

POWELLTOWN TRAMWAY CENTENARY 1913 – 2013



MIKE MCCARTHY & FRANK STAMFORD



Above: The locomotive *Powellite* bound for Yarra Junction at Black Sands, circa 1938. The passenger car and 'meat van' are on the end of the train. The station is not the original one (shown in a photograph on page 13), which was probably destroyed in a bush fire. The remains of a wooden-railed tramway are on the left. *PG Dow, hand-tinted: Frank Stamford*

Front cover: The locomotive *Little Yarra* at Yarra Junction with the morning train ready to return to Powelltown in 1913. Note the original (and temporary) passenger truck at the end of the train. Shortly after a bogie passenger car was built.

LRRSA Archives, hand-tinted: Frank Stamford

Introduction

This publication was inspired by the centenary of the opening of the Powelltown tramway, and by the recent discovery of the original survey plans for the tramway, which contain information which has not been published before. These plans have also encouraged the authors to try to recreate similar data for the rest of the tramway, using technology which was not previously available.

The biggest timber mill in the Upper Yarra area was located at Powelltown. In 1912 the Victorian Powell Wood Process Limited (VPWPL) was formed to exploit the newly developed 'Powell' process of timber preservation. During that year work proceeded rapidly on the construction of its sawmill and timber processing works at Powelltown. To support the mill the VPWPL built a town around it, and to provide transport it built the 17km long 3ft [914mm] gauge Powelltown tramway. It was called a 'tramway' for legal purposes. An Act of Parliament was needed to build a railway, something not easy for a private company to get. But to the casual observer the Powelltown tramway looked more like a railway than a tramway.

The Powelltown tramway was unique amongst Victorian timber tramways in providing a passenger service, and it carried goods for the settlers along the Little Yarra valley. This service began in the latter half of 1913, and until the construction of an all-weather road to Powelltown in the late 1920s, it provided a much used service to residents in the valley.

Beyond Powelltown the VPWPL built a further five kilometres of tramway into the bush to access its log supply. However the company was a financial failure and operated for only one year. It had a contract to supply 100,000 'Powellised' sleepers to the Trans-Australian Railway, then under construction to link South Australia with Western Australia. Of the first delivery of 6000 sleepers only 500 were accepted, and only nine met the contract specification. The Powell process had worked in a small test plant, but on an industrial scale it failed.

The exact location of this photograph is not known, but it illustrates the road conditions which settlers in the Little Yarra River valley had to face before the opening of the Powelltown tramway. In winter, or at any time after periods of heavy rain, the road could be impassable to vehicles.

The Powelltown tramway brought reliable transport for the first time, with telephone and telegraph communication as a side benefit. It was not until the late 1920s that the Little Yarra Road was made an all-weather gravel road. From that time the Powelltown tramway was mainly used by the timber industry.

Upper Yarra Valley Historical Society

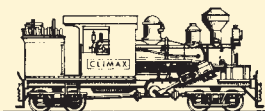
The operations of the company were taken over by the Victorian Hardwood Milling & Seasoning Company Pty Ltd (VHM&SC) in 1915, but the Powell process was not used again. In 1919 a reorganisation resulted in the Victorian Hardwood Company Pty Ltd (VHC) taking over, but still with the same shareholders.

The Powelltown tramway was not the first timber tramway in the Little Yarra valley. In 1901 Harry Blake built a timber mill just to the east of the future site of the VPWPL's Powelltown mill, and he built tramways east into the bush to get logs, and along the Little Yarra Road towards Yarra Junction to carry sawn timber. This tramway ended 10km short of Yarra Junction and over the remaining section his timber was carried on the road. To get this traffic off the road, in 1906 local residents and sawmillers formed the Gilderoy Tramway Company Pty Ltd. This company built a horse-hauled 3ft gauge tramway for six miles along the eastern side of the Little Yarra Road from Yarra Junction station. Numerous other tramways from sawmills scattered along the valley connected with this tramway.

The Gilderoy tramway survived until 1915 when the VHM&SC arranged to carry timber from the independent millers in the valley on the Powelltown tramway.

The VHM&SC and VHC gradually extended the bush line, eventually far enough to access timber in the Ada River valley. To cross the divide between the headwaters of the Little Yarra and LaTrobe Rivers it built two cable-worked inclines at The Bump. In 1926 these were replaced with a 1040ft [317m] tunnel. To reach the Ada River area a 1.6km long cable-worked incline was built on an average grade of 1 in 4, and this was followed by another cable-worked incline on a much easier grade on the north side of the spur.

The last train ran on the Powelltown tramway in July 1944. By that time logging roads had been built in the bush, and the Little Yarra Road had been upgraded sufficiently to enable the sawn timber to be carried by road.



