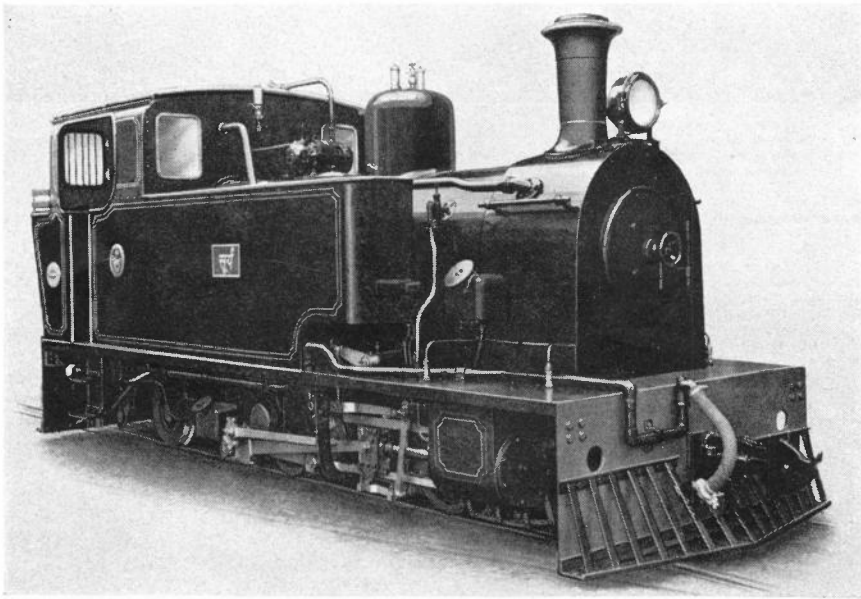


# THE NARROW GAUGE



No. 34



THE NARROW GAUGE

(Official Magazine of the Narrow Gauge Railway Society.)

Editor.....P. Myatt,  
 17, Gloucester Road,  
 North Harrow,  
 Middlesex.

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Illustrations.

Cover: One of the two new Hunslet locomotives for the Nepal Jaynagar Janakpur Railway. Block: The Railway Gazette. Photograph: The Hunslet Engine Co. Ltd.

Inside front cover:

Top. Newfoundland Journey - Trains crossing at Gander.

Photo. and block S.V.H. Melling.

Lower. The Gurktalbahn, 298.54 0-6-2T at Gurk with the 16.00 train ex-Treibach Althofen, 3rd July, 1959.

Photo: D.W. Winkworth.

We are very grateful to all those who have helped to produce this magazine, especially to those who have let us have their photographs or blocks.

EDITORIAL

I should like to thank those members who wrote encouraging letters after they had received the last issue of this magazine. One or two members have said that they will contribute an article but more offers are needed. If the Narrow Gauge is to appear four times a year a continual flow of material is necessary. If the editor can build up a stock of articles the production of the magazine can be simplified as articles can be prepared, maps drawn, and where necessary, arrangements made for blocks to be made or borrowed, well in advance of the time when they will be required.

Thus, when the time comes for an issue to be prepared the making-up and typing process goes much more smoothly.

We have already had a letter from a member giving additional information on the Barclay well tank locomotives featured in the last issue. If further information is forthcoming from anyone, a follow-up article may be possible.

I regret the long delay which occurred in members' receiving the last issue. I took a long time to prepare this and unfortunately it was further delayed by circumstances outside my control.

NEWFOUNDLAND JOURNEY - by S.V.H. Melling, B.Sc., A.M.I. Loco.E.

It has been my good fortune to undertake a few adventurous journeys and one of these included part of the 3'6" gauge Newfoundland Division of the Canadian National Railways. This is a self-contained system of 705 route miles carrying fairly heavy traffic, particularly between May and December when the cod fishing is at its height. The main line stretches for 547 miles from St. John's, the island's capital, to Port aux Basques where it meets the steamer from the mainland. The daily passenger train, the 'Caribou', makes the journey in 26  $\frac{3}{4}$  hours (about 20 M.P.H. including stops), calling at stations with delightful names such as Tickle Harbour, Come-by-Chance and Gaff Topsail.

My journey started at Tilt Cove, a completely isolated mining community on the north coast, where the Maritimes Mining Corporation operate four Hunslet 38 H.P. diesel locomotives underground on the 3'0" gauge. The Canadian mines use a large number of diesel locomotives, nearly all Hunslet or Ruston, and Mancha battery units from the U.S.A.

I left Tilt Cove by motor boat, dodging the icebergs, and then travelled by taxi over a mud road between the pine trees. We joined the railway at Badger only to find that the 'Caribou' had just left. However we caught it up at Grand Falls, the next station, where it rests for twenty minutes.

