ROXBURGH BRANCH

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Length: 94.7 kilometres
Opened:
Stage 1 Clarksville to Waitahuna January 1877
Stage 2 Waitahuna to Lawrence April 1877
Stage 3 Lawrence to Big Hill October 1910
Stage 4 Big Hill to Beaumont December 1914
Stage 5 Beaumont to Miller's Flat December 1925
Stage 6 Miller's Flat to Roxburgh April 1928
Stops: 20
Clarksville
Glenore
Mount Stuart
Manuka
Round Hill
Johnstone
Waitahuna
Forsyth
Lawrence
Evans Flat
Bowlers Creek
Big Hill
Craigellachie
Beaumont
Craig Flat
Rigney
Minzion
Miller's Flat
Teviot
Roxburgh
Closed: Completely June 1968
Passenger services: Stopped in September 1936, although excursion trains ran after the regular services stopped

The Roxburgh branch traverses some of the most scenic landscape in the country, particularly along the Clyde River from Beaumont to Roxburgh. There are many rail features to view, and the corridor is fairly easy to see for long sections. A cycle trail has opened some of the corridor to cyclists and walkers and revealed some of the features to the road traveller as well.

Construction of the line took a very long time through some very challenging terrain, needing several tunnels. The first section of the line was built to service the goldfields around Lawrence and for this reason alone construction was well supported politically. It then took many more years, much political and local lobbying and many delays before the line was extended north from Lawrence along the banks of the Clutha River. By the time the Roxburgh terminus opened in 1928 road transport had already become more widely available, and economic decline was inevitable. The construction of the Roxburgh hydro scheme provided a reprieve and closure was staved off until 1968.

Clarksville-Lawrence

The Roxburgh branch starts at Clarksville, three kilometres west of Milton, on SH8 (Manuka Gorge Highway) half a kilometre north of the junction with SH1. The Main South Line (MSL) runs west out of Milton in a straight line and crosses SH8. The junction of the Roxburgh branch with the MSL used to be where the Clarksville Overbridge now takes traffic over the MSL. There is nothing at all remaining of the Clarksville station, which was one of a small number of southern stations built at right angles to rather than parallel with the railway tracks.

Pastoral land on the plains for miles around conceals any possible sightings of the line but heading north on SH8 the rail corridor was to the right alongside the road. Nearly five kilometres from the junction the formation is now used as a farm track, and further on as an access road to an aggregate quarry. Cross the Tokomairiro River Bridge (Glenore). Glenore station and yards used to be in the area, along with a three-span bridge, each span 63ft long (19 metres). The piers were built from brown-coloured stone quarried locally and said to be of similar quality to Aberdeen granite. If the piers are still there it is not possible to see them from SH8.

There is now no settlement at all in this vicinity, but it was a very early gold-mining and dredging site, which started as far back as 1858, a couple of years before Gabriel Reid's discovery at Tuapeka started a major gold rush in 1861. During the gold-rush years a large settlement developed at Glenore and continued during the period the railway was under construction.

After a couple of kilometres, the formation crossed from amongst the trees on the right of the road where there is a small gravel layby to run along a platform on the left. This was the location of the Mount Stuart station, which had only a small passenger platform, a shelter shed and a loop.

On the right a few metres further is Mt Stuart Reserve which has been popular as a picnic area since the 1890s. There is a 40-minute walk through native forest round the reserve, and there are two giant sequoia trees which are registered with the "NZ Tree Register", according to which "The trees are part of the original old homestead garden adjacent to the reserve".[1]

Turn left along Falla Burn Road almost opposite the reserve, and after nearly 500 metres note a splendid set of overbridge piers made of brown stone, presumably the same as the aforementioned at Glenore Bridge. They are supported by equally attractive stonemasonry buttress walls. They stand about six metres high astride the road, and there is a beautifully designed culvert of the same stone behind the right-hand pier (facing up Falla Burn Road away from SH8). Going slightly further up Falla Burn Road may reveal traces of embankment climbing steadily away to the right in the trees, but there is no point attempting to follow it further as it now begins a series of tight curves leading to the first tunnel on the line, at Manuka. The southern portal of the tunnel is inaccessible and out of sight of any road. The rail corridor was not only tightly curved but also climbed fairly steeply, and there were challenges for the drivers and firemen to keep the steam up and the speed sufficient to haul loads on the uphill climb going north.