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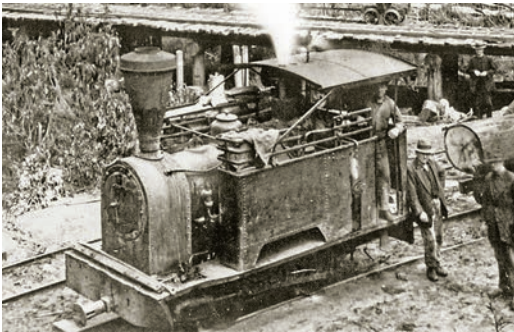
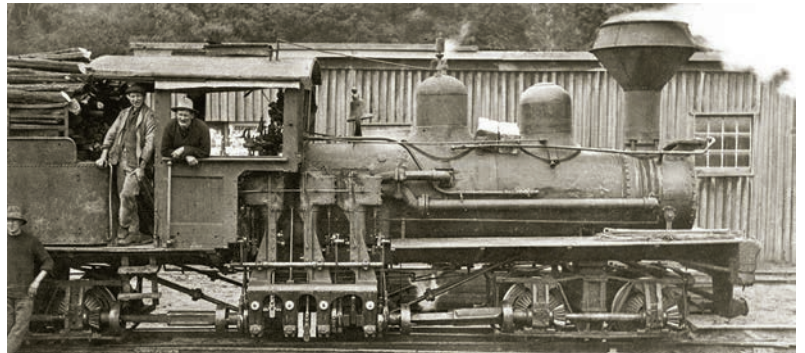
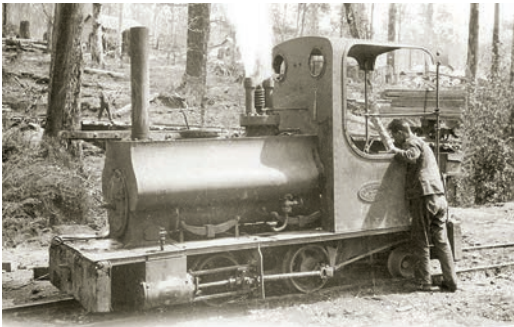
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Steam locomotives



The Powelltown tramway had six steam locomotives. *Little Yarra* (Baldwin, USA No.37718 of 1912), pictured at left, and *Powellite* (Bagnall, England No.1965 of 1913), pictured at right, were mainly used between Yarra Junction and Powelltown. Both were bought new by the VPWPL.



Squirt, above left, (Andrew Barclay, Scotland No.311 of 1888) came to the Powelltown tramway second-hand from New South Wales in 1913. It was very small and used on logging lines to the east of Powelltown. *Coffee Pot*, below left, (Kerr Stuart, England No.643 of 1898) came to the Powelltown tramway second-hand from Tasmania in 1916. It was used on logging lines to the east of Powelltown. The last two steam locomotives to come to the Powelltown tramway were identical Shay geared locomotives, above, (Lima, USA Nos 2575 & 2576 of 1912). Both were obtained second-hand from New South Wales, one in 1919, the other in 1926. Both were mainly used to the east of Powelltown.

The maps

The main source of the data for the maps has come from the original survey plans for the tramway prepared in 1912 for the Victorian Powell Wood Process Ltd. These cover the route from 2.4km from Yarra Junction to 5km east of Powelltown, which was the extent of the VPWPL's operations. Unfortunately the first sheet of the survey, for the first 2.4km is missing. This covers the section from Yarra Junction station, and along the Little Yarra Road, then to just beyond Milners Road crossing. This section included the sharpest curve on the line (4 chains radius), coming out of the station yard, and the steepest grade (1 in 30). Other curves and grades on the VPWPL's line were far less sharp and steep

than have been previously reported.

The VPWPL survey plans provided details of gradients, curves, bridge heights, number and length of bridge spans, heights of cuts and fills, cattle grids, culverts, road crossings, crossings with some other tramways, and occupation crossings. A Victorian Hardwood Company survey plan was used to provide data for the 1925 deviation to the bush line. This deviation was needed to access The Bump tunnel which was then under construction. This survey gave details of bridge and culvert locations, types of bridge, length and height of bridges, and for pile bridges, the span length. It was in this section that the steepest grade on the locomotive-

worked section of the tramway occurred – 1 in 19, in favour of the load. This section was normally worked by Shay locomotives, which were designed for steep grades. The grades and curves on the old line leading up to The Bump incline were much less severe. The VHC survey gave no details of the old line except its distance from the new line at various points.

For the section from Powelltown (Learmonth Creek) to Doweys Spur Road (beyond the summit of the High Lead incline) the tramway has been walked, GPS height readings have been taken, and measurements taken on site of bridge lengths and heights, and cut and fill depths. Significant curves have been calculated using aerial surveys and a three-point

measurement process.