The Newfoundland Division has the proper narrow gauge atmosphere although the rolling stock is as big as any found on the wide gauge section of British Railways. The 'Caribou' consisted of 14 bogie coaches including three sleepers and a diner. It was hauled by two 1200 H.P., Bo-Bo type, diesel-electric locomotives by General Motors. There were at that time, 1957, a few steam locomotives left in Newfoundland, but I never saw any.

We set off with a considerable jolt, due to loose-

ness in the drawgear, but riding on the 70-lb. rail was very good. Between stops the 'Caribou' hustles along at a steady 30 M.P.H. Unfortunately my journey was by night but the 63 miles (and three hours) to my destination at Gander were certainly not tedious.

Hardly had we left Grand Falls when a man came round to sweep the carriage floor. Then we had a State visit from the Conductor. He was a young man with the bearing of a Guards Sergeant Major and wore a magnificent new uniform. Two minions accompanied him and examined our tickets with the utmost suspicion while the great man chatted to the regular passengers. For some reason he stopped at my seat and seemed to appreciate my interest in his railway of which he was obviously very proud. I found that, after all, he was quite human.

These frequent visitations are an annoying feature of coach travel in North America but the arrival of another member of the train crew selling snacks and the Canadians' ubiquitous cawfee' was most welcome. Gander came all too soon and I left the 'Caribou' at 1.05 a.m. - on time.

Bad weather had introduced me to the Newfoundland narrow gauge, otherwise I would have flown from Tilt Cove to Gander and it now kept me grounded for a further twenty-four hours. During this time I haunted Gander station where there was much shunting of oil tank wagons and flats carrying motor cars, road transport being somewhat hazardous in early spring.

Several goods trains arrived and departed, sometimes with 70 or 80 wagons. Some included a passenger coach next to the caboosé, usually packed with school children, but they were not shown in the public timetable.

The narrow gauge was never much used in Canada and the only other passenger railway, as far as I know was on Prince Edward Island. This was originally a 3'6" gauge system worked by Hunslet 4-4-0 tank engines but

THE GURKTALBAHN - by D.W. Winkworth.

These notes are not intended to provide an exhaustive description of this Austrian line but merely to provide a starting point for further investigation, particularly in the historical field. All references are to Summer, 1959.

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Situated in the province of Carinthia on the main line from Vienna to Klagenfurt this railway is somewhat off the usual tourist route although it does serve the village of Gurk, which has a fine specimen of a baroque cathedral accorded in some guides the honour of two 'stars'. It is hardly surprising that it attracts few visitors as many Austrians do not appear to have heard of it and a visit to it cannot easily be coupled with any other outstanding natural or architectural attraction.

This 760 mm. gauge ÖBB owned railway extends for a distance of 29 kilometres from Treibach-Althofen to the terminus at Klein-Glödnitz. The narrow gauge platform is placed at the north end of the station at Treibach-Althofen to the west of the main line. There is one narrow gauge track which runs across the access road to the station building down to the south end of the station for the purpose of transshipping freight from the standard gauge line. The locomotive and carriage sheds are situated to the west of the narrow gauge line and are the major buildings of their type on the railway.

The Gurktalbahn leaves Treibach-Althofen in a northerly direction and immediately begins to fall. On the east side there is a ramped siding which is used for transshipping narrow gauge locomotives etc., on to standard gauge wagons when overhauls at the main works are necessary. The line shortly begins a long sweep westwards on a curve, reaches its lowest point and thereafter commences its continuous climb up the valley.

Three kilometres from Treibach-Althofen is the

first station, Pöckstein-Zwischenw, with a loop, used solely for parking wagons, and the station building on the south side. Immediately after leaving the station the River Gurk is crossed by means of the most notable bridge on the line. Still climbing up the typical Austrian valley the railway serves the halts of Hacklwirt, Drahtzug, Gundersdorf and Mellach, most of which merely consist of a well defined waiting point and nameboard.

The next place to be served is Strassburg (13 km. from the start) which appears to be the centre providing much of the traffic for the line. Here there is the customary continental layout of three roads, off the most westerly of which there is a siding to a timber mill. The station buildings are on the north side of the line as is also most of the village which is dominated by the ruin of the Schloss which once belonged to the Prince-Bishops of Gurk.