Digging the 443-metres-long tunnel created the most construction difficulties during the development of the line as it had to be dug through unexpectedly hard rock. The tunnel is brick lined, and the northern portal is dressed in beautiful stone masonry. Presumably, the southern portal is dressed in the same style.

The northern portal is easy to find and is accessible. Return to SH8 and continue for 2.5 kilometres through the first part of Manuka gorge. To the side of a slow vehicle bay on the left a road sign says "Manuka Gorge Tunnel Trail 400 metres". Immediately after the next sign warning of the end of the slow vehicle bay there is an old water standard on the bank, looking as if it could still be used to fill

up the water tank of a steam locomotive after its arduous climb to the tunnel. The placement of the stand makes it clear that the road is now on the formation. “Until 1925 a 2,000 gallon tank, beside the station, provided locomotive water supplies. This was superseded by a 6,000 gallon reservoir on the hillside above the main line.”[2]

Another 300 metres further on there is a signpost to a turn-off on the left. Manuka station was in the vicinity, but there are no obvious traces of its exact location. There was a work camp at Manuka, with the men mostly living under canvas. At the far end of the layby there is a walkway to the tunnel portal. This pleasant stroll takes 10-15 minutes through native bush. In mid-2013 there were signs stating both the track and the tunnel were closed but there was nevertheless no impediment to walking along the track. The walk descends to a distinctive railway gate, behind which is the northern portal of the tunnel. It is possible to see through the tunnel, and if there is nothing to declare it closed presumably it is safe to walk to the other end.

From the layby the line crossed the road and Manuka Creek on the right of the road and then made its way around the lower slopes of the hill on the right for about three kilometres. And there are only occasionally faint traces of the line visible from SH8. The line was again climbing, making its way to the next tunnel – Round Hill – which pierced the lower slopes of Round Hill itself. The southern portal of Round Hill tunnel is in a deep cutting on the right of the road amongst dense bush, fairly close to the top of the hill, and cannot be seen from the road.

Immediately after the top of the hill there is a small layby on the left where it is possible to stop safely. The northern portal of the tunnel is in a deep cutting beside the road but can’t be seen from the roadside. What can be seen ahead, however, is the formation in a deep cutting on the left of the road. There was a wayside stop called Round Hill where the gradient of 1 in 50 made it unsuitable for any sort of siding.

For the next four kilometres or so the rail formation can be seen from time to time above road level working its way down (or up depending on direction of train travel) curving around slopes and hills on embankment and in cuttings. Once on the flat a layby on the left is the site of Johnston, the next wayside stop .This had a 19 wagon backshunt as well as the typical small shelter shed and was named after Adam Johnston, Resident Engineer of the Clutha railway. Aged 35, he was regarded as a “master of his profession”, so his appointment must have been celebrated. Sadly, though, soon after moving to the area to take up his duties he was thrown off a horse and died. When the line was finished his name was used for the stop between Round Hill and Waitahuna, although erroneously spelt as “Johnstone”.[3]

The formation has been obliterated by farming or road formation for the next 1.3 kilometres but then veered left and followed the same route as Waitahuna Cemetery Road. Pass the cemetery entrance and continue to the intersection with Cowan Road, watching for embankment or other rail remnants on the right. Turn right into Cowan Road and look for the rail crossing after 200 metres. Continue to SH8 and turn left to proceed through Waitahuna. After crossing the Waitahuna River look for embankment on the left leading to a crossing just before the intersection with Hylton Street on the right. The rail bridge over the Waitahuna River is nowhere to be seen but was about 100 metres on the left of the current road bridge.

Turn into Hylton Street, and look left to view the sad but distinct remnants of the Waitahuna station and radial-roofed goods shed in the middle of the paddock. If you are able to drive slowly along SH8 you will also be able to see the loading banks around the goods shed, and the men’s toilet block alongside the station. There were also, of course, the usual other facilities such as a water stand and tank, and a series of sidings alongside stockyards and loading banks. Waitahuna was originally called

Havelock and was the scene of early gold-mining activity. There is a Heritage Trail around Waitahuna and the brochure setting out the trail information is probably most easy to obtain in the Lawrence Museum and Information Centre but it is also available online (refer website details at end of this chapter). Waitahuna was the terminus for only for a short period, from January until the end of March 1877. Opening day at Waitahuna was suitably low key but for the first time ever a special train ran on the line, taking 300 people to Clarksville for a picnic.

