNERY

NY 128303 *
Partly demolished but main building now a dwelling although the louvered ventilation openings remain. There were more than fifty pits in the present garden area.



W3.10: Gote Mill, Cockermouth



W3.10: Cockermouth Brewery (see previous page)

W3.17 RUBBY BANKS MILL

NY 121301

*

Three storey mill built in two sections at right angles, one 16th Century, one 1714, with two water wheels in parallel. Used for corn milling and textiles, an Arkwright water frame was installed in 1781. Latterly from 1920 wood turning with electricity produced by the water wheel. Closed 1960, demolished 1971. Mill house remains also channels of races for both wheels and remains of weir.

W3.18 DOUBLE MILLS

NY 118299

*

A pair of corn mills from 1470, one on each bank. Portions of wheels, weir, race and stones remain. Mill on west bank converted to Youth Hostel in 1933. Older mill on east bank shows only as foundations and a large wheel pit.

W4 DEAN

NY 058 249

*

Corn and saw mill at Branthwaite.

W5 EGREMONT

NY 010105

A small market town which grew rapidly in the mid-nineteenth century due to local iron mining. The area to north and north east, through Cleator (NY 015135) and Cleator Moor (NY 020150) is rich in remains of mines and railroads.

W5.1 FLORENCE MINE

NY 018103

□

Last working iron ore mine in Cumbria albeit on a small scale. Visits possible.

W6 ESKDALE

W6.1 BOOT MILL

Eskdale

SD 176013

□

Bank mill with the drying kiln upslope of the mill proper. Present mill dates from about 1730. Second wheel added about 1750, this one now driving mill. Lower wheel converted to drive a dynamo in 1920 until 1950. Mill closed 1930 but has been restored.

W6.2 NAB GILL MINE, BOOT

Eskdale

SD 175015

*

On a haematite vein 20ft (6.1m) wide the line of which is marked by a gully running up the fellside. Remains still to be seen include the track of a double line self acting incline, mine office, change house and smithy.

W7 FRIZINGTON

NY 034169

Originally developed as one long street lined with stone built houses.

W7.1 PARKSIDE AQUEDUCT

Frizington

NY 035155

*

Beside the railway bridge, an open iron aqueduct built to carry surface water over an area of subsidence above an iron mine.

W7.2 MARGARET MINE

Frizington

NY 045171

*

The mine was abandoned in 1923 but substantial remains are visible including loco shed,

engine house and chimney, and crushing plant. On private land.

W8 HARRINGTON HARBOUR

NZ 986250

*

First quay built 1760. Present harbour is 19th Century. A coal port until 1929.

W9 MARYPORT HARBOUR

NY 032368

A haven from Roman times. The present town was founded by the Senhouse family in 1748-9 as a harbour from which to export coal from their mines. In 1867, 3000 vessels a year were using the port. The twentieth century saw rapid decline and the last local vessel sailed in 1952.

W9.1 MARITIME MUSEUM

Maryport

NY 033362

□

Contains a large collection of objects, pictures and models including reference to Fletcher Christian of *Bounty* infamy and links with The White Star Line and the *Titanic*.

W9.2 GRIDIRON

Maryport

NY 034366

*

Upstream on the River Ellen may be seen at low water the massive timbers of a gridiron on which ships rested at low tide for careening or repair. The silted inlet opposite is the site of Ritson's shipyard from which larger ships were launched broadside into the river.

W9.3 ELIZABETH DOCK

Maryport

NY 032365

*

The first wet dock between the Mersey and the Clyde. Opened in 1857 and mainly used as a M & CR coal dock, but also housed the herring fleet.

W9.3.1 FLYING BUZZARD

Maryport

NY 32365

□

A restored Clyde steam tug of 1951.

W9.4 SENHOUSE DOCK

NY 029367

*

Maryport

A six acre (2.4 hectare) dock opened in 1884 for 5000 ton vessels to ship ore and export steel rails—one million tons in 1900. Converted to a marina in 1989.

W9.5 IRON LIGHTHOUSE

Maryport

NY 028369

*

Erected in 1846; one of the oldest of its type.

W9.6 CROSSCANONBY

NY 065401

*

Salt making complex with traces of eighteenth century washing and settling tanks on the seashore. Memorial to John Martin who researched the industry and area.

W10 RAVENGLASS

SD 085964

Once a thriving port for north-west England, now a small fishing village with many buildings thought to have been erected with stone from the nearby Roman fort of Glannaventa.

W10.1 THE 'RATTY'

□

The Ravenglass and Eskdale Railway, a seven mile (11km), 15in gauge steam line, opened in 1875 (then as 3ft gauge) to carry iron ore and stone from Boot to Ravenglass. Now a popular tourist attraction. Ravenglass station (NY 085964) is alongside BR's Cumbria Coast line station and has many Furness Railway relics and a museum in the old transfer shed.

See *timetable*



W10.1: Ravenglass Station

W10.2 MUNCASTER MILL

Ravenglass

SD 095978

Fully restored working water mill producing stone ground flour. Mill race, wheel, kiln and milling room can be viewed.

W10.3 CORN MILL, WABERTHWAITE

SD 115946

Stainton mill of late 18th Century with small overshot wheel and kiln. Bobbin mill and smithy downstream. *

W11 WHITEHAVEN

NX 974183

A small creek was enlarged to a harbour by Christopher Lowther in 1634. In the early 18th Century the Lowther family sank coal mines and enlarged the harbour to facilitate export in locally built colliers. This led to growth of shipbuilding yards building clippers for the Indies trade, and to Whitehaven becoming a centre for tobacco, spirits and so on. Now virtually no trade.

W11.1 MUSEUM

Whitehaven

NX 972182

Exhibits illustrate the history and development of the area with special emphasis on local coal-mining and maritime history.

W11.2 DUKE PIT

Whitehaven

NX 968182

Sunk in 1749. The ventilation fan housing has been preserved and consolidated. *

W11.3 WELLINGTON PIT

Whitehaven

NX 966183

Sunk in 1840. Closed in 1933 after a disaster claiming 136 lives. Visible remains are the long terrace, candlestick chimney, lamp house and retaining walls. *

W11.4 SALTOM PIT

Whitehaven

NX 965183

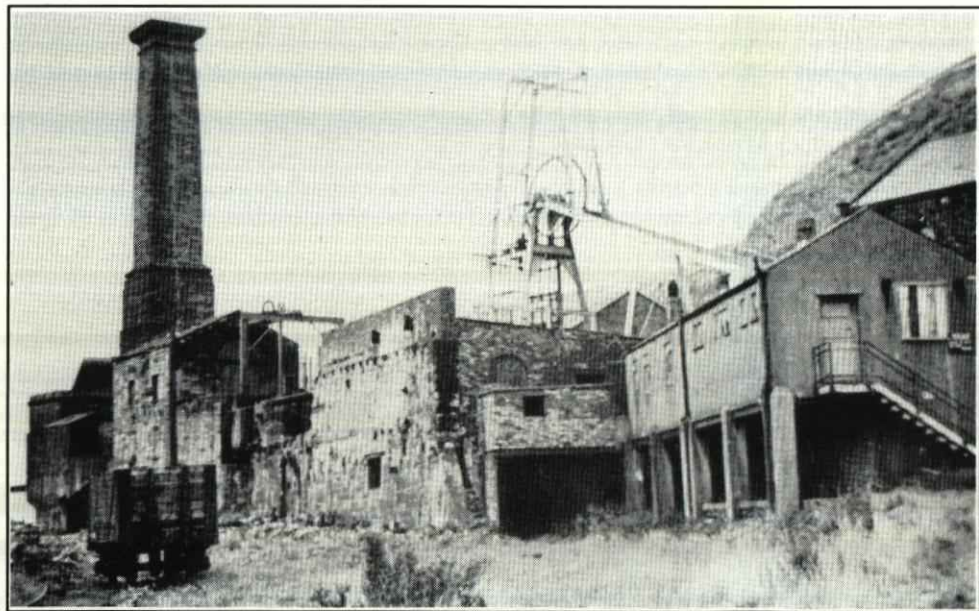
An oval shaft was sunk in 1729 by Carlisle Spedding from a rock platform below Saltom cliffs and 20ft (6m) above sea level. Remains of a horse-gin case, stone chimney and engine house, which held two Newcomen engines, are visible. This pit was the first to involve pumping from the unprecedented depth of 456ft (138m) and also the first in England to work coal under the sea. *

W11.5 HARBOUR

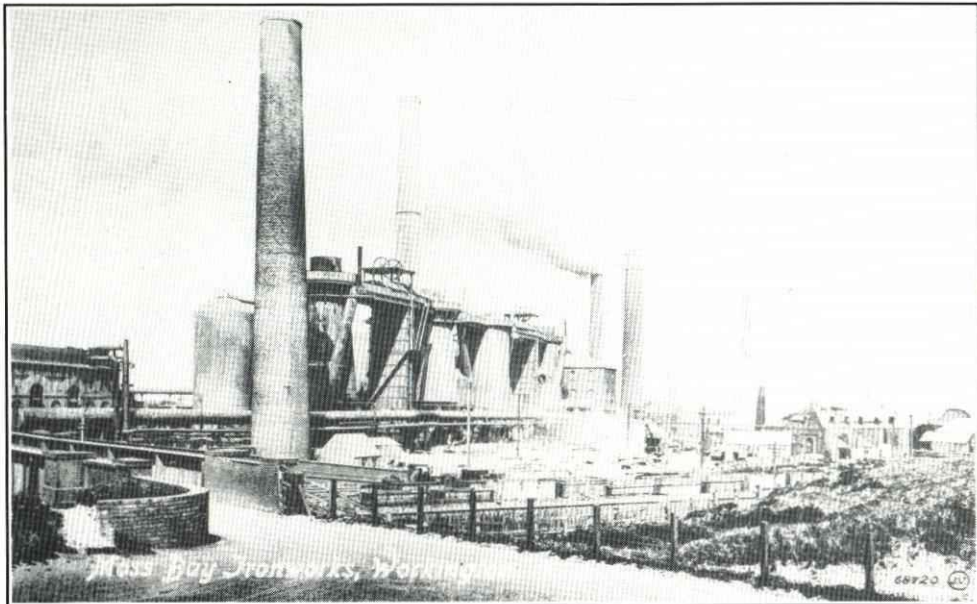
Whitehaven

NX 970185

Prominent are the two lighthouses on the ends of the old and new piers. On the inner harbour is a stone-built slipway with winch and capstan in situ. The Queens Dock on the site of the *



W11: William Pit, Whitehaven



W12: Moss Bay Ironworks, Workington

shipyards in the north harbour was built for the iron ore trade and latterly used by Albright and Wilson for the import of phosphate for the Marchon Chemical Works. Since the closure of Haigh Pit (NZ 967717) no coal has been exported.