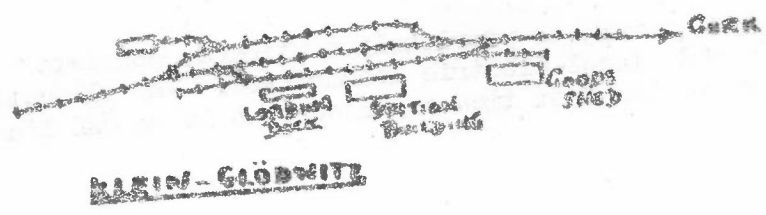
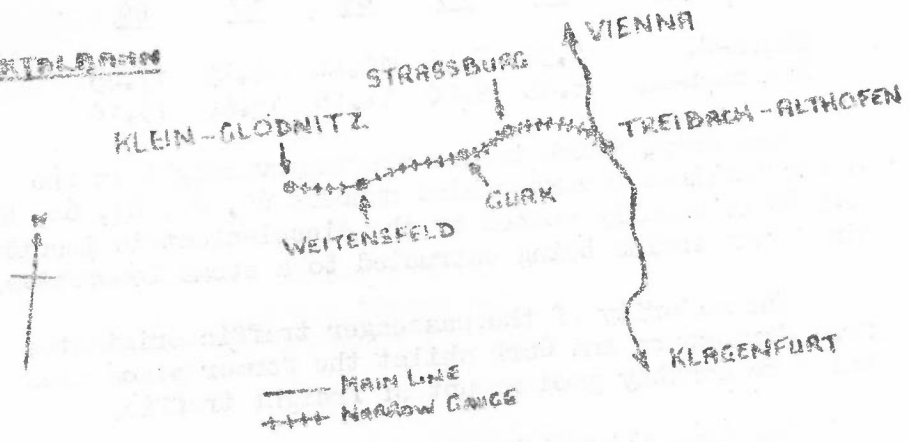
It is but 4 km. from Strassburg to Gurk. The line crosses the road between the two villages on the level and climbs up to enter Gurk, with its similar three-road layout to Strassburg. The copper capped onion domed twin towers of the cathedral on the south side of the line dominate the village but even so it is difficult to obtain a good photograph comprising both train and cathedral.

Gurk is the last place of any significance on the line. A rather more open stretch of country is now encountered; Draschelbach and Prosegger halts are passed and then the stations of Zweinitz and Weitensfeld both of which have three-road layouts with the station buildings on the north side. Beyond Weitensfeld the line crosses the river once more and the climb stiffens for the last section to the terminus. For a distance on the north side there is a recently engineered widening to the road which tends to spoil the view after which comes the little used halt of Altenmarkt. Klein-Glönitz, 724 metres above sea level (the line has a difference in level of 111 m. between the termini although the actual rise somewhat exceeds this





THE GUARTRAILROAD



owing to the dip near Treibach-Althofen), has the three-road layout with a couple of sidings and beyond the station on the north side a small single road shed to house the locomotive stabling overnight. By this shed may be found the 29 km. post.

Generally the railway has a neat, tidy appearance with floral decorations at most of the stations. Klein-Glödnitz, despite its remoteness, can boast petunias in baskets hung from the eaves of its station building.

The service is as follows (Table 21e in the Kursbuch)

<u>Train No.</u>	<u>60</u>	<u>62</u>	<u>64</u>	<u>66</u>	<u>68</u>
Treibach-A.	6.05	7.45	12.45	16.00	19.45
Klein-G.	7.20	9.10	14.02	17.20	21.03

<u>Train No.</u>	<u>61</u>	<u>63</u>	<u>65</u>	<u>67</u>	<u>69</u>
Klein-G.	4.30	7.43	10.40	14.25	17.45
Treibach-A.	5.45	9.00	12.05	15.40	19.10

One duty, which incurs staying overnight at the outer terminus covers trains numbers 60, 61, 63, 64, 67 and 68 is usually worked by the diesel-electric locomotive, the other trains being entrusted to a steam locomotive.

The majority of the passenger traffic originates from Strassburg and Gurk whilst the former place also has a reasonably good amount of freight traffic.

The time allowed for the trains is ample and the steam locomotives experience no difficulty in regaining time after late departures.

Motive power, as previously mentioned, consists of steam and diesel-electric locomotives. The allocation doubtless varies from time to time since this is an ÖBB line;

in July 1959 the position was as follows:

2091.10	Diesel-electric		
298.54	0-6-2T	Krauss	3870/1898
298.55	0-6-2T	Krauss	4182/1899
198.01	0-6-2T	?	
198.02	0-6-2T	?	
199.02	0-6-2T	?	1467/ ?

Of these the first two were working the traffic, 198.02 was ready for despatch to works and the remainder were 'dead' in the shed at Treibach-Althofen. The locomotives are painted in the customary black livery with red rods, have electric head and cab lighting and some at least are fitted with speedometers.

Coaching stock consists of four-wheel stock (all second class) of two varieties, one of which is rather more modern in its interior appointments. Coaches noted included 3618, 3619, 3669, 3675, 3677, 3870, 3872, 3876, 3616 and 3871 (both with lavatory compartments) and 6802 and 6803 (post vans). All coaches have continuous brakes as have most of the wagon stock. The latter has rather more variety than the coaching stock and includes four-wheel flat wagons (20 207 and 40 210 etc.) four-wheel vans (10 237 etc.), four-wheel lumber runners (21 050 etc.), bogie vans (15 824 etc.), and bogie timber wagons (35 801 etc.). Additionally some six-wheel wagons exist but do not appear to be very much used.