Continue on SH8 to Lockharts Road on the right, where just before the one-way road bridge the formation crossed to make its run around the small rise SH8 is about to climb. The formation can be seen on both sides of Lockharts Road.

For the next five kilometres the formation can again be seen from time to time on the right, rising above the road level and traversing several bluffs and hillsides where it can be fairly easily sighted. Embankment can be seen 100 metres up McKeich Road, and occasional glimpses continue until about Crawfords Road (on the left) which is where the next station, Forsyth, was located. This was named after the aforementioned Resident Engineer's wife Margaret, *nee* Forsyth. He and his wife had two children, one of whom was called Forsyth, so the name was obviously important to the family.

The line between Forsyth and Lawrence has been described as "the stiff two mile climb" for trains running from Lawrence.[4] After Crawfords Road SH8 and rail both follow the contours of the hill on the right in sweeping curves. Make sure to look for a fairly large set of piers being used now to take a farm track across a creek in the first of these curves. Almost directly opposite the entrance to Clarks Flat Road there is another smaller bridge spanning a stream, and from here the formation can be seen ahead in a deep cutting.

Turn off SH8 to the right into Hill Road which traverses a ridge line, becoming Bloy Road at the bottom of the hill. The rail line is to the right below the hill, but road and rail converge on the flat where the line crossed before curving left to straighten for the approach to Lawrence station. At a Y-junction just past the level crossing turn left into Thompson Road and go left along Waipori Road. After 420 metres the line crosses Waipori Road from some trees on the left to enter the Lawrence station and yards on the right. The yards area is now open grass space, and then the ubiquitous transport storage area. The large old stone warehouse at the end of the yards marks where the station and yards ended while Lawrence was the terminus. The stationmaster's house was almost opposite the warehouse on the other side of Irvine Street.

The grand opening of the new terminus at Lawrence took place on 2 April 1877.The yards were large as befitted a terminal station. There was a radial roof goods shed, 80x30ft; an engine shed, 62x33ft, demolished in 1953; a footwarmer[5] house which later became a coal shed; a 2,000 gallon capacity water vat; loading banks, stockyards for sheep and cattle; and there was also a 50ft turntable which was later replaced by a 55ft unit. There were five loops of 29, 25, 12, 12 and 10-wagon capacity. There were also sheds used by rabbit dealers.

"Trapping was used to control the rampant rabbit population which destroyed grazing lands and the trappers brought their catch to central depots for transportation to markets. There were specially modified railway wagons to carry 1,600 carcasses each, with 700 carcasses to the ton. This trade was a lucrative source of income on the Roxburgh line for many years. In 1894 25,000 frozen rabbit carcasses were exported to Britain. The business grew quickly, and 6.5 million carcasses were exported from New Zealand in 1900. Over 99% of this trade came from Otago and Southland and the trade continued until 1956."
http://www.teara.govt.nz/en/rabbits/page-6

Lawrence-Roxburgh

Lawrence remained the terminus of the line for 33 years until an extension to Big Hill was finally completed in 1910. Work started on the extension in January 1906, after many years of political lobbying and wrangling about the best route to service agricultural production in Western Otago. Lawrence is the southern end of the Clutha Gold Trail, a cycle trail which makes some use of the formation between Lawrence and the Roxburgh Dam. The Clutha Gold Trail wends its way along the same route as the railway line but there are many sections of cycle trail that have been built on the other side of the road from the formation, creating many road crossings for the cyclist. This means that the rail explorer will have to be alert to cyclists crossing SH8 from Lawrence northwards. One of the major benefits of the trail to the railway explorer is the opening of access to the tunnel at Big Hill, of which more anon.

After exploring the many heritage and historic aspects of Lawrence and its environs, return to the wooden rail bridge on Gabriel's Gully Road and observe where the railway line left the station yard in a deep cutting. Return to SH8 to continue journeying north and note the beginning/end of the Clutha Gold Trail in a picnic area on the right 300 metres from the town. The rail embankment is already in view on the right, and once it becomes the cycle trail it is hard to miss.

A little further along SH8 are the remnants of the Lawrence Chinese Village. There is a very good interpretation panel about the settlement where Chinese gold prospectors and workers lived.