W12 WORKINGTON

NX 995287

On the site of the Roman fort of Gabrosentum, Workington became prosperous from coal exporting, shipping and shipbuilding, and later iron and steel production. See Helena Thompson Museum in Park End Road. □

W12.1 HARBOUR

Workington

NX 992295

*

The original harbour was a tidal cut of 1763-9. On the south side were a series of staithes for coal traffic. The Lonsdale dock was opened in 1865 for iron and steel traffic, and enlarged in 1927 as the Prince of Wales dock for 10,000 ton ships

W12.2 MOSS BAY

Workington

NX 990275

*

Site of the Moss Bay iron works of 1872, later Workington Iron and Steel Company. On an adjacent site was Derwent Iron Works. In 1883 Cammells brought their Bessemer plant from Dronfield. The works was reconstructed in 1932 and continued to produce Bessemer steel and

foundry iron until 1975. British Track Products use the site for rolling of rails with steel from Middlesbrough.

W12.3 JANE PIT

Workington

NX 995277

*

Sunk about 1843 by Henry Curwen. There remain two castellated chimneys, one to an engine house, and an oval castellated pump house. The pit became a ventilation shaft for Buddle pit to the south-west.



W11.5: West Pier and Lighthouse, Whitehaven

W12.4 SCHOOSE FARM

Workington

NY 014279

A virtually intact experimental farm built by John Curwen between 1785 and 1796. A watermill was superseded by a five-storey windmill. On private land. cf Mechi C3.3

W13 SIDDICK

NY 003302

Reservoir for iron works, now a CWT reserve.

NY 001311

Thames Board Mill.



5: KENDAL AND THE SOUTHERN LAKES

K1 KENDAL

SD 515925

An ancient market town and since at least the Middle Ages, a textile manufacturing centre. The *Auld Grey Town* is largely built of pale grey Carboniferous Limestone quarried from outcrops along its western edge.

The earliest map, Speed's of 1614, shows the town laid out as a Y-shape to the west of the River Kent with a small extension on the eastern bank.

This medieval layout changed little until the industrialisation and urban growth of the nineteenth century. The old burgage plots extending from the principal streets of Highgate,

Stramongate and Stricklangate were infilled with workers houses and many small and a few larger factories. Access to these 'yards' was from the highway through an arched entrance

K1.1 NETHER BRIDGE

SD 516919

An old three-arch stone packhorse bridge beside an ancient ford. Widened in 1772 for the turnpike, and again in 1908, the 'joins' being clearly visible beneath the arches. Originally carried the main highway to London.



K1.2 STRAMONGATE BRIDGE

SD 518929

A four-arch limestone masonry bridge, with date stone, built in 1793 and encasing an earlier bridge. Carried the main highway to Scotland.



K1.3 MILLER BRIDGE

SD 517927

A three-arch limestone masonry bridge with date stone built in 1818 to replace an inadequate predecessor and in anticipation of the opening of the canal. Designed by Francis Webster.



K1.4 VICTORIA BRIDGE

SD 517931

A cast iron bridge opened in 1887. Bears robust reliefs of the Kendal coat of arms and motto—*Pannus mihi panis*—'Wool is my bread'.



K1.5-10 CANAL HEAD AREA

SD 519926

The Lancaster Canal was opened to Kendal on 18 June 1819. The original terminal warehouse (5) is largely preserved and incorporated into Gilkes' water turbine factory.



The canal and terminal basin were infilled over 40 years ago but the original roads flanking the basin survive as Canal Head North (6) and Canal Head South (7).

The Canal Manager's house (8) survives as a special education centre.



K1: Kendal, c1950

An old textile mill (9) north of Canal Head North survives in commercial use.

A building of 1887 (10) houses Gawith Hoggarth's snuff works.

K1.11 CASTLE BRIDGE

SD 519924

The first bridge south of Canal Head on the Lancaster canal. Widened in 1892 by the addition of a shallower and wider iron arch.

K1.12 CHANGE BRIDGE

SD 520917

From Lancaster the tow path of the canal lay on the west side until this point when using this roving bridge it switched to the east side for the last two-thirds of a mile.

K1.13 BRANTHWAITE BROW

SD 515927

Houses numbered 39 to 45 are faced with lattice-pattern cast iron cladding, dated 1853, which was used to reface buildings partly demolished during road widening.

K1.14-18 RAILWAY STATION

SD 520392

The station has been redeveloped, with only the eastern end retained, in a building sympathetic in style and materials, and larger than the original

Adjacent to the station, the railway is carried across the road on an iron girder bridge (15) bearing the manufacturer's plate: COCHRANE & CO. WOODSIDE IRON WORKS DUDLEY WORCESTERSHIRE 1859

The demolition gap (16) in the terrace of workers houses on Longbow necessitated by the arrival of the railway is still evident.

The original goods station (17) and bonded warehouse (18) survive as commercial premises.

K1.19 BLACK HALL, STRICKLANDGATE

SD 515928

Kendal's first Alderman lived here in 1575. The house was modernised in 1810 and in 1869 became a brush factory, denoted by the sign of a black bristly hog, now restored. The premises are occupied by an estate agent.

K1.20 SNUFF WORKS, LOWTHER STREET

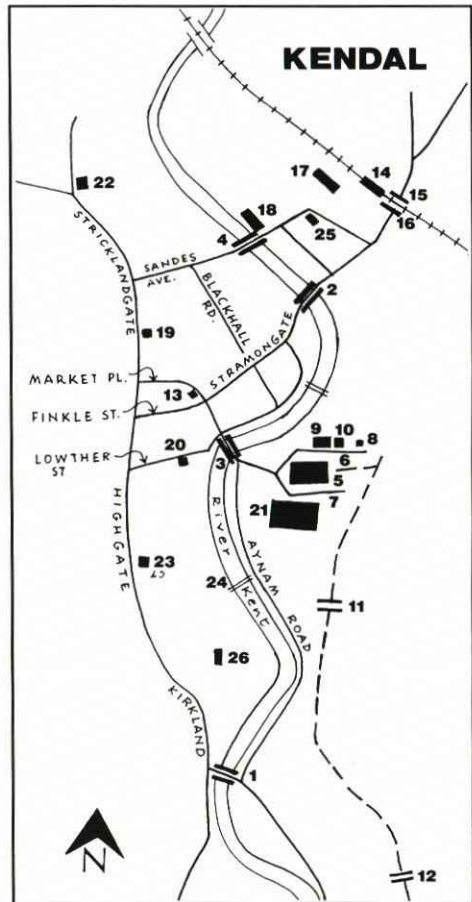
SD 515926

The blending house of Gawith, Hoggarth containing the oldest snuff machinery in Britain, second-hand in 1792. The trade sign on the street wall is an extravagantly dressed saracen or turk.

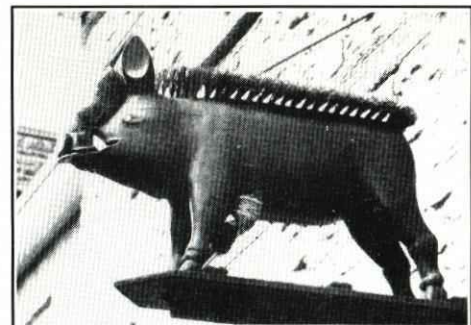
K1.21 CARPET MILL, AYNHAM ROAD

SD 5 18925

The only remaining working textile mill, the site of the water-powered Caste Mills. The main building is in crude eighteenth century classical



style. Now occupied by Goodacre Carpets. Factory tours are available when the whole process from spinning to weaving and finishing may be seen.



K1.19: Bristly hog trade sign, Black Hall, Kendal

K1.22 TEXTILE MILL

SD 514932

* The former Kent Carpet factory, a three storey building at the junction of Stricklandgate and Burneside Road.

K1.23 YARD 83

SD 515924

* One of the best preserved yards, formerly Braithwaite's Yard, now known as Dr Manning's Yard. It gives a good impression of cramped and enclosed nineteenth century housing conditions. The ropeworks, dyeworks, tannery and bark mill once to be found here have all gone but were typical of the range of small industrial premises located in these yards.

K1.24 WOOL WASHER'S STEPS

SD 517927

* A few survive beside Waterside flats, between Miller bridge (K1.3) and Jennings Yard Bridge.

K1.25 MUSEUM OF THE LAKE DISTRICT

SD 518932

* □ This building of 1864 was the wool auction warehouse of Whitwell and Hargreaves. A railway siding ran directly into the warehouse through the arch at the Sandes Avenue end.

K1.26 MUSEUM OF LAKELAND LIFE AND INDUSTRY

SD 516922

* □ Located in the former stable block of Abbot Hall, a Georgian mansion built in 1759. Houses reconstructed workshops.