Although by no means the most exciting narrow gauge line in Austria either scenically or technically the railway has an appeal of its own, probably because it genuinely serves the communities through which it passes and its obvious lack of tourists. Also because it still has that irresistible attraction which attaches to a narrow gauge steam train climbing up a conifer clad valley and marking its progress by means of a trail of smoke hanging lazily in the air. For the sight, sound and smell of that it merits a visit !

THE COLTON TRAMWAY of the SOMERSET MINERAL SYNDICATE  
by A. S. Travis.

a) The Brendon Hill Iron Industry.

Iron ore has been mined in the Brendon Hills of Somerset for many centuries. Indeed, the ore, a mixture of oxide and carbonate of iron (according to depth), may have been worked originally by the Romans. The iron was first worked as a large scale commercial proposition in the 1850's. Before this time only the softer surface ore had been extracted from cuttings which were never carried to any great depth, but from this time the deeper ore was extracted, generally by means of mines.

During the late 1850's a standard gauge railway, the West Somerset Mineral Railway, was constructed to connect the ore workings with Watchet, a harbour town, from where the ore was shipped. The railway was worked under an agreement with the Brendon Hill Iron Ore Co., but in 1864 a new agreement was entered into with the Ebbw Vale Co. which had acquired an interest in the Brendon Hill Iron Ore Co. Most of the ore was shipped from Watchet to Monmouthshire for the Ebbw Vale iron-works. The Ebbw Vale Co. was to work the railway and pay the shareholders £5,575 a year for a period of 55 $\frac{1}{4}$  years from June 24th 1864.

The mines were of great importance to the economy of Watchet and the surrounding countryside. The railway was built in two sections separated by a 1 in 4 incline at Comberow from where the second section ran along the top of the Brendon Hills, serving the various iron mines. The mines were closed in 1883, due to the importation of cheaper Spanish ore. The railway thus lost much of its traffic, even passenger receipts being affected as many of the miners left the district, and in 1898 it was finally closed.

In 1907 the Somerset Mineral Syndicate, formed by a Mr. Blomfield Smith, M. Inst. C.E. and the Ebbw Vale Co.,

leased the section of railway from Watchet to the top of the Brendon Hill incline. This venture, the last attempt to mine iron ore from the Brendons, lasted three years.

b) The Somerset Mineral Syndicate.

The Somerset Mineral Syndicate obtained exclusive rights over about  $9\frac{1}{2}$  miles of country, between Ison, near Withypool, and Elworthy. The railway between Watchet and the head of Brendon Hill Incline was re-opened during early July 1907, and the first wagons were successfully hauled up the incline on the 17th July. One locomotive was used on the section between Watchet and the foot of the incline. This locomotive was ex-Metropolitan Railway 4-4-0T no. 37.

In 1908 2,550 tons of ore were raised, showing an average of 55% of iron and being valued at the mines at £1,800. By March 1909, all plant and property were leased to the Watchet Briquetting Syndicate, a company which tried to briquette the ore with cement in kilns near Watchet, in order to make it more suitable for modern furnaces. The company met with little success and was wound up on the 22nd March, 1910.

Of the various ventures of the Somerset Mineral Syndicate we shall confine our interest to Colton Pits, near Raleighs Cross.