For the old bush line (which pre-dated the tunnel) from just beyond Mackley Creek to The Bump inclines, and for the sections beyond Doweys Spur Road heights and gradients have been calculated from digital maps and Google Earth. Some information for the old bush line was also obtained when it was walked just after the 1983 bushfires, at which time it was relatively clear. This line is now extremely overgrown and very difficult to find. Also extremely overgrown is the line running north-west along the Ada River valley shown on the last (Starling Gap) map. Bridge information for this line was reported in *Light Railways* in 1970 when the line was walked.

Roads and tracks on private property are not shown.

Symbols used on the maps

Curve radius



On the original survey plans the radius of curves were shown in chains, and for the sake of consistency chains are used throughout this booklet to specify curve radius.

Where the symbol is black, the measurement was obtained from the survey plan. Where it is red, it has been calculated by us.

One chain = 22 yards = 20.12 metres

Culvert

The locations of culverts were shown on the original survey plans. They were openings at the base of embankments to allow water to flow through. They varied in size from 12 inch openings to 10ft 3in x 2ft openings, with the majority 1ft 6in x 1ft 4in. They were constructed of 12in diameter logs, and half-rounds cut from 10in diameter logs.

Bridge



Where the number and length of spans are shown in black, the figures come from the original survey plans, or, in some cases (for number of spans), have been sourced from photographs. Where these figures are shown in red they have been estimated by us.

Bridge heights refer to the maximum height. When shown in feet they come from the original survey plans, when shown in metres they have been measured (black text) or estimated (red text) by us.

Beyond Powelltown some of the bridges were not of the trestle type with spans between piles, but were of grid construction, ie consisting of logs piled on top of each other at right-angles.

Cattle grid

These are shown on the original survey plans, but it is possible not all were actually installed. However in 1974 the remains of one were found at the main road crossing east of Gladysdale. These were of quite substantial construction below ground level, and it is likely the timbers still survive in some places.

Occupation crossing

These are shown on the original survey plans. Also known as private crossings, they occur where one landholder owns land on each side of the tramway, and allowed the landholder to cross the tramway with vehicles or livestock. They consisted of longitudinal 8in x 4in timbers spiked on each side of the rails, with gravel built up between and on each side of the rails.

Sleeper opening

These are shown on the original survey plans. They created a gap between sleepers to enable water to flow under the rails. The sleepers were mounted on one or two 8in x 12in timbers, to provide a 8in or 16in high opening.

Cut



Usually known as “cuttings”. The location and depth of these has been sourced from the survey plans or from on-site inspections. The survey plans give the depth at various points in feet. We have simplified this to show the maximum depth in metres.

Fill



Usually known as “embankments”. The location and height of these has been sourced from the survey plans or from on-site inspections. The survey plans give the height at various points in feet. We have simplified this to show the maximum height in metres.

Gradient profiles



These indicate the distance it takes to rise or fall one foot, eg 1 in 44 – the tramway rises one foot in every 44 feet.

When shown in black, the figures come from the company survey.

When shown in blue, the figures have been calculated by taking elevation figures on the tramway formation.

When shown in red or green, the figures are estimates based on contour lines on maps. They therefore show an overall average of the grade. Green is only used to differentiate an alternative route shown on the same profile, eg the the Bump Inclines and the Bump Tunnel.

The first maps: Yarra Junction – Gladysdale

After leaving the Yarra Junction railway station yard and crossing the Warburton road, the tramway ran down the centre of the Little Yarra Road for about half a kilometre before diverting to its own right-of-way. In 1942 the tramway was diverted from the centre to the western side of the Little Yarra Road. Both these routes are shown on the map. The horse-drawn Gilderoy tramway ran down the eastern side of Little Yarra Road until its closure in 1916.

The location shown for Barrier is that which is assumed most likely. Because it is on private property the site has not been examined. The purpose of the siding was apparently to divide heavy trains from Powelltown, to enable them to be kept under control whilst descending the grade into Yarra Junction. This followed a fatal accident during the tramway's construction when tramway trucks ran out of control from this location and derailed at the end of Little Yarra Road. The siding fell out of use by about 1920.