Adjacent to the museum craft shop is the re-erected 1825 facade of the Kendal Gas Works meter house, bearing the inscription *Ex Fumo Dare Lucem* - 'Out of smoke came light'

KENDAL AND THE SOUTHERN LAKES

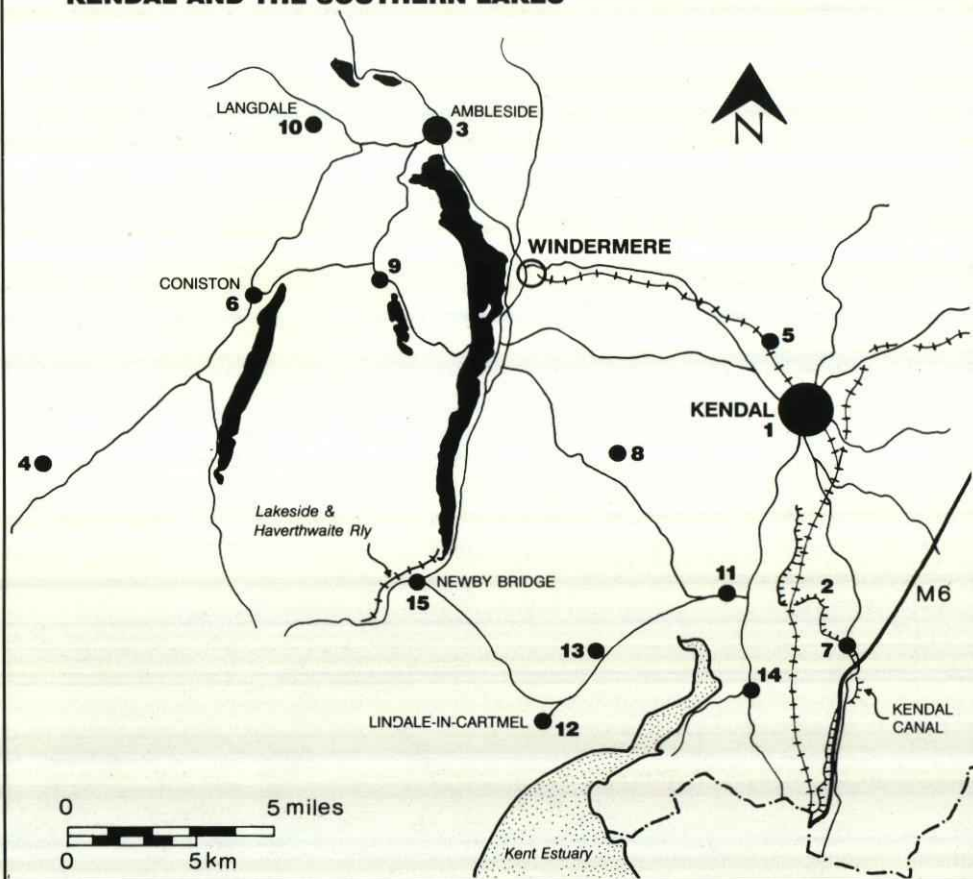
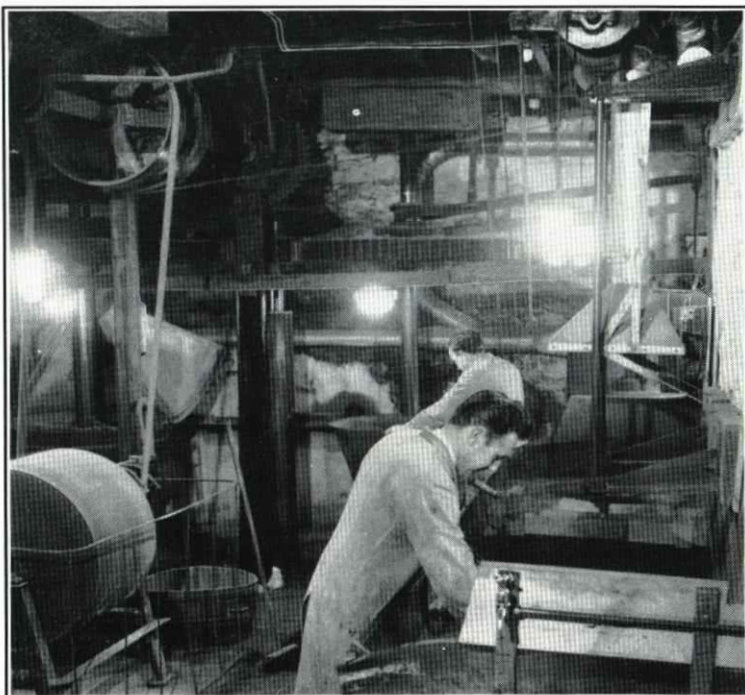


Photo: David W Jones



K1.27 SNUFF MILL, HELSINGTON LAITHES

SD 513904

A mill site from the thirteenth century. Used as a corn mill until 1770 when marble polishers occupied the site. Gawith Hoggarth acquired the mill in 1840 for snuff manufacture and installed a four-mortar pestle mill and ball mill for grinding, a paddle mixer and a shaker riddle. The mill was driven by an undershot wheel and was in production until 1989. Private site

*

K2 KENDAL CANAL

Natland to Holme section

SD 516905 to SD 522767

No longer navigable, and drained or severed by new roads in places. The towpath is a public right of way for most of its length. Interesting features still exist at:

*

K2.1 HINCASTER TUNNEL

SD 510850 to SD 515852

377 yards (343m) long with elegant limestone portals.

*

K2.2 SEDGWICK

SD 514870

Rennie aqueduct in the centre of the village.

*

K2.3 CROOKLANDS

SD 534834

Remains of wharves and crossing point of Peasey Beck.

*

K2.4 HOLME

SD 528797 to SD 523769

A total of ten bridges and two aqueducts in a two mile (3.2km) section.

*

K3 AMBLESIDE

NY 375045

Developed as the meeting point of many routes crossing Stock Beck.

K3.1 HORRAX MILL

Stock Beck

NY 380046

Former bobbin mills, four storeys with internal wheel pit. Machinery sold off in 1964. Original dam remains, as does a coppice barn converted to holiday flats. Also in the grounds (NY 381045) are remains of a fulling mill.

*

K3.2 CORN MILL

Stock Beck

NY 377046

A seventeenth century building, now a craft shop. The entrance footpath is along the old headrace. The machinery was removed in 1945, a replacement waterwheel is in situ. Adjacent was a bark mill, the building remaining, which ground bark for the tannery.

*

K3.3 TANNERY

Fisherbeck

NY 378039

Building remains, in use as a barn.

* 25



K6.1: Coppermines Valley

Photo: David W Jones

K3.4 LIMEKILN

Wansfell Holme

NY 382025

On the Coniston Limestone band. Well preserved and of the earlier taper pot design. Situated on the right of the A592 about half a mile north of the Low Wood hotel. *

K3.5 ARMITT LIBRARY

Ambleside

NY 376043

Opened as a subscription library in 1912 under the terms of the will of Mary Armitt (1851-1911), an enlightened scholar and historian with particular interest in the Lake District. At present situated above Ambleside Public Library it houses some 10,000 books of local interest, and art collections including over 400 Beatrix Potter drawings and paintings. □

K4 BROUGHTON MILLS

SD 223905

A small industrial complex in the Lickle Valley. The buildings remain of bark mill (SD 221904), walk mill (SD 224905), and corn mill (223905), the latter with a headrace almost half a mile in length. *

K4 POTASH KILNS

Broughton Mills

SD 236931

Behind Stephenson Ground farm. *

K5 BURNESIDE

SD 505955

A small industrial village virtually created by the paper-making firm of James Cropper. Cowan Head mill (SD 493937) of 1750 is the oldest in the locality, and is being developed as a

holiday village. Burneside mill (SD 506958) was originally a woollen mill and converted to paper manufacture in 1833.

A private railway from the Windermere line and a long branch up to Cowan Head can be traced.

K6 CONISTON

SD 303977

Formerly a mining village, now a popular tourist centre. Coniston Hall (SD 303963) on the shore of Coniston Water is a sixteenth century cruck-framed building in the care of the National Trust.

K6.1 COPPERMINES VALLEY

Coniston

SD 285985

In the valley of Red Dell Beck, mines were worked from about 1599 by the Company of Mines Royal. Present remains are of the 19th Century. For details of sites see Wainwright: *The Southern Fells*, *Coniston Old Man* 11 & 12. *

K6.2 RAILWAY STATION

Coniston

SD 301975

Opened in 1859 by the Coniston Railway Company, now abandoned. Both copper ore and slate were taken out by rail. A fine slate-storage barn is just northwest of the station. *

K6.3 BLOOMERY SITES

Coniston

SD 303950/6

In the caravan park south of Coniston Hall. Also at Beck Leven south of Brantwood (SD 312956). *

K6.4 STEAM YACHT GONDOLA

Coniston

SD 308970 (Pier) □

A superb replica, with parts of the original vessel launched by the Furness Railway 1895. Operates regular services around the lake.

K6.5 LIME KILN, YEWDALE

Coniston

SD 309989 *

A very old kiln of unusual design, on the Coniston Limestone band. On the left of the A593 close to the road.

K6.6 TORVER

Coniston

SD 289925 Sunnybank Mill *

A single-storey structure of wood and stone with a well-built headrace and large wheel pit at the south end of the building. A water turbine was installed around 1920. Worked as a bobbin mill from the early nineteenth century to about 1934.

SD 285933 Torver High Mill *

On a medieval site, the mill operated until 1907. The present structure is nineteenth century, and the weir and long headrace are visible.

K6.7 NIBTHWAITE

Coniston

SD 295883 *

A small industrial colony. Remains of a furnace and forge of 1736 and two bobbin mills one of 1834. Large pieces of furnace slag are to be found in nearby roadside walls.