Travel on to the intersection with Tuapeka West Road on the left. The rail crossing is slightly ahead of the intersection and the formation/trail can be seen on both sides of the road. Travel 1.8 kilometres along Tuapeka West Road and turn right onto Franklin Road which wends its way gently up, down and along the west side of a small range of hills. The formation/trail also wends its way, but on the flat at the foot of the hills. It is sometimes tucked away behind trees, and other times right alongside the road for just over three kilometres to where Franklin Road joins SH8. Just before SH8, Franklin Road intersects with Cockleshell Road, and in this area there is a particularly fine set of railway gates and also a culvert on view. The area is the site of the Evans Flat station, which comprised a shelter shed and a platform, a loading bank, stockyards for cattle and sheep, and a 41-wagon loop and an 18-wagon backshunt. It was named after Donald Evans who owned the local hostelry, the Provincial Hotel. All of the railway structures have long since gone, though there may be traces somewhere amongst trees and undergrowth. There was also a ballast pit in the area which supplied ballast for the section of line from Lawrence to Big Hill.

Rejoin SH8, turning left to start the climb up Big Hill. The rail formation is an embankment on the left of the road and is not in use by the cycle trail. Cuttings and a rail ledge continue to reveal the formation until at the intersection with Hunt Road there is a splendid set of piers crossing Bowlers Creek. They can be easily viewed from SH8 or from Hunt Road where it is safe to park. Do not hop over the fence to take a closer look –the piers are on private land to which there is no right of entry.

Less than one kilometre further on there is another set of five piers, not quite so large but nevertheless still impressive. These show the caps on the concrete structures, and are also on private land. The Bowlers Creek stop was located somewhere in this area, comprising only a standard small shelter shed with platform and a 21-wagon siding loop.

The line takes a curve to the left and disappears from view for about a kilometre, but it then reappears high above the road on the left at where the cycle trail crosses the road from right to left. The elevation of the line shows how much it has already climbed on the approach to the Big Hill Tunnel. It continues to be easy to spot for the next 1.5 kilometres before converging with SH8

where a “Slow Vehicle Bay 300m” sign indicates the approach of the summit of Big Hill. Access to the southern portal of the Big Hill Tunnel is available via the formation/cycle trail on the left of the road. Big Hill had always been a wagoner’s nightmare, being a long, steep climb on both sides and a challenge for any team of horses. Piercing it with a tunnel was the only way a railway line could be linked to the Clutha River. Work on both ends of the tunnel began in October 1908. Round Hill “station” was opened at what was to become the southern portal of the tunnel, and from October 1910 until December 1914 this was the terminus of the line. Station facilities consisted of a simple shelter shed and a loop, making it one of the more modest places to bear the title “terminus”.

After some significant delay in making progress with the tunnel, work resumed in June 1911. It took nine months’ hard work to achieve “hole through” in March 1912, and another nine months to complete the opening and line it with concrete. By Christmas 1912 work had been finished. The tunnel was 1,424ft long and approached at each end through very deep and dramatic cuttings. A plaque stating “1912” is extant above the southern portal, and another with “1911” is on the northern portal.

It is well worth taking a stroll through the tunnel. No special footwear is needed as the tunnel floor is hard and mostly dry. It is more or less straight and is short enough for light to enter from both ends, so a torch is also not essential.

Beginning the descent of Big Hill note there used to be a road overbridge above the formation. Road realignment has removed this feature from the landscape. Downhill from the tunnel the cycle trail on the right looks as if it is on the formation, but this is not the case. The formation is actually on the left above the road. It becomes obvious again high on the left as the road levels, where the scars from cuttings mark its presence. The line then made a large left-hand semi-circle bend around a hill, turning away from the road opposite a recently installed cycle trail bridge on the right. It rejoins the road and remains more or less discernible for a couple of kilometres or so.

There was a stop at Athenaeum Road, called Craigellachie. This area was known to the locals as Athenaeum Flat, but the Public Works Department (PWD) had for some reason decided to call it Craigellachie. Perhaps someone in PWD knew that Craigellachie in British Columbia is the place where the last spike of the Canadian Pacific Railway was driven in November 1885. The stop was typical – a small shelter shed, a platform and a 14-wagon loop. For trains running to Clarksville It marked the beginning of the challenging climb up Big Hill.