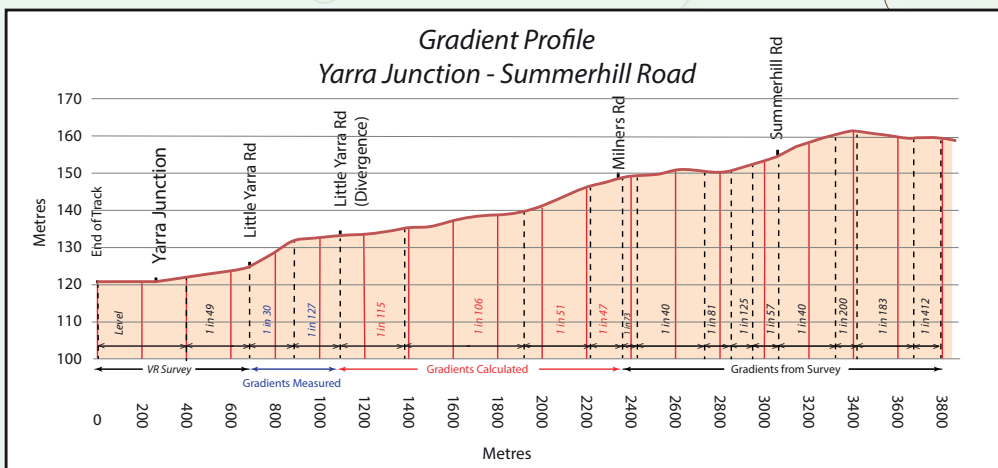
Yarra Junction

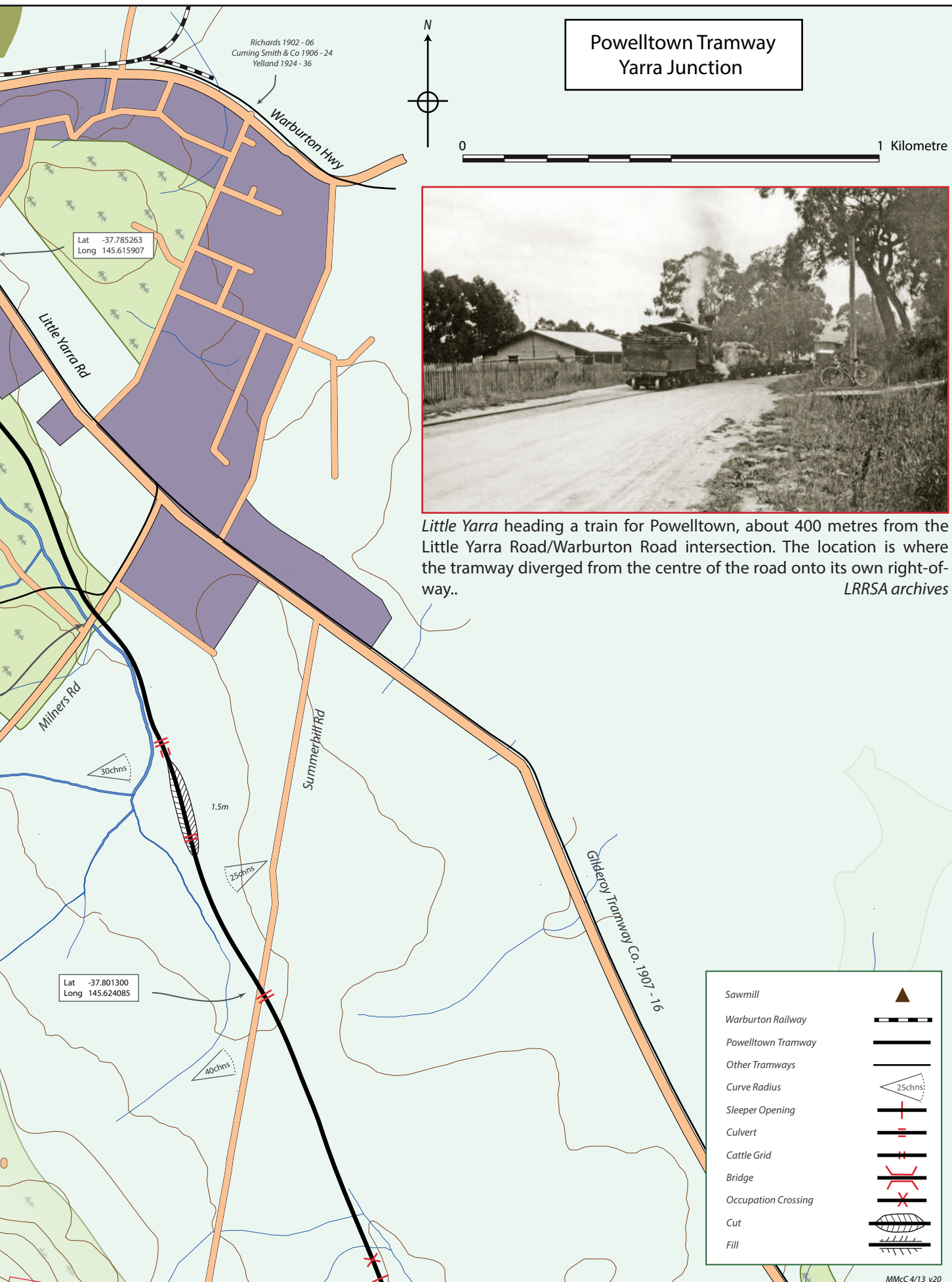


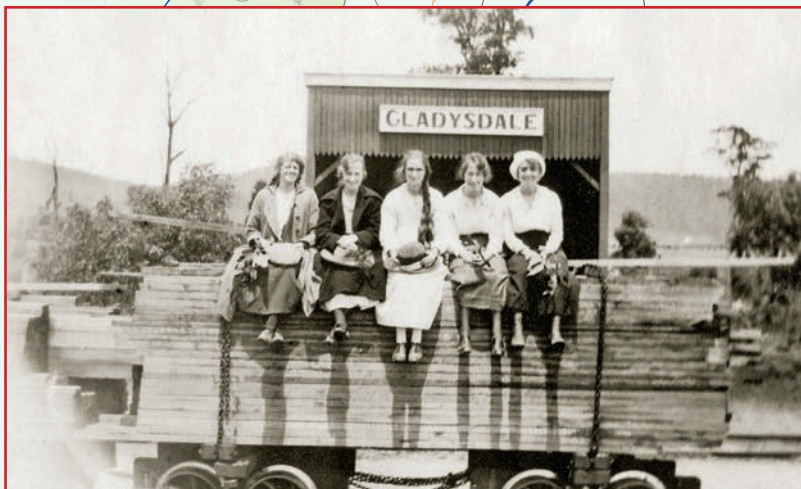