K6.8 SPADE FORGE, LOWICK GREEN

Coniston

SD 298853 *

A one-and-a-half storey building of 1776 in use as a spade forge until 1906, then became a

saw mill and finally a swill basket workshop. The wheel and machinery have gone and the building is now a residence.

K7 CROOKLANDS AREA **K7.1 GUNPOWDER WORKS, SEDGWICK**

SD 508872 Old Sedgwick *

SD 508868 Bassingill *

SD 508878 New Sedgwick *

Old Sedgwick was established by John Wakefield, a Kendal Quaker, in 1764. The site expanded when the Bassingill incorporating mills were added downstream in 1790. Old Sedgwick closed in 1852 when Gatebeck opened (see K7.2). Bassingill worked until 1935 and visible remains include a terrace of three chambers and large wheel pit with a Rennie hatch.

Upstream, New Sedgwick was established in 1857 by W C Strickland of Sizergh castle (SD 498878). There were originally six mills with a central wheel pit of 1858. A second range was built in 1858-1898 around a smaller wheel pit. This survives along with part of a Rennie hatch. The works closed in 1935.

K7.2 GUNPOWDER WORKS, CROOKLANDS

(See also K2.3)

SD 545855 Low Gatebeck *

SD 548857 High Gatebeck *

These two locations on Peasey Beck were connected by a tramway which passed through a surviving steel and concrete arch. The earlier Lower Mill was established in 1850-52 by John Wakefield. A steam engine was installed in 1863. This works was the first to produce saltpetre from sodium nitrate and potassium chloride. Remains of four pairs of incorporating



K11: Lime Kiln at Levens
(see next page)

Photo: David W Jones

mills, a corning house, glazing house and mechanics shop may be seen from a path which follows the line of the 1875 horse-drawn tramway.

High Gatebeck opened in 1898 and had two terraces of water-powered incorporating mills. Remains of one survive along with a magazine. Both sites were in use until ICI concentrated gunpowder manufacture in Scotland in 1937. Much of the site is now occupied by Millbank caravan park. The gateposts at the entrance are re-used charcoal cylinder retorts.

K7.3 MILTON MILL

SD 530830

*

A fine mill with all gear intact although not worked.

K8 CROSTHWAITE MILL

SD 435922

□

A paper mill from 1709 to 1849, then a bobbin mill until 1871. Now restored as a guest house and conference centre. Non working but has internal wheel and four sets of stones.

K8.1 LIME KILN, BROAD OAK

Crosthwaite

SD 435896

*

A very large farm kiln with unusual stonework.

K9 HAWKSHEAD

SD 341989 Thursgill Mill

*

A flax mill in 1789, became a bobbin mill about 1800. The machinery has gone apart from some early line shafting and a fine 32 foot (9.7m) iron wheel.

SD 348988 Hawkshead Hall Mill

*

A medieval site. Present structure dates from 1780 as a corn mill. Now a saw mill. Some millstones displayed.

K10 LANGDALE AREA

The area between Elterwater (NY 327048) and Tilberthwaite (NY 308014) contains a great many quarries, too numerous to list. Hodge Close (NY 317020) is worth visiting. For details see Wainwright: *The Southern Fells*.

K10.1 GUNPOWDER WORKS, ELTERWATER

NY 328051

* □

Operated from 1824 to the 1930s. The best preserved site as many of the 'safe' buildings have been converted to hotel and time-share use. Private land but public path through site.

K11 LIME KILN, LEVENS

SD 485854

Probably the best known kiln in South Lakeland, prominently situated at the side of the A590 near Levens village.

K12 LINDALE-IN-CARTMEL

SD 426809 Wilson House Farm

*

Site of iron smelting experiments by John and Isaac Wilkinson about 1749.



K12: John Wilkinson Memorial Photo: John H Bennett

SD 418804 John Wilkinson Monument

*

This 20 ton cast iron column was originally intended to stand on John Wilkinson's grave at Castlehead but was erected here in June 1863 by Edward Mucklow, then owner of Castlehead. It was sold by the owner of the land in 1913 and was in danger of being broken up. Public subscription secured the site and monument and ensured preservation. In 1984 the column was refurbished by Dorothea Restoration again by public subscription and grants.

K13.1 LIME KILN, CAT CRAG QUARRY

Witherslack

SD 438823

*

A typical moderate size farm kiln, within easy walking distance of the A590 along the bridleway to Halecat.

K13.2 LIME KILN, MOSS HOWE

Witherslack

SD 428820

*

A kiln with a date stone inscription **ISP 1843**. The Mannix guide of 1850 lists a John Strickland Preston of Strickland Hall.

K14 MILNTHORPE

SD 497816

Once the main port for Kendal and central Westmorland, although the shallowness of the River Bela meant most goods were landed at Sandside or Arnside on the south of the Kent estuary. Trade was undermined by the coming of the Lancaster canal in 1819 and further so by the railways although the latter increased traffic to the cattle fair.

K14.1 BELA MILL

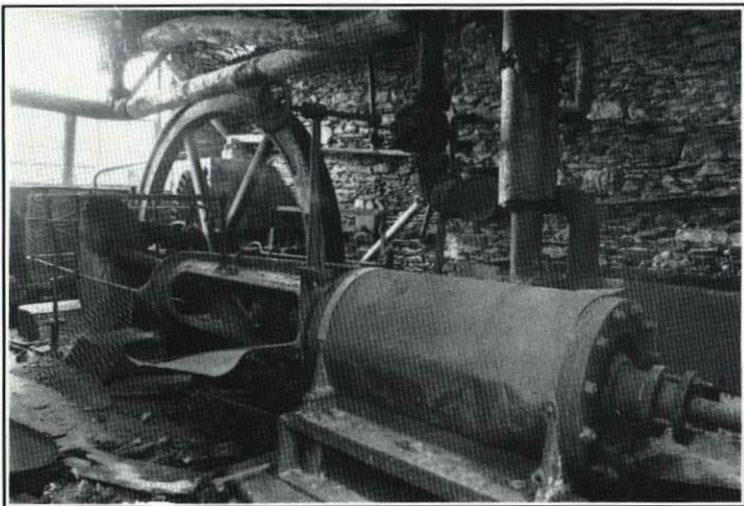
SD 497812

*

The best surviving specimen of once numerous

K15 Steam engine at
Backbarrow

Photo: David W Jones



flax and paper mills in Milnthorpe. Built in the early nineteenth century to manufacture twine, sacking and canvas, in 1886 it turned to comb manufacture which continues to the present day. Has a 14ft (4.25m) diameter iron water wheel. Private site.

K14.2 HERON CORN MILL

Beetham

SD 497799

A water mill of 1740 with some contemporary machinery, internal water wheel and four sets



of stones. In working order, demonstrated but not producing. Attached museum covers history of paper making.

K15 NEWBY BRIDGE AREA

K15.1 CORN MILL

Newby Bridge

SD 366862

Built 1780. Used as a blacking mill in the 1850s but later a corn mill again. Undershot wheel. Private site.



K15 Backbarrow Blue
Mills

Photo: David W Jones



left:
K15.4: High Force Forge
right:
K15.7: Lakeside Station



K15.2 Bare Syke, Backbarrow *Photo: John H Bennett*

K15.2 BACKBARROW

SD 358850

A small industrial hamlet now bypassed by road improvement.

K15.2.1 IRON WORKS

SD 366862

A blast furnace was built here on the site of a bloomery forge after 1711 by the Backbarrow

*

Company, headed by William Rawlinson. Charcoal was used as fuel until 1920 when coke was introduced. The furnace stack was rebuilt and raised to 150 ft (46m) in brick in 1870. A horizontal steam engine replaced water power to drive the bellows at this time. Production ceased in 1967. The site is on private land but may be viewed from the A590 or the river bank.

K15.2.2 BARE SYKE

SD 355844

The house of Isaac Wilkinson and early home of son John the ironmaster, who underwent some training at Backbarrow.

*

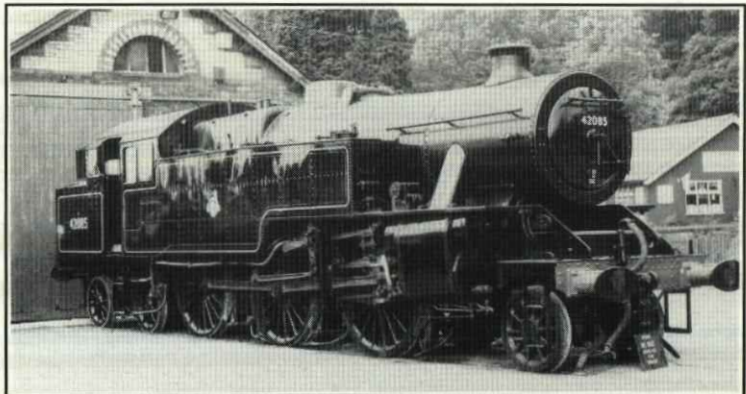
K15.2.3 COTTON MILLS

SD 357859

South mill was first used as a corn mill, then for paper. It burnt down in 1782 and was rebuilt as a cotton mill. Entirely rebuilt in 1823 and worked until 1866. Then converted by Reckitts to an ultramarine works producing the famous 'Dolly Blue'.

* □

Now the Whitewater Hotel. Careful observation inside and out will reveal remains of the 'blue' which once covered the whole site.



K15.5: Haverthwaite Station

Photo: John H Bennett



**K15.3 GUNPOWDER WORKS,
BLACK BECK**

SD 337859

Operated from 1862 to 1928, by steam power from the outset. The long approach road was a railway line and at the site entrance are the office and weigh house. Very few other remains. The site is now a caravan park *

K15.4 FORCE FORGE

SD 334904

The site of three early forges, the first being worked in 1616. Two were later built on as bobbin mills. North mill was destroyed by fire in 1917, the owners house is still standing. The South mill was built after 1847 and is structurally intact.