The line remained on the left side of the road for the next 2.2 kilometres to the next stop at Beaumont and is in use by the cycle trail from where the cycle trail crosses from right to left. The formation probably crossed to the right in Beaumont at about Chinaman’s Flat Road, because 160 metres further there are piers still embedded in Low Burn, on the left of the current bridge, and there is then some raised embankment for a few metres leading into a large-ish flat area. This was the site of Beaumont station, terminus from 1914 until 1925. As befitted a “proper” terminus, Beaumont had the full range of facilities: passenger platform with cart approach, 60x31ft goods shed, loading bank, cattle yards, water service (a 6,000 gallon water vat), coal shed, and loops and a backshunt. There was a stationmaster and the station served as a post office until 1926. Part of the station at Beaumont was shifted to Roxburgh (Hercules Flat) in 1927. The only reminder of a busy railway these days is a pair of gates on SH8.

From Beaumont there is a rough road along the banks of the Clutha River. It was formed as the Millennium Trail with a grant from the Millennium Committee at the turn of the 20th century and is 15 kilometres long. The cycle trail continues, not always on the rail formation. The road between Beaumont and Millers Flat (where the next bridge across the Clutha is located) is very rugged and

should probably only be driven in a four-wheel drive vehicle, and probably not at all during wet weather or in winter. If conditions are ideal, however, there are a few good rail remnants to spot, and of course the views across the Clutha and all around are stunning.

If not equipped to drive through rougher terrain or the weather is bad, cross the river on the Beaumont Bridge and head north 22 kilometres on SH8 to the bridge at Millers Flat and resume exploring from there. If able to drive the river track, the following four paragraphs locate the most obvious remnants, of which there are half a dozen worth viewing.

Leave Beaumont at the picnic/layby opposite the bridge, taking the unsealed road on the left. Until Millers Flat road and rail are mostly squeezed together, and it is often difficult to establish conclusively whether the road is on the rail formation or alongside. The development of the cycle trail has added further confusion, as it looks like rail formation but is often where trains would not have been running, for example close to the river bank.

Less than a kilometre from Beaumont the railway crossed the Beaumont River, and the road/rail bridge is still in use. After another couple of kilometres the formation is on a ledge just above the road as they squeezed together between the steep hillsides and the river. At a major stream there is a pair of rail bridge piers to the right of the current road bridge. Next is the iron and steel road/rail bridge across Talla Burn, easily identified not just because it is named but because there is a power station which generates enough electricity to power more than 1000 homes a year tucked away beside it. This is a private venture, completed in 2010.

About 1.5 kilometres further road and rail run together across Craig Flat around Craig Hill. Craig Flat station, comprising a small shelter shed and platform along with a siding, was somewhere in the area and was a regular crossing place for opposing trains. Line and road then squeeze around another promontory and cross Little Minzion Burn before diverging for the first time, with the road veering right while the rail formation makes its way on the left towards the river, around the river side of Horseshoe Bend. As the road comes around the other (northern) side of Horseshoe Bend Hill look back and then down to the left for the formation coming round the flank of the hill and then across the flat at Rigney. As part of the cycle trail it is very obvious.

There is an historic reserve at Rigney, signposted “Lonely Graves”. Someone who has never been identified was buried here in the early 1860s, and a local man, William Rigney, fenced the site and added a wooden headstone on which he carved the words “Somebody’s darling lies buried here”. A new headstone, reproducing the words, was put in place in 1903. Rigney died in 1912 and was buried next to the earlier grave, his headstone marked with the words ‘The man who buried “Somebody’s Darling”’, although he had in fact made it clear that he had nothing to do with the burial, only the erection of the headstone and the wording thereon. There is a footbridge across the Clutha accessed from the reserve. A small, decrepit shed sits beside the formation and is probably a rail remnant.

Those who have opted to drive on SH8 to Millers Flat, and are re-joining the exploration of the Roxburgh branch, should drive south from the bridge at Millers Flat for nearly two kilometres from the end of the sealed road to view the abutments/piers at Minzion Burn. They are at the junction of Beaumont Station[6] Road, where the cycle trail wends its way around these large remnants. Walk the short distance to view three enormous concrete structures which carried the line on a steel overbridge on a 7.5-chain curve. A curved cap is still atop one of them, and another has a fine cap of greenery providing a bushy hairstyle.