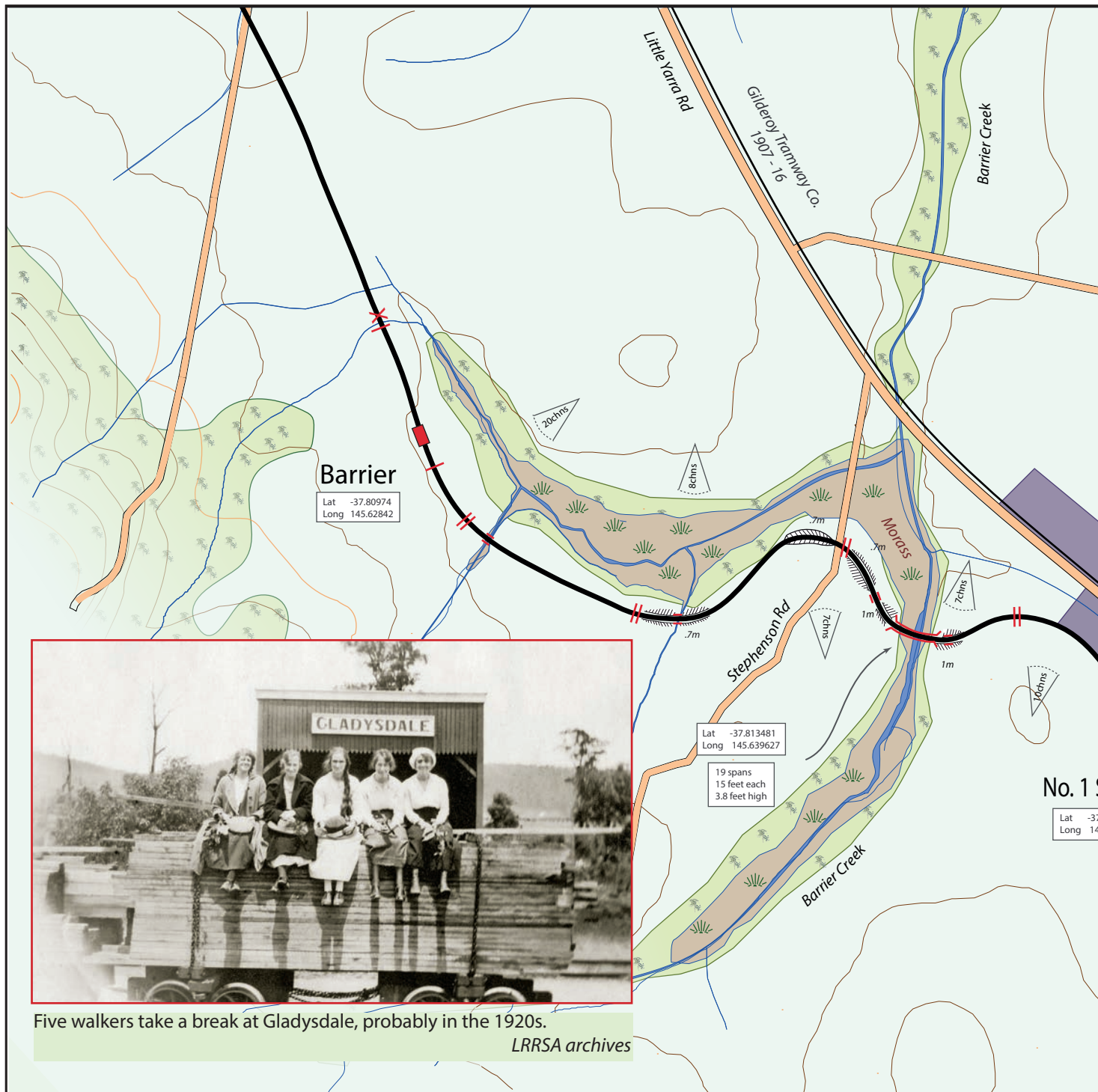
Yarra Junction station in the 1920s or 1930s, showing the Powelltown tramway in the foreground.
Rev. Brenton