K15.5 HAVERTHWAITE

SD 349843

Haverthwaite station is an example of Grad-

well's use of yellow and vitrified purple-black bricks. Headquarters of the Lakeside and Haverthwaite Railway. (See K15.7)

**K15.6 GUNPOWDER WORKS,
LOW WOOD**

SD 347837

The site of the works of 1799 extended for 600yd (547m) along the River Leven. Badly overgrown but contains important traces. Private land, crossed by public footpath. *

K15.7 LAKESIDE

SD 379874

A branch of the Furness railway opened in 1869 primarily as a tourist line to bring traffic to the Windermere Lake steamers but subsequently carried a great deal of freight for the local industries. The station was laid out as a combined railway terminus and steamer pier. *



K15.8: Rusland Tannery
(see next page)

Photo: David W Jones

K15.8 TANNERY, RUSLAND

SD 342888

*

Buildings intact and used as a store by LDSPB. Pits and a hogsback are visible to the rear.

K15.9 IRON FORGE, STONEY HAZEL

SD 336896

*

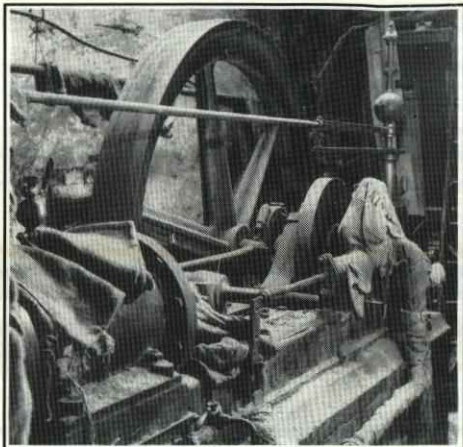
On Force beck. Ruins of two groups of buildings, the ore and charcoal stores to the south and the forge chamber to the north. The wheel pit is still visible.

K15.10 BOBBIN MILL, STOTT PARK

SD 373883

□

Probably a corn mill, converted to bobbin manufacture around 1835 and virtually unchanged since. The mill has been restored as a working monument and much of the machinery remains including a turbine and a single cylinder steam engine of 1880 by Bradley of Grighthouse.



15.9: Stott Park
top right: Steam engine
in the bobbin mill
right: Bobbin making,
using the dangerous
looking boring machine,
the 'Rincer'

The southern edge of the area is entirely bordered by the coastline and this has obviously played a part in shaping the development and industrial history of the area.

SOUTH CUMBRIA IRON

Iron smelting in the Furness district developed from the bloomery period (1100-1500) through the bloom forge era (1610-1730) to the charcoal fuelled blast furnaces introduced in 1711. The charcoal industry survived here longer than in most other areas. The stone built, stack type structures had water driven blowing machinery and were situated either near shipping routes or close to ore deposits. Vast stocks of iron ore and charcoal would be accumulated before the operation which lasted for a few weeks of each year, producing a few tons of pig (cast) iron.

S1 BARROW-IN-FURNESS

In 1851 the population of the village of Barrow was around 500. By 1881 this had risen to 48,000 as iron ore deposits were exploited and shipbuilding and the Furness Railway were developed.

Few early industrial remains survive.

S1.1 1-22 SALTHOUSE ROAD

Barrow-in-Furness

SD 204668

*

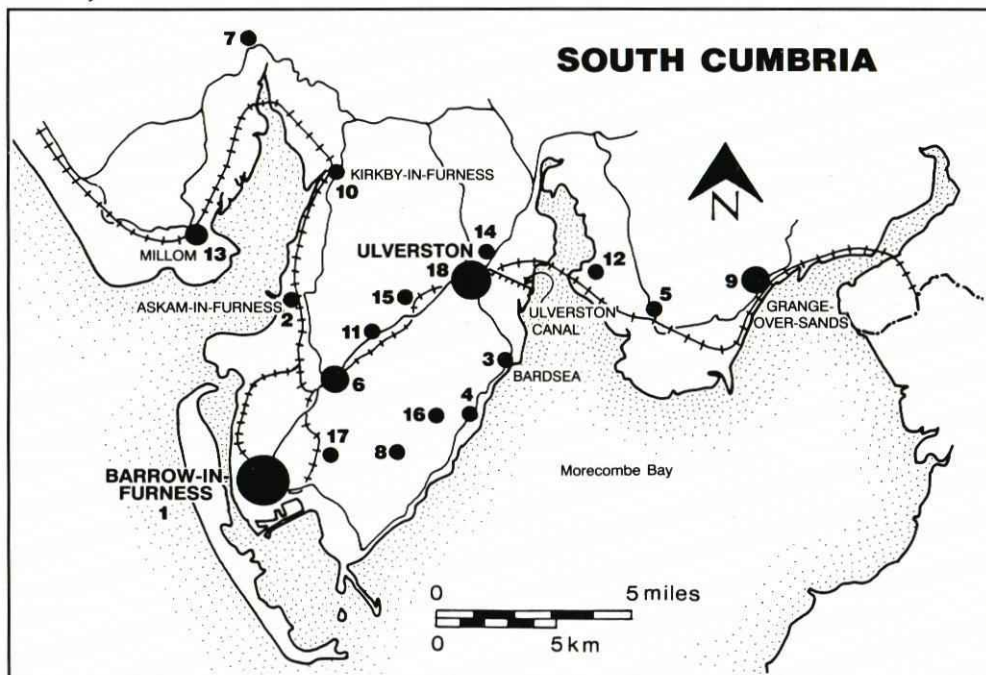
The earliest cottages in Barrow built by the Furness Railway in local red sandstone. Nearby St. George's School and Institute is of the same period and originally the social centre. Also original Furness Railway station of 1863 in the Strand. Worthy of note is the grid pattern of industrial terraced housing which survives here but long demolished in other towns.

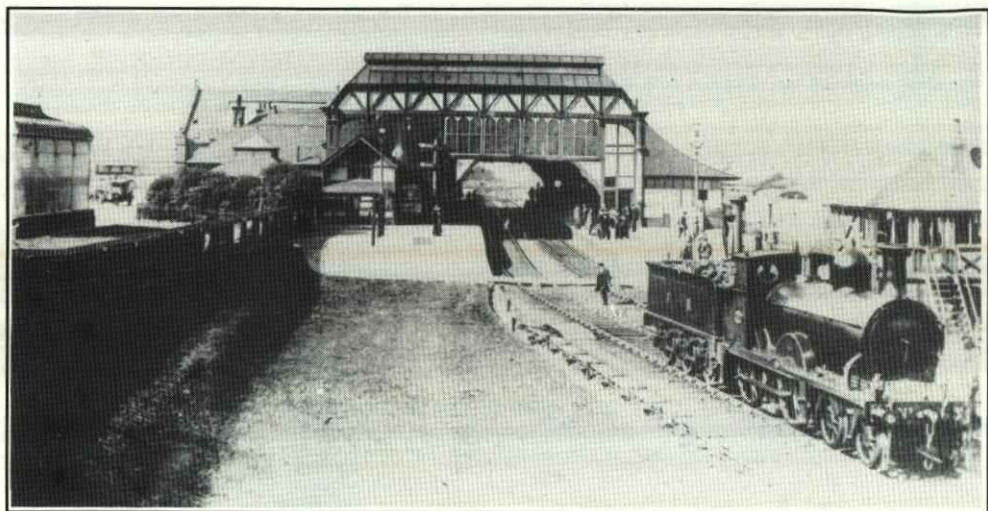
S1.2 BARROW HAEMATITE STEEL COMPANY OFFICES

SD 192704

*

By 1871 sixteen furnaces and three steel melting shops around 700 ft (213m) in length were operating along with rolling mills for rails and plate. Production of steel reached 4000 tons per week. Work was phased out in the 1960s. This office building, some warehouses on the channel side and the rapidly disappearing remains of the slag bank are the only visible relics.





S1: Barrow Central Station (see previous page)

S1.3 CLAY PIT

Barrow-in-Furness

SD 195703

* Pit, now flooded, from which clay was excavated for the Walney Roadworks of the Furness Brick and Tile Company. Site now occupied by Asda and MFI but pit clearly visible from eastern car park.

S1.4 BARROW SHIPYARD

SD 195685

In the pre-dock era there were small shipyards along the Hindpool frontage of Barrow channel. The foundations of the present massive VSEL complex were laid in 1870 by the Barrow Iron Shipbuilding Company on Old Barrow Island. The original offices are at the corner of Bridge Road, with the B I S C insignia.

S1.5 BARROW DOCKS

SD 205683

* The main complex consists of four docks excavated from the Barrow channel, built with

walls of local sandstone.

Work commenced on the Devonshire dock in 1863 and was completed in 1867, followed by the Buccleuch Dock in 1873 and the Ramsden and Cavendish docks in 1879. Cavendish dock never had access to the channel and was used as a feeder for the main system and also as a timber pound. In 1899 it became the cooling pond for the new Roosecote power station, recently re-commissioned by Lakeland Power to use North Sea gas. The north west area of Devonshire dock is now infilled and occupied by the VSEL Trident submarine hall.

SD 189692

* □ Site of the original entrance basin to Devonshire dock, now infilled, and Graving dock, now drained and incorporated in the new and as yet uncommissioned (1993) Maritime Museum building.

S1.6 VICKERSTOWN

Barrow-in-Furness

SD 185685

* A company village on Walney Island built 1899 to 1904 and modelled on Lever's Port Sunlight. Wide streets of cheaply built housing and amenities. Streets are named after Barrow built ships and great admirals.