From Minzion Burn the line curved down towards the river and then turned right to straighten up and align with the road from the easy run along Millers Flat. The road surface from now on is sealed. Continue into the middle of Millers Flat, turn right along School Road and then left along Railway Terrace. There is a long concrete platform on the left, though there are no railway structures to be seen. Perhaps the nearby Volunteer Fire Brigade has been able to renovate the 60x30ft goods shed – it certainly has that look about it. In its heyday Millers Flat station had a 60x30ft goods shed, a loading bank, sheep and cattle yards, various loops and a backshunt. From 1925 onwards there was also a 55ft turntable, engine shed and coal store, and the loops and backshunt were all extended. By 1928 the engine shed and turntable had been removed, and a 6,000-gallon water vat had been shifted to Kurow. The station burned down sometime after the line had been closed, and the concrete platform and the street name are the only reminders of former railway activity.

At the northern end of town the line crossed from right to left and there are six concrete piers on sight in a paddock. These carried a bridge across Tima Burn. A couple of them still have the distinctive curved capstone in place. From here on, while still on the expansive flats, the line has disappeared under the onslaught of agricultural development. Where the flat land narrows as the hills press in on the river the embankment reappears, slightly above road level, on the right. The cycle trail crosses from left to right to use the formation around the bluff where the hillside cuttings remain visible, freshened by cycle trail construction.

Once round the bluff, Teviot Flats again provided easy running for the railway, which stayed on the right side of the road. Its passage can be tracked by viewing a set of piers hiding on the right on the north bank of the little road bridge across Ruby Creek. Any remnants in the creek itself will only be seen by parting the overhanging willows. The Teviot goods shed is still standing in a paddock just north of the Loop Road intersection. It has been painted in recent years and its name is crisp and clear. It is registered with Heritage New Zealand Pouhere Taonga. There were also some other railway facilities at Teviot – cattle and sheep yards, a loading bank, a loop and backshunts. The concrete loading bank can still be seen alongside the goods shed.

At the northern end of the flats road and rail squeeze around another sharp bluff. This is Dumbarton Rock, which had to be blasted to create a passageway for the rail formation:

“In early May [1926] the blasting exercise at Dumbarton Rock to allow the line to pass between its flanks and the road beside the Clutha River was treated by local people as a spectacle not to be missed. The gang had been busy for three days preparing for the shots. Dozens of car loads of spectators had arrived by mid-day when the 175lb gelignite shots were successfully fired.”[7]

The railway formation is slightly elevated on the right side of the road as both make their way between hillside and river for the next three kilometres or so. The cycle trail remains on the left side, between the road and river. Finally, the small settlement of what was known in gold-mining days as Hercules Flat appears, though there is nothing to announce this. A set of stockyards on the right above road level introduces the site of the final terminus of the Roxburgh branch before one even gets into the settlement itself. Shortly after the stockyards a concrete loading bank in the foreground is easy to spot, and further away from the road the concrete platform can still be seen. The structure with its back to the road on the platform is a shearing shed, which has been built around the original station building. Another 200 metres along the road the original water tank and stand reveal the fuller extent of the yards area. The northern end of the yards is marked by a concrete Samson post, just in case a ghost train should somehow plough on past the end of the rails.

Although still short of the town of Roxburgh by a couple of kilometres, and on the other side of the river from the town, this terminus was always called Roxburgh. It is a fine example of a railway that

stopped short of its intended destination. As befitted a terminus, the complex had a 55ft turntable, an engine shed, a 10-ton gantry crane, an outside crane, multiple loops and backshunts of various lengths, a coal shed and of course a goods shed (30x30ft).

ADDITIONAL INFORMATION

Teviot Goods Shed information:
http://www.heritage.org.nz/the-register/details/5218

Lawrence Heritage Trail:
http://www.otagotrails.co.nz/trails/pdf/lawrencedistricts.pdf

Clutha Gold Trail:
http://www.centralotagonz.com/clutha-gold-trail

[1] http://register.notabletrees.org.nz/tree/view/0742
[2] Ibid. p.140
[3] Ibid. p.15
[4] Ibid. colour images C16
[5] Footwarmers were metal containers holding a chemical that retained heat for several hours after being heated up. They were used on trains where steam heating was not available.
[6] refers to a high country sheep station rather than a railway station
[7] Mount Benger Mail, (Roxburgh) in "*Rails to Roxburgh*" W. J. Cowan, The Molyneux Press Limited, reprinted 2012