Barrier was a stopping place between Yarra Junction and Gladysdale. Little is known of it and it was closed by about 1920. This scene, believed to be taken at Barrier, shows *Little Yarra* with passengers and timber heading to Yarra Junction. The probable location of Barrier is shown on the map on page 8.
ARHS Archives

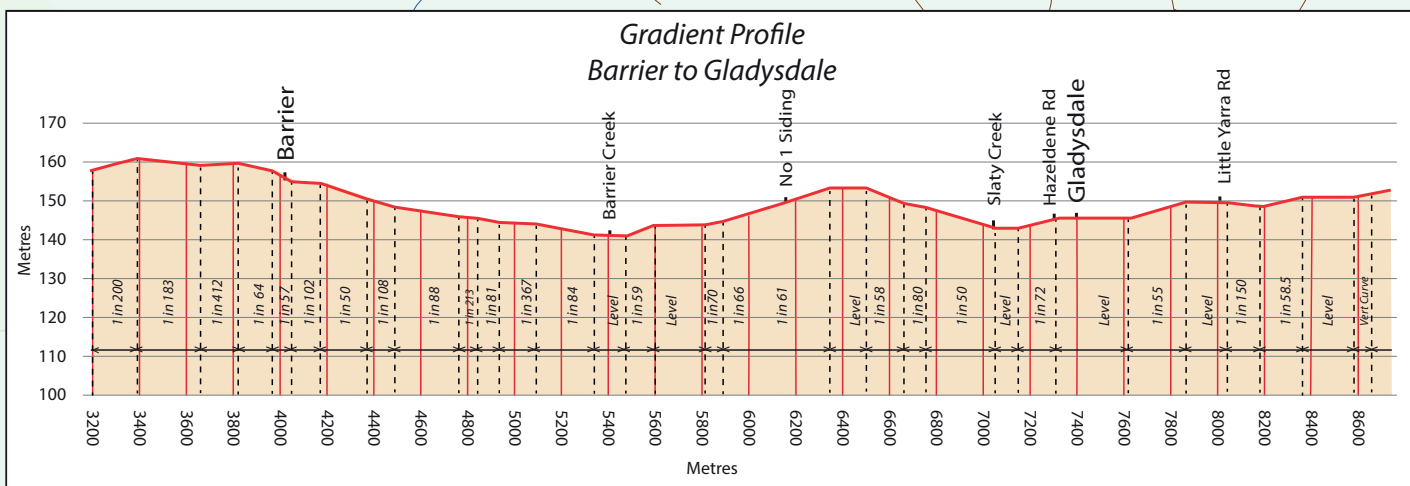


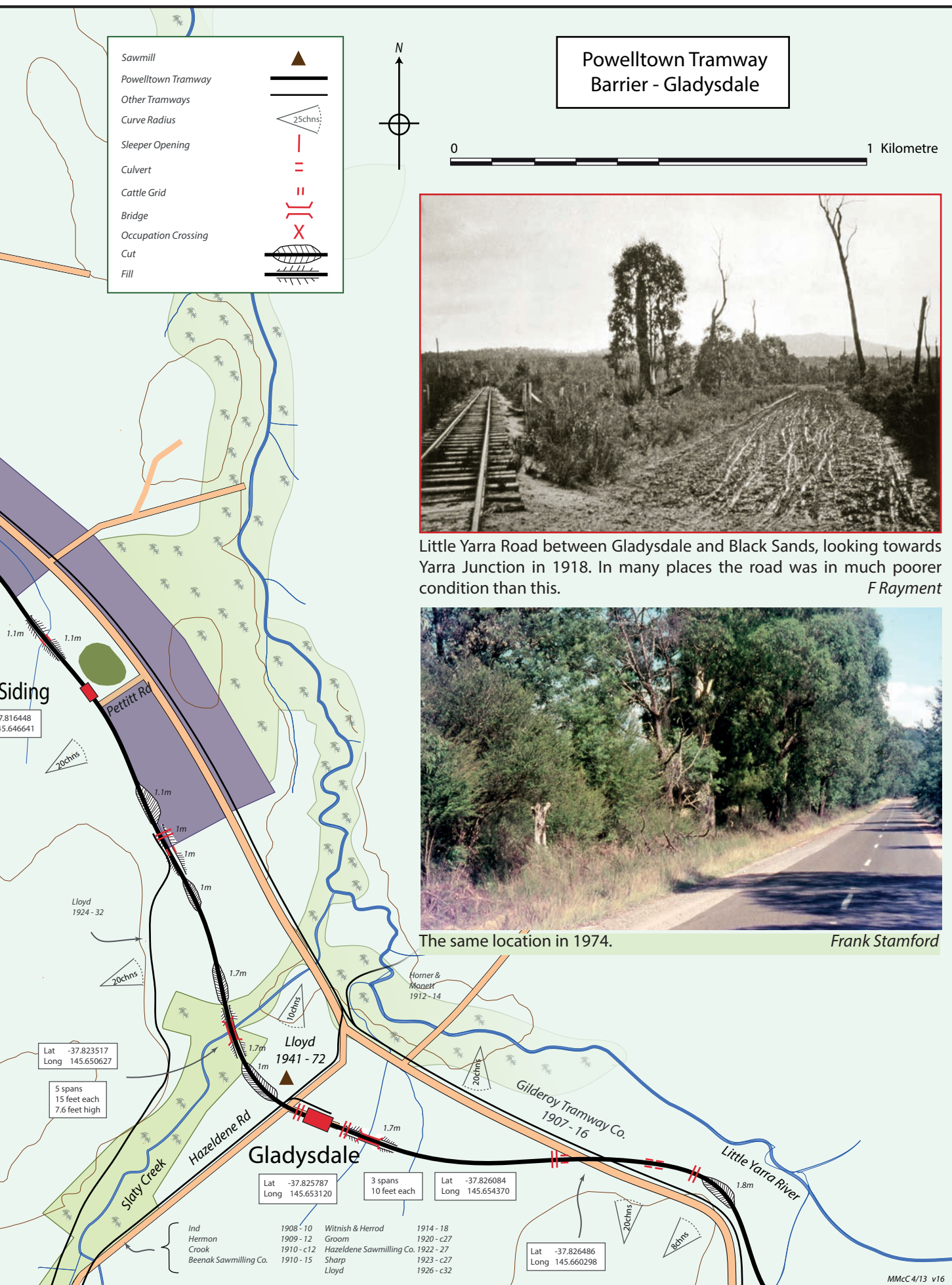




Five walkers take a break at Gladysdale, probably in the 1920s.

LRRSA archives





Stations

When the tramway opened, stations or stopping places were provided at Barrier (2½ miles from Yarra Junction), No.1 Siding (3¾ miles), Gladysdale (4½ miles), Black Sands (5¾ miles), Three Bridges (7½ miles), and Gilderoy (9¼ miles). Barrier and No.1 Siding were out of use by about 1920, and were not near any established settlements. Gladysdale, Black Sands, Three Bridges and Gilderoy each had identical wooden waiting shelters, and post offices were opened near each of these stations within a year of the tramway's opening. The shelters at Gilderoy and Black Sands were later replaced with buildings of slightly different design, after the originals were destroyed in bushfires. Gladysdale, Three Bridges and

Gilderoy each had state schools.

Initially no waiting shelter was provided at Powelltown, the verandah under the office building (which also housed the Post & Telegraph Office) apparently serving this purpose.

Sidings were later added at various points to connect with horse-hauled tramways from smaller sawmills. Beyond Powelltown, post offices were provided at Nayook West and Quongup, and a state school existed at Nayook West. The Nayook West settlement was destroyed in the 1939 bushfires. No official passenger service was provided beyond Powelltown, passengers being carried on the timber trucks or on the locomotive.



Left: The half-kilometre stretch of the Powelltown tramway which ran down the Little Yarra Road at Yarra Junction, looking towards Powelltown. The Gilderoy tramway ran along the grass verge on the left-hand side until removed in 1916, and the Powelltown tramway was moved to the right-hand side in 1942. *Amy Lynch*
Below: *Powellite* with both passenger cars in Little Yarra Road, Yarra Junction, just before the junction with Warburton Road, about 1922.

LG Poole



Little Yarra at a firewood stop on the way to Yarra Junction. in the late 1930s or early 1940s. The location appears to be in the vicinity of Barrier, where it is known that firewood was supplied to the tramway by private property owners.