S1.7 STATIC LIGHTHOUSE, RAMPSIDE VILLAGE

Barrow-in-Furness

SD 243663

* Sole survivor of a series of brick-built navigation lights around Roa and Foulney islands (1879).



S1.4: Furness Railway offices, Barrow



S1.7: Static Lighthouse, Rampside

S1.8 ROA ISLAND

Barrow-in-Furness

SD 233649

* Bought in 1840 by John Able Smith who built a causeway to carry a railway line from the mainland with a view to running a train ferry to Fleetwood. In 1852 the embankment was damaged by a storm and subsequently sold to the Furness Railway.

S1.9 SALT WORKS

Walney Island

SD 228626

* Established by Barrow Salt Company in 1896 but worked for only a short time. Revived in 1909 but finally closed. Many remains. Site more recently used for gravel extraction.

S2 ASKAM-IN-FURNESS

SD 215776

In 1864-5 the firm of Wakefield, Mackinnon and Company arranged for the erection of furnaces at Askam. Smelting commenced in August



S3: Bardsea Sea Mill

Photo: John H Bennett

1867. The site for a new industrial colony was laid out and in a few years the townlet of Askam appeared. The works closed in 1918, lay idle for 15 years and were demolished in 1933. Remnants of the slag bank remain along with three terraces of workers housing.

S2.1 ASKAM PIER

Askam-in-Furness

SD 215776

□ A unique early example of recycling! The 'pier' consists entirely of slag from Askam iron works. The north west seaward end was levelled and clad with wooden piles to form a quay. Traces remain along with evidence of the railway.

S2.2 MONUMENTAL FOUNTAIN

Askam-in-Furness

SD 215775

* Adjacent to the railway station in Duke St. is a fine cast iron fountain erected in 1897 for Queen Victoria's Jubilee bearing the logo 'Keep the pavement dry'.

S2.3 PARK MINE

SD 215 755

* A vast iron ore deposit, the second largest ever found in Britain was discovered on this site by H W Schneider in 1850. The massive crater produced 7,000,000 tons of ore by 1922. The Askam furnaces were built as a direct result of this find.

S2.4 BRICK WORKS

SD 218762

* The present site of the Furness Brick and Tile Company, late of Walney Road, Barrow. (See S1.3)

S3 BARDSEA

Ulverston

SD 301745

Now a quiet rural village, this was once a small port for general merchandise and iron ore, the vessels being loaded overside while lying on the beach at Wadhead Scar (SD 307745). There was an unsuccessful attempt at copper working here in the early 19th Century, the remains of the shaft are just off the minor road to Sunbrick at its junction with the A5087 (SD 295737).

S3.1 SEA MILL

Ulverston

SD 309741

* □ A corn mill, owned in 1829 by Thomas Gash. The reservoir is visible albeit overgrown, also the sluice, now culverted under the highway, the buildings are in use as a restaurant.

S4 LIMEKILN, BAYCLIFF HAGGS

Ulverston

SD 281727

* Just beside the road and in very good condition.

S5 CARK-IN-CARTMEL

SD 365765

A mill village. The Stockdale cotton mill of 1782 was soon converted to corn milling, to be destroyed by fire in 1935. Some foundations can still be seen north of the beck and west of the bridge, near the Engine Inn, which reputedly takes its name from a Boulton and Watt engine installed in the mill by John Wilkinson around 1787.

East of the bridge is an eighteenth century corn mill. An unusual headrace was taken off at an angle from the former cotton mill headrace, into which the tailrace of this mill returned.

S6 DALTON-IN-FURNESS

SD 359774

The ancient capital of Furness, *Daltune* of the Domesday Book. Now a small market town but formerly the centre of intensive iron ore mining from 1712.

S6.1 CROOKLANDS

SD 237745

Earliest terminus of the Furness Railway.

S7 CHARCOAL BLAST FURNACE, DUDDON BRIDGE

SD 197884

SC CA

One of the most famous charcoal furnaces in the north, established in 1736 by the Cunsey and Backbarrow Companies. Cylinder bellows invented by Isaac Wilkinson saw their first application here. The wheel was fed by an unusually long headrace from a dam about half a mile up the river Duddon. Extensive remains have been conserved by the Lake District Special Planning Board, the leaseholders of the site.

S8 WATER MILL, GLEASTON

Ulverston

SD 260709

Three-storey corn mill of 1744 with 18ft (5.5m) breast wheel and impressive wooden gearing. Restored to working order.

S9 LIME KILN, GRANGE-OVER-SANDS

SD 408781

On the left of Hampsfell Road near Hampsfell House Hotel. Large kiln in very good condition. The pot is empty and the whole lining intact. *

S10 KIRKBY-IN-FURNESS

SD 230814

A conglomerate of numerous hamlets including Becksid, Sandside and Soutergate. Notable for its proximity to:

S10.1 BURLINGTON SLATE QUARRIES

Kirkby-in-Furness

SD 250833

Originated as a complex of small pits worked by local farmers from the seventeenth century on land rented from the Burlington estate. Around 1843 problems with overlapping tunnels and drainage led Lord William Cavendish to take over all the workings. The present huge Burlington quarry is being worked from the north-east along the range through earlier sites towards the as yet untouched Whinney End quarry of the pre-Burlington era. *

S10.2 BECKSIDE MILL

Kirkby-in-Furness

SD 236822

Corn mill converted into private dwelling. The owner is restoring the fine overshot wheel. Private site. *



S10.1: Slate sawing at Burlington Quarry
Photo: David W Jones

S11 LINDAL-IN-FURNESS

SD 253756

A village built around a green which was formerly a tarn. Terraced housing to the east of the A590 was erected by Harrison Ainslie and Company around 1860.

Many visible surface remains of spoil heaps, flooded craters and tramway routes on surrounding moors, although some now (1993) being destroyed by construction of the Dalton by-pass.

SD 258762

Approximate site of entombment of Furness Railway 0-6-0 goods engine No.115 due to subsidence, 22 September 1892.

S11.1 STAINTON QUARRY

Lindal-in-Furness

SD 248727

DEM

Ancient limestone quarries mentioned in the Domesday Book developed after 1866 by the Barrow steel industry. Still in production.

S12 LIME KILN, LOW FRITH

Cark-in-Cartmel

SD 339794

*

Beside the road from Old Park Wood caravan site to Low Frith.

A good example of a moderately sized estate kiln.

S13 MILLOM

SD 170803

A small town largely created due to the iron industry, with interesting stone industrial architecture.

S13.1 FOLK MUSEUM

Millom

SD 170803

□

Contains a full scale reconstruction of a drift of Hodbarrow iron mine, a replica miners cottage kitchen and a blacksmiths forge.

S13.2 HODBARROW MINE

Millom

SD 175785

*

One mile (1.6km) south of Millom. First mine sunk in 1843 at Hodbarrow Point (SD 183781). In 1856 a vast ore mass, the largest ever found in Britain, was discovered and worked by pillar and stall method. 343,194 tons were mined in 1880. The sea constantly threatened to flood the workings and a wooden barrier was erected and two Cornish beam engines installed to drain the mine. In 1888-90 followed the construction of the Inner Barrier designed by Sir John Coode and consisting of a bank of puddled clay within a concrete wall. Remains can still be seen. In 1898 the sea broke into the mine and in 1900 to 1905 the massive Outer Barrier was constructed of limestone rubble and tumbled concrete blocks each weighing 25 tons.



S13: Millom Iron Works

The mine closed in 1968 and most remains removed in the mid 1970s to enable a water sports and leisure complex to be created. The Outer Barrier remains and is a convenient view point for the site.

S13.3 STEEL GREEN

Millom

SD 169789

*

The Hodbarrow mine offices remain as a social club. Steel Green was also a miners settlement with an unusual terrace of concrete houses.

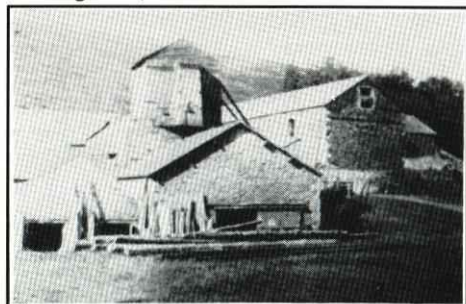
S14 NEWLAND

Ulverston

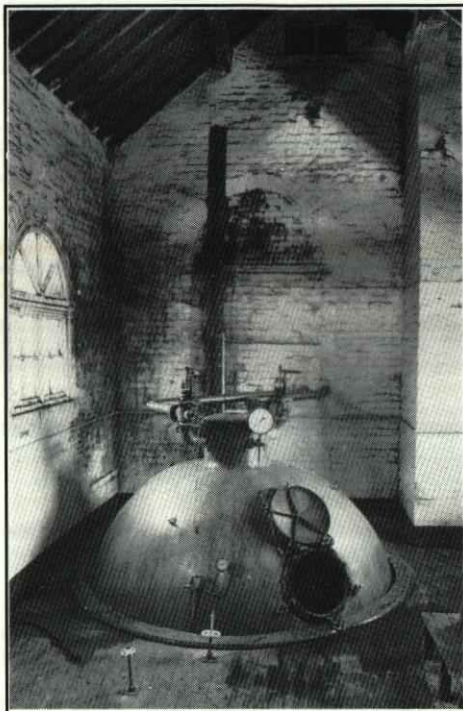
SD 299799

CA *

A water-power complex consisting of a former blacking mill, iron furnace and corn mill.



S14: Newland Furnace



S18.1: Ulverston Brewery

Photo: David W Jones

Although parts have disappeared much remains, certainly enough to give an idea of the scale of these small rural industrial communities once common in Cumbria. The furnace was built in 1747 by the Newland Company and rebuilt about 1770. In 1903 the upper part of the furnace and charging gear were dismantled but

the lower part of the furnace is now being conserved by members of CAT and CIHS. The charging floor and charcoal barn are still in existence. In 1992 a nearby stone shed was identified as being a trestle saw mill.