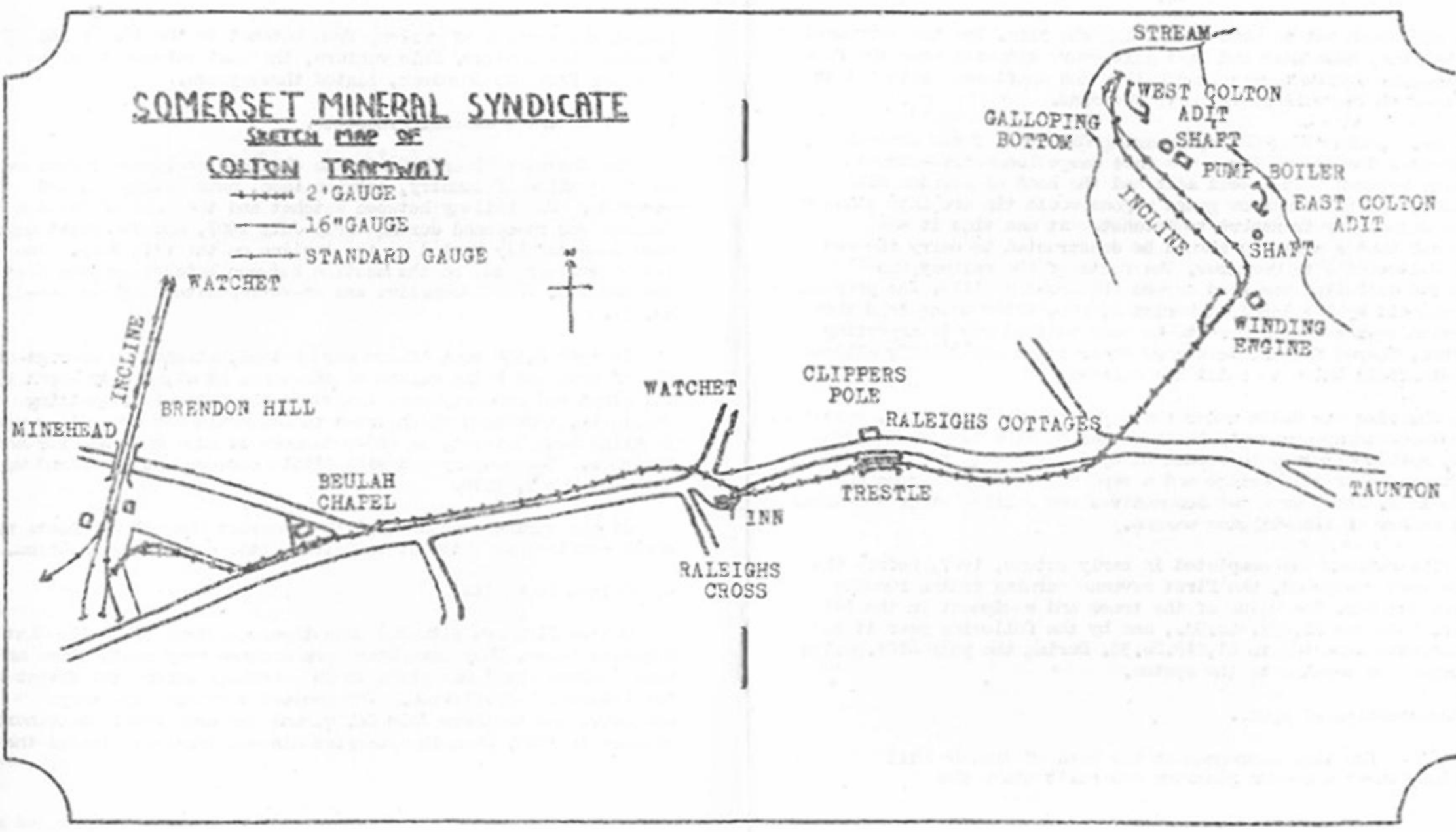
c) Colton Iron Pits.

Colton Pits are situated some three quarters of a mile east of Raleighs Cross. They have been worked since very early times and the name 'Colton Pits' was given to the workings before the advent of the Industrial Revolution. The ancient workings were very extensive and the Ebbw Vale Co. worked the area until the general closure in 1883. When the Somerset Mineral Syndicate leased the

# SOMERSET MINERAL SYNDICATE

## SKETCH MAP OF COLTON TRAMWAY

- 2' GAUGE
- 16" GAUGE
- STANDARD GAUGE



area they soon set to work re-opening the pits. The two entrances to the mine, East Adit and West Adit, were situated near the foot of adjacent valleys and a pump boiler and shaft were situated at the head of the valleys to serve the mine.

Mr. H. Blomfield Smith, Managing Director of the Mineral Syndicate, decided to lay a two foot gauge locomotive-worked railway between Colton West Adit and the head of Brendon Hill Incline, where the narrow gauge wagons would tip ore into standard gauge wagons for transport to Watchet. At one time it was proposed that a cableway should be constructed to carry the ore from Colton Pits to Comberow. The route of the railway was proposed to follow the road across the Brendon Hills. The proposal was opposed by the local Authorities, who, after being told that traction engines would have to be used instead for transporting the ore, feared for the safety of their roads and finally allowed Mr. Blomfield Smith to build his railway.

The line was built under the supervision of Mr. J. H. Bennetts, the mining superintendent. The track was lightly laid flat bottom rail, spiked directly to wooden sleepers. The main features were a short wooden trestle bridge and a rope worked incline some 600 yards long. There were two locomotives and rolling stock consisted of a number of side-tipping wagons.

The railway was completed in early Autumn, 1907, before the mines were re-opened, the first revenue earning trains running during October. The value of the track and equipment on the 1st April, 1908 was £1,197.14s.9d., and by the following year it had depreciated some 10% to £1,018.2s.3d. During the year £101.0s.11d was spent on repairs to the system.