John Buckland

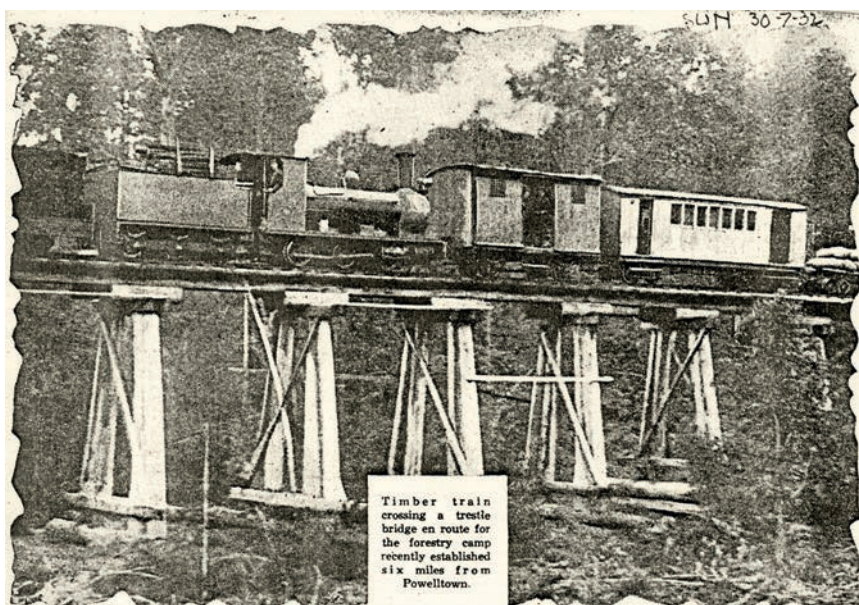


Little Yarra on the way to Powelltown, with two 3-ton trucks, the meat van and the passenger car. The date is probably the late 1930s, and the location probably approaching Three Bridges station.

LRRSA Archives

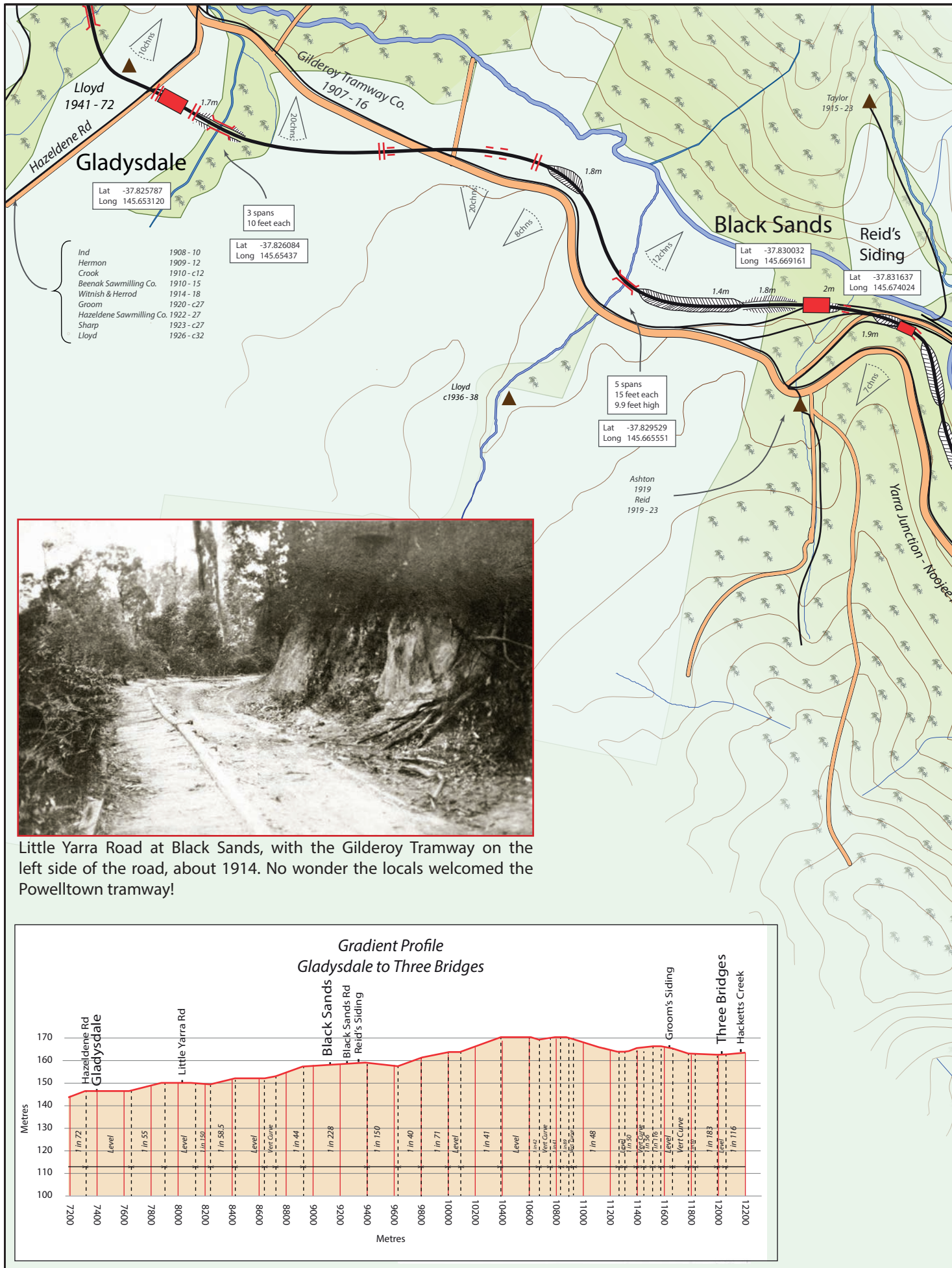