S15 RESERVOIR AND FILTER SYSTEM

Poaka Beck, Pennington, Ulverston

SD 243784

*

The first large reservoir for Barrow was built at Poaka Beck around 1868 and filtration plant added in 1949.

S16 LIME KILNS, SCALES GREEN

Ulverston

SD 276722; SD 278721; SD 281718

*

A series of three kilns of different styles and ages situated along a line of limestone outcrops. The easternmost kiln is in superb condition, the pot is empty and the lining intact. Access from the public footpath from Scales to Aldingham.

S17 ENGINE HOUSE, STANK

Dalton-in-Furness

SD 233709

*

The Barrow Haematite Steel Company had seven pits in the Stank area in the 1870s. About 20 ft (6m) of Stank No.1 pit Cornish engine house is the only surviving example in the Furness peninsula. On private land.

S18 ULVERSTON

SD 285785

Many interesting Georgian and Victorian buildings. Cobbled Market Street.

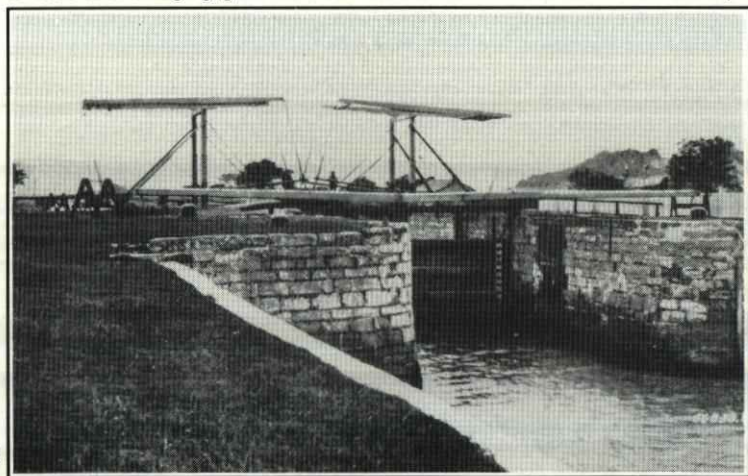
S18.1 BREWERY

Ulverston

SD 287784

*

Built in 1755 by Fell and Jackson. Enlarged in 1882 and acquired by Hartley's in 1896 and by Robinson's of Stockport in 1982. Brewing of



S18.2: Ulverston Canal Foot

Hartley's famous bitter ceased in 1992, much to the dismay of Furness imbibers. The chimney is threatened with demolition (1993).

S18.2 CANAL

Ulverston

SD 294785

*

One and a half miles (2.4km) in length, opened in 1796 to enable vessels up to 400 tons to reach Ulverston. Ship building was carried on at Canal Head. Entrance lock is still visible at Canal Foot. Fell into disuse as the River Crake channel shifted, and was fore-shortened in 1857 when the Ulverston and Lancaster Railway built a bridge over. Presently used as a water supply for the Glaxochem factory.

S18.3 OLD CATTLE AUCTION

Ulverston, Lightburn Road

SD 298782

□

Presently in use as glass blowing works for Cumbria Crystal.

S18.4 WATER-POWERED MILLS

Ulverston

Gillbank Beck enters the town from the north west and provided power for a number of mills partly by a series of diversions. First was Ure

or Higher corn mill (SD 285787), now a garage workshop, the tailrace water then feeding Town Mill (SD 286 785), now a public house, note the carved stones at the entrance. The tailrace re-joined the beck and filled a dam—now a car park—by the brewery (see S8.1) which provided stored power for mills in the Ellers and finally, as Lund Beck, the Low Mill (SD 297776) half a mile to the south east, originally a cotton mill, later a tannery and now derelict.

S18.5 IRON WORKS

Ulverston

SD 305775

*

North Lonsdale Iron and Steel Company constructed three furnaces in 1874-77. Only the slag bank remains. Site now occupied by Glaxochem.

S18.6 RAILWAY STATION

Ulverston

SD 295779

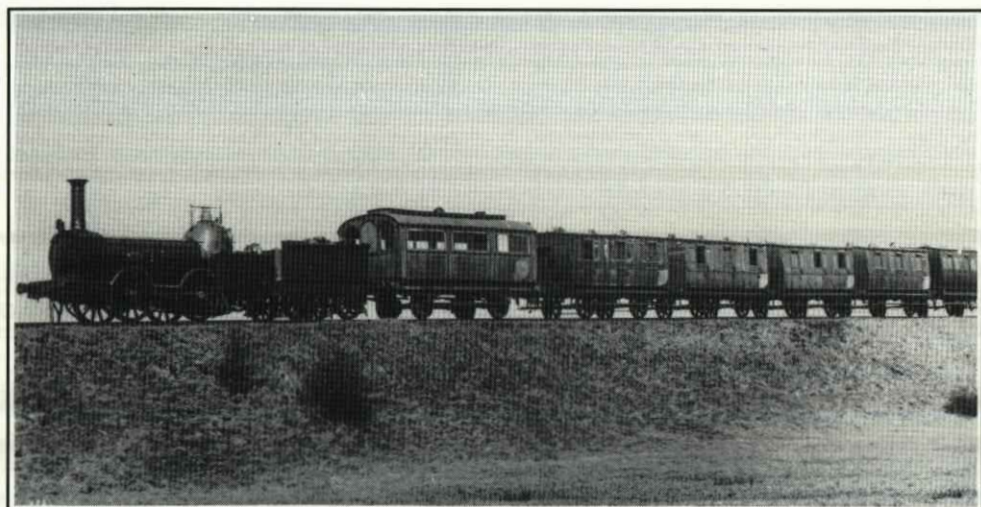
* □

Original station of 1854 now a car showroom. Larger station of 1857 has numerous Furness Railway features including monogrammed capitals on roof pillars and a rare 'squirrel' platform seat.



S18.6: Ulverston Station

- | | |
|---------------------------------|--|
| Armstrong, L | <i>Woodcolliers and Charcoal Burners</i> , 1978 |
| Barnes, F | <i>Barrow and District</i> , 1978 |
| Bonner, I H et al | <i>Field Studies in Cumbria</i> , 1981 |
| Bowtell, H D | <i>Rails through Lakeland</i> , 1989 |
| Bradbury, J B | <i>Cockermouth in Pictures (five volumes)</i> , 1982 |
| Brunskill, R W | <i>Vernacular architecture of the Lake Counties</i> , 1987 |
| CAT | <i>Beneath the Lakeland Fells</i> , 1992 |
| Clark, T | <i>A Century of Shipbuilding</i> , 1971 |
| Collingwood, W G | <i>Elizabethan Keswick</i> , *1912 |
| Crookender, S | <i>K Shoes - The First 150 Years 1842-1992</i> , 1992 |
| Davey, C | <i>Reflections of the Furness Railway</i> , 1984 |
| Davies, W J K | <i>The Ravenglass and Eskdale Railway</i> , 1968 |
| Davies-Shiel, M | <i>Watermills of Cumbria</i> , 1965 |
| Davies-Shiel, M & Marshall, J D | <i>Industrial Archaeology of the Lake Counties</i> , 1969 |
| Dickinson, H W | <i>John Wilkinson Ironmaster</i> , 1914 |
| Fell, A | <i>Early Iron Industry of Furness</i> , 1908 |
| Garbutt, J & Marsh, J | <i>Lancashire North of the Sands</i> , 1991 |
| Geddes, R S | <i>Burlington Blue-Grey</i> , 1975 |
| George, D & Brumhead, D | <i>Cumbrian Industrial Archaeology</i> , 1988 |
| Gradon, M W | <i>RATTY</i> , 1947 |
| Hadfield, C & Biddle, G | <i>The Canals of Northwest England</i> , 1970 |
| Harris, A | <i>Cumberland Iron</i> , 1970 |
| Harris, N | <i>Portrait of a Shipbuilder</i> , 1989 |
| Hayhurst, K & Hyelman, A | <i>Burton and Holme in Times Past</i> , 1987 |
| Hindle, B P | <i>Roads and trackways of the Lake District</i> , 1984 |