#### d) Description of route.

The line commenced at the head of Brendon Hill Incline, where a wooden platform was built above the

level of the standard gauge track in order that the narrow gauge wagons could tip ore directly into standard gauge wagons. From the platform the line passed through a row of trees and alongside a hedge where a loop was situated. Soon it ran parallel to a minor road, being separated from it by another hedge. Just before reaching Beulah Chapel the line passed through the hedge and ran alongside the road, soon crossing the main road across the Brendon Hills.

From here the line ran alongside the road for about 300 yards before entering a short cutting in order to avoid a slight rise in the road. After leaving the cutting it again crossed the road, passed in front of Raleighs Cross Inn, and continued along the other side of the road until it reached Clippers Pole, where the road sank about ten feet. Here, on a sharp curve, was a wooden trestle some 200 feet long. Following the road the line soon entered a cutting some three feet deep.

Leaving the cutting the line crossed the road and entered a field where a siding was situated. Soon it curved round sharply and ran down an unequally graded incline until it reached the entrance of the mine where it levelled out. The incline was some 1,800 feet in length and had two tracks. It was worked by a vertical stationary steam engine cased in a corrugated iron shed. At the foot of the incline the two tracks joined as they reached the level patch where a loop was situated. At the top of the incline there was a short level section so that wagons could be manually propelled onto it.

Today there are few signs of the old narrow gauge system. At Brendon Hill a gap between a row of trees indicates the route of the line, whilst in a nearby field earthworks are to be seen beside the road, and at Beulah Chapel sleeper marks are discernible in the road. Remains of earthworks for the trestle are still to be seen, as are some of the cuttings, whilst at the head of the incline three concrete blocks mark the position of the drum stays and a heap of earth marks .....



the head of the incline. A few lengths of standard gauge bull head rail are to be seen, in various positions near the site of the winding engine. Their origin and purpose is unknown.

e) Train working.

The ore was brought from West Colton Adit by means or a manually worked 16" gauge tramway using secondhand Decauville four-wheel side-tipping wagons of  $\frac{1}{4}$  cubic yard capacity. For a short time two Welsh ponies were employed for hauling these wagons. The ore from these wagons was unloaded into hoppers and then into 2' gauge wagons situated at a lower level.

The 2' gauge wagons were hauled up the incline, probably in sets of three, and then manually made up into trains of six. It is of interest to note that there were no locomotive sheds, works, or sidings other than those already mentioned; hence the scope of working was limited. The line was worked on the one engine in steam principle, both engines probably being kept at the top of the incline, the one not in use occupying the siding where repairs were probably executed.

When one engine had finished its turn of duty, it would probably have pulled the other from the siding to the head of the incline where it would be left until next required, while the locomotive which had completed its service would run onto the siding. At the Brendon Hill end of the line it was necessary for the engine to uncouple, run round its train, and push it onto the loading platform, since the latter could not take the weight of a locomotive. There were probably two sets of wagons (six wagons per set) with a few extra for replacements.

The system was used during the day time on weekdays, and at one time the pits were worked 24 hours a day, there being three shifts, viz: 6 a.m. - 2 p.m., 2 p.m. - 10 p.m. and 10 p.m. - 6 a.m. Derailments were frequent, and it

was fortunate for the train crews that miners and employees of the company were unofficially travelling on the trains, for they often helped in the re-railing operations. Indeed, at one time a whole train nearly fell on its side, and it was only with the combined efforts of crew and passengers that it was re-railed.

(f) Locomotives and Rolling Stock.

Two secondhand four-coupled locomotives, one having inside cylinders and the other having outside cylinders, were purchased for use on the two foot gauge tramway.

The inside cylinder locomotive, an extremely diminutive affair, was probably built by W.G. Bagnall of Castle Engine Works, Stafford. It certainly bore resemblances to locomotives shown in the firm's earlier catalogues, although they were meant for wider gauges. This locomotive was of simple design, having small wing tanks, inside frames, a rough open cab, a long capped chimney, and a boiler devoid of all but the most necessary of fittings along the top of which a single hand rail passed. Oval plates were attached to the sides of the cab. Brakes acted on the front pair of wheels and the engine was fitted with wooden dumb buffers and chain couplings. The light weight of the locomotive made it extremely suitable for the work required and it seems to have been the most popular of the two.

The date of building, original owners and dimensions of this engine are not known. However, it may have been Bagnall No. 210, an 18 inch gauge engine supplied to the Beckenham and Penge Brickworks in March 1879. This engine was named 'Brick', the name being painted on the wing tanks, and an artist's impression shows it to have been similar to the only known photograph of the Colton Tramway locomotive, no other engine of this type and size being known. Dimensions of the 18 inch gauge locomotive were:

Cylinders - 4" dia. by 6" stroke.  
 Cast wheels - 15" dia.  
 Wheelbase - 4'  
 Boiler, length - 7' 1"  
       "      diameter - 20"  
 17 brass tubes of  $1\frac{3}{4}$ " dia. Copper firebox.  
 Total heating surface - 52 sq. ft.  
 Height - 4' 10 $\frac{1}{2}$ "

In 1887 the engine is said to have gone to the Ravenhill Patent Brick Co. Belfast, but there is little evidence of this ever happening.