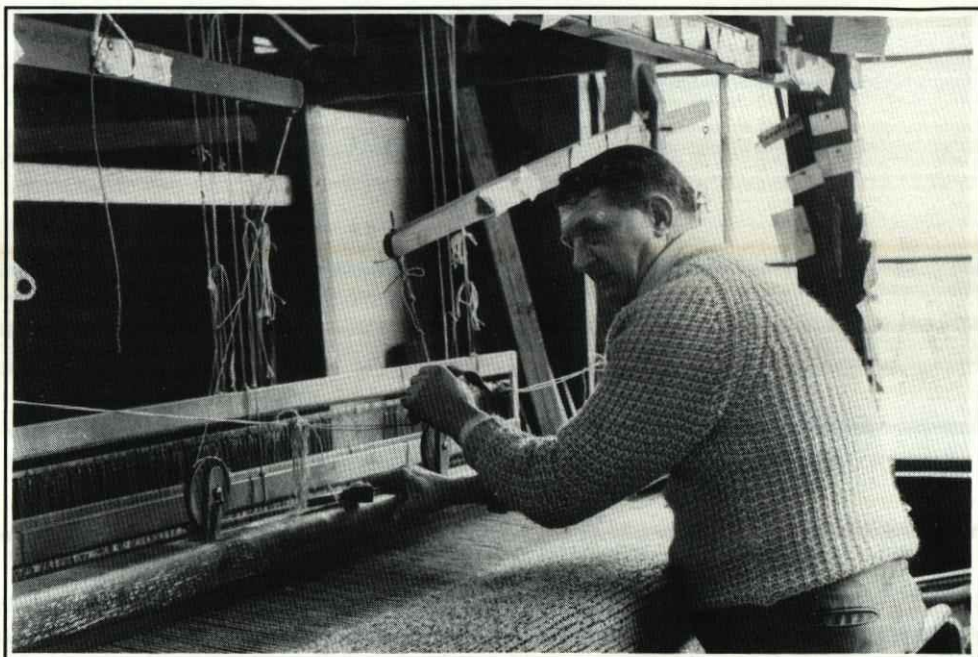


40 Furness Railway: a train illustrated on an early postcard

- Holland, E G
Holland, E G
Jackson, H & M
Jones, W P
Joy, D
Joy, D
Lancaster, J & Whitleworth, D
Lefebre, M
Marsh, J & Garbutt, J
Marshall, J D
Marshall, J D & Davies-Shiel, M
Marshall, J D & Davies-Shiel, M
Marshall, J D & Walton, J K
McFadzean, A
Mellentin, J
Merton Priory Press
Miers, R
Parsons & White
Postlethwaite, J
Quayle, H I & Jenkins, S C
Robinson, P W
Rollinson, W
Rush, R W
Sankey, R
Sankey, R & Norman, K J
Shaw, W T
Siviter, R
Trescatheric, B
Tyler, I
Wainwright, A
Wainwright, A
- Coniston Copper*, 1986
Underground in Furness, 1960
History of the Maryport & Carlisle Railway, 1979
A Lakeland Camera, 1980
Cumbrian Coast Railways, 1968
Settle-Carlisle Railway, 1967
The Iron & Steel Industry of West Cumberland, 1977
The English Lake District, 1964
Ulverston, 1989
Furness and the Industrial Revolution, 1958
Victorian and Edwardian Lake District, 1974
The Lake District at Work, 1971
The Lake Counties 1830 to 1981, 1981
Wythburn Mine, 1987
Kendal and Windermere Railway, 1980
John Wilkinson, 1991
Cumbria Complete Guide, 1986
Gazetteer of Cumberland and Westmorland, *1829
Mines & Mining in the English Lake District, *1877
Lakeside & Haverthwaite Railway, 1977
Rail Centres: Carlisle, 1986
Life & Tradition in the Lake District, 1987
The Furness Railway, 1973
Maritime Heritage Barrow and Morecambe Bay, 1986
The Furness Railway, 1977
Mining in the Lake Counties, 1970
The Settle to Carlisle, 1988
How Barrow was Built, 1985
Greenside—A Tale of Lakeland Miners, 1992
A Pictorial Guide to the Lakeland Fells (7 volumes), 1955-66
Old Roads of Eastern Lakeland, 1985
- * Volumes reprinted by Michael Moon of Whitehaven



The steam yacht *Swift* at Ambleside



Chris Reekie weaving mohair on his 100 year old hand loom in his Grasmere workshop Photo: David W Jones

MUSEUMS AND PLACES TO VISIT

Abbot Hall Museum of Lakeland Life and Industry, Kendal 0539 722464

Armitt Library, Ambleside 05394 32507

Bowness Bay Boating Company Ltd,
Bowness 05395 43360

Caldbeck Mining Museum, Priests Mill,
Caldbeck 0228 41255

Castle Brewery, Cockermouth 0900 823214

Cumberland Pencil Museum and Exhibition Centre, Keswick 07687 73626

Eskdale Corn Mill, Boot 09467 23335

Flying Buzzard, Maryport Harbour 0900 815914

Gleaston Water Mill, Ulverston 0228 869224

Goodacre Carpets, Kendal 0539 723601

Helena Thompson Museum, Park End Road,
Workington 0900 62598

Heron Corn Mill, Beetham 05395 63363

Lakeland Mines and Quarries Trust,
Keswick 07687 79747

Lakeland Motor Museum, Holker Hall,
Cark-in-Cartmel 05395 58509

Lakeside and Haverthwaite Railway,
Newby Bridge 05395 31594

Maryport Maritime Museum,
Maryport 0900 813738

Millom Folk Museum, Millom 0229 772555

Muncaster Water Mill, Ravenglass 0229 717232

Museum of the Lake District,

Kendal 0539 721374

Penrith Steam Museum, Penrith 07687 62154

Ravenglass and Eskdale Railway and

Museum, Ravenglass 0229 717171

Sellafield Visitor Centre,

Seascale 09467 27027

Steam Yacht *Gondola*, Coniston 05394 41288

Stott Park Bobbin Mill,

Finsthwaite 05395 31087

South Tynedale Railway, Alston 0434 381696

Tullie House Museum, Carlisle 0228 34781

Ullswater Navigation and Transit Company,

Glennidding 0539 721626

Wetheriggs Country Pottery,

Penrith 0768 62946

Whitehaven Museum, Whitehaven 0946 67575

Windermere Steamboat Museum,

Bowness 05394 45565

Wythop Mill, Keswick 07687 76394



Traditional charcoal burning: Jack Allonby ensures that all is in order before the stack is sealed *Photo: D W Jones*

TOURIST INFORMATION CENTRES

ALSTON Railway Station 0434 381696
 AMBLESIDE Church Street 05394 32582
 APPLEBY-in-WESTMORLAND Moot Hall
 07683 51177
 BARROW-in-FURNESS Forum 28 0229 870156
 BOWNESS-on-WINDERMERE Glebe Road
 05394 42895
 BRAMPTON Moot Hall 06977 3433
 CARLISLE Visitor Centre 0228 512444
 COCKERMOUTH Town Hall 0900 822634
 CONISTON Yewdale Road 05394 41533
 EGREMONT 12 Main Street 0946 820693
 GRANGE-over-SANDS Victoria Hall
 05395 34026
 GRASMERE Redbank Road 05394 35245

HAWKSHEAD Main Car Park 05394 36525
 KENDAL Town Hall 0539 725758
 KESWICK Moot Hall 07687 72645
 KIRKBY STEPHEN Market Square 07683 71199
 MARYPORT Maritime Museum 0900 813738
 MILLOM Folk Museum 0229 772555
 PENRITH Middlegate 0768 67466
 RAVENGLASS R & E R Station 0229 717278
 SILLOTH The Green 06973 31944
 ULVERSTON Coronation Hall 0229 57120
 WHITEHAVEN Market Hall 0946 695678
 WORKINGTON Washington Street
 0900 602923
Whats on in Cumbria – Tourist information line
 05394 46363

ABBREVIATIONS

CAT Cumbria Amenities Trust Mining History
 Society
 CIHS Cumbria Industrial History Society
 CWAAS Cumberland and Westmorland
 Antiquarian and Archaeological Society
 CWT Cumbria Wildlife Trust
 FR Furness Railway

LDNP Lake District National Park
 M & CR Maryport and Carlisle Railway
 MOLES Mines of Lakeland Exploration Society
 NCB National Coal Board
 SDLUR South Durham and Lancashire Union
 Railway
 SSSI Site of Special Scientific Interest
 YHA Youth Hostels Association

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Swill basket making; the late Myles Newton of Lowick Green, near Ulverston
Photo: David W Jones

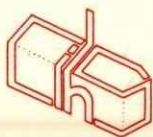
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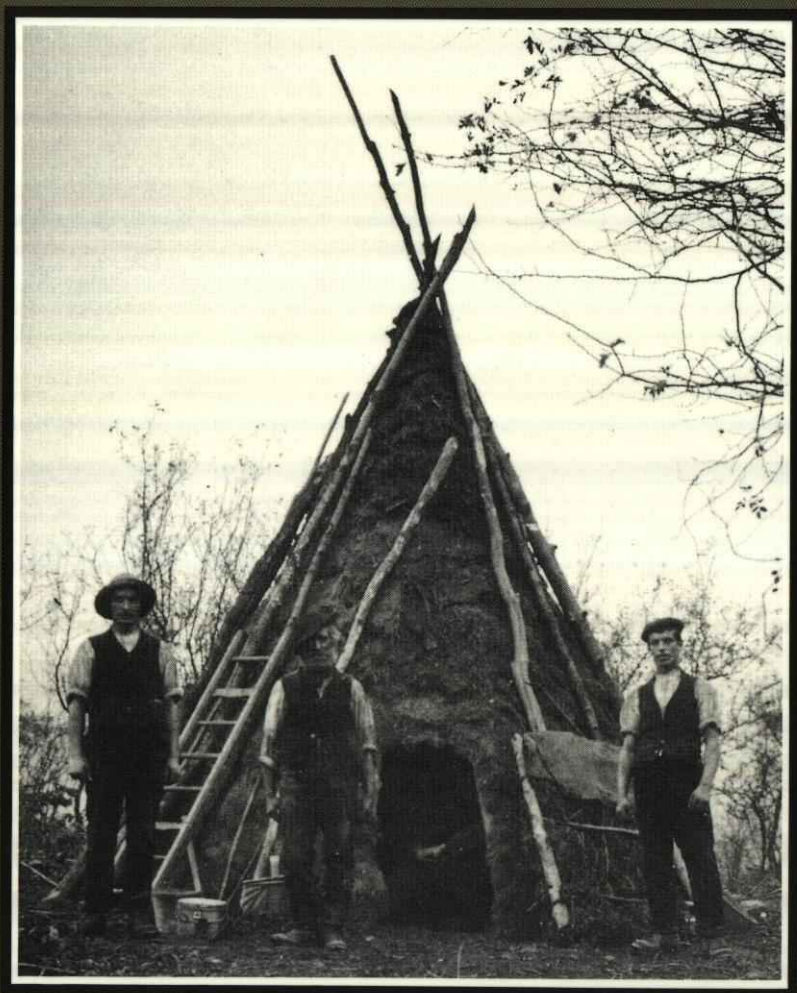
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