The Colton engine, soon after purchase, was sent to Bagnall's for repairs during 1907/08, (according to Mr. R. T. Russell), and Mr. Gordon Hatherill, who has been responsible for unearthing much of the information on Bagnall No. 210, believes that had the engine been purchased by the Somerset Mineral Syndicate in 1907 it would have been quite easy to widen the gauge, e.g. by using stepped tyres. The dropped footplate beneath the cab on the Colton engine suggests that it had been designed for a limited loading gauge, e.g. a brick works; whilst even if the engine was an early Bagnall the original rectangular builders plates of this company would have been replaced during 1907-8, when more recent Bagnall plates would have been attached.

The other locomotive was a Kerr Stuart sidetank, previous owners being unknown. It was a member of the 'Sirdar' class, having outside frames and cylinders, stovepipe chimney, characteristic Kerr Stuart side tanks with inspection slots, cutaway cab and wooden dumb buffers and chain couplings.

Leading dimensions of the class are:

Cylinders - 6" dia. by 10" stroke.  
 Wheels - 2' dia.  
 Wheelbase - 3' 6".

Boiler, diameter - 2' 3"  
 38 brass tubes of  $1\frac{3}{4}$ " dia.  
 Heating surface, tubes - 83.5 sq. ft.  
 " " firebox - 16.5 sq. ft.  
 " " total - 100 sq. ft.  
 Grate area - 3.33 sq. ft.  
 Fuel capacity - 11 cu. ft.  
 Water capacity - 90 galls.  
 Length (excluding couplings) - 12' 1"  
 Width over bufferbeams - 5' 8"  
 Height to top of chimney - 8' 8  $\frac{11}{16}$ "

Both engines were probably painted black, the Kerr Stuart being lined out, presumably in red. Both faced the Brendon Hill end of the line. Of their disposal nothing is known, save that both were sold by auction on 28th June, 1910, the Bagnall for £20 and the Kerr Stuart for £18.

The winding engine and vertical boiler used for the incline at Colton Pits were obtained secondhand, two  $\frac{5}{8}$ " steel ropes of 1,900 ft. in length being supplied with them. The two foot gauge rolling stock consisted of a number of four wheel wrought iron side tipping wagons (builders unknown). These had outside bearings and were of  $\frac{1}{2}$  yard cubic capacity.

The narrow gauge equipment was sold by auction on 28th June, 1910, and the land and buildings on 8th August, 1924. The two foot gauge wagons were sold at 17/- each, and some 4,727 ft. of ready laid track was sold at 11d. per yard. The winding engine, boiler, and steel ropes brought in £30, and two sets of 16" gauge wagons, both from Colton Pits, were sold at 21/- and 10/- per wagon according to set.

The Colton Tramway was used for just over one year, from late 1907 to March 1909. It is unlikely that the system was used when the Watchet Briquetting Syndicate purchased mining rights, since the company, whose main aim was to raise funds for the commercial.....

'bringing to earth' of local ore, probably had enough ore at hand for its briquetting experiments. Probably the main reason for failure in making use of the Brendon Hill ore was due to its low grade, and in many cases it was mixed with clay, making it extremely fine, and hence unsuitable for blast furnaces. Thus came to end the last commercial attempt to mine iron ore from the Brendon Hills.

In conclusion I should like to acknowledge the assistance of the following:

R. Sellick and M.H.Jones without whose assistance this article would have been impossible. Those further interested in the Somerset iron industry and the railways which served it should consult Mr. Sellick's book 'The West Somerset Mineral Railway' (David and Charles). The map accompanying this article has been prepared from information supplied by Mr. Jones; Mr. H.H. Hole of Williton, Somerset for the illustrations; G. Hatherhill; P. Myatt; and the many people of North Somerset who so patiently assisted me in my enquiries.

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(Newfoundland Journey - continued from page 4.)

it was converted to standard gauge when absorbed into the Canadian National. Most of this system has since been closed to passengers. Except for underground lines in the mines narrow gauge industrial lines are scarce. I did, however, manage to photograph two very nice little Porter 0-4-0 saddle tanks in Northern Ontario. Unfortunately they were in a scrap yard.

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NEW STEAM LOCOMOTIVES FOR NEPAL

As most members will have heard, the Nepal Jaynagar Janakpur Railway have recently been supplied with two 0-6-2 sidetank locomotives built by the Hunslet Engine Co. Ltd. These two locomotives, one of which is illustrated on our cover, have works' numbers 3875 and 3876. They were despatched at the end of August, 1962, and the middle of September, respectively.

The locomotives are of 2'6" gauge and have non-superheater boilers with 78 brass tubes 1.75 ins. o.d. and a steel Belpaire firebox with a copper inner firebox. The total heating surface of the boiler tubes and firebox is 367 sq.ft. Grate area is 9.75 sq.ft. The boiler, which has a working pressure of 160 lbs. per sq. in., has been made to comply with Indian Boiler Laws.

The locomotives have a weight in working order of 24.25 tons and the tractive effort at 75% boiler pressure is 6,413 lbs. The coupled wheels are 2'9" diameter and the trailing wheels 2'1" diameter. The rigid wheelbase is 6'2" and the total wheelbase 12'5".

The cylinders are 10 $\frac{1}{2}$ " diameter and 16" stroke and are fitted with the cast iron slide valves. Each cylinder is fitted with drain cocks which are operated from the cab. Cylinder lubrication is provided by a Wakefield A.C. type hydrostatic lubricator with separate condenser. Valve motion is Walschaert's.

Electric lighting equipment is incorporated and comprises a turbo generator, two 300 watt 10" headlights, one at the front and one at the rear of the locomotive, water and pressure gauge lights and a cab light. Vacuum and hand brakes are fitted and act on all coupled wheels.

The locomotives are designed to negotiate curves of 120 ft. radius and can operate on rails of 35 lbs. per yard.

We are very grateful to the Hunslet Engine Co. Ltd., for the forgoing details.

N.W.N.G. Rly. 1st Class Observation Car No.8  
- by A.E. Kimmer.



This coach was built by the Metropolitan Carriage & Wagon Co. in 1891 for the North Wales Narrow Gauge Railway, and became No.8 in that company's list of rolling stock.

It was renumbered 29 in the joint Festiniog/ Welsh Highland Railway stock lists and was usually referred to as the Gladstone Car.

This was an ideal observation coach, combining as it did the open balcony ends for use in fine weather, and the glazed centre section which provided adequate shelter in all weathers but which at the same time did not obstruct the view.

The sides were made up of vertical planking with a door at each end opening towards the centre of the coach. A step was fitted beneath each door. The roof was supported by eight uprights on each side (about

2" square) and the two outer spaces at each end were open, whilst the three inner were glazed. The coach was 26' long, 5'6" wide, with a height, measured from the bottom of the side planking, of 7' to centre of roof and 6' to the eaves.

The seating capacity was twenty-four which is small for a coach of this size, but it was first class. Apart from the seats along each end of the coach the other four seats on each balcony were arranged as single seats on either side of a central aisle facing the ends, and each was provided with an arm rest. The seats were of slatted wood shaped to ensure a comfortable ride.

The glazed centre section was entered through doors at either end, the upper half being glazed. These doors opened outwards. The seating consisted of plain varnished wooden seats along each side. On the floor was a red carpet and a ventilator was fitted in the roof.

The roof was white and whilst the colour scheme was at first two shades of brown, a maroon livery was later adopted. The initials N.W.N.G.R. together with the number 8 appeared in yellow on each side along with the figure 1 on each door.

When the Festiniog Railway leased the Welsh Highland Railway in 1934 the coach was painted red, again with a white roof, and it was in this livery when it was sold at Cohen's auction at Dinas in June, 1942.

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Book Review.

Les Tramways Francais - by J. Arrivetz. Omnipress, 47, Rue Marietton, LYON. 100NF, about £7.

This is frankly an expensive book; but "c'est magnifique". It claims to describe all town tramways and light railways in France. This I am not prepared to confirm, but very many lines are included so the claim is probably true. The 45 pages of text contain a survey of the railways region by region, mainly dates of opening and closure, with references to operating methods - steam, electric, railcar. There follows 50 pages of information in tabular form; company by company (grouped under different types of railway), dates of opening and closure, length in 1912, 1926, gauge and motive power. The 100 pages of illustrations, 2-7 photos. per page, show every system at least once - electric tram, horse tram, steam light railway, auto rail - the lot, even a view of a two wheel railcar trailer on the Chemin de Fer de Normandie in 1933.

48 pages of maps of regions and towns complete this outstanding book. It may be expensive, but I am certain one gets one's money's worth. The text is naturally all French, but is easily mastered by anyone familiar with the history of a typical light railway. - Sydney A. Leleux.

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Illustrations - Inside back cover.

Top. Colton Tramway. A train hauled by the Bagnall on the trestle viaduct.

Lower. West Colton Adit in 1908, with the tramway to Brendon Hill on the left.

Photos: H.H. Hole. Blocks. David & Charles, from The West Somerset Mineral Railway.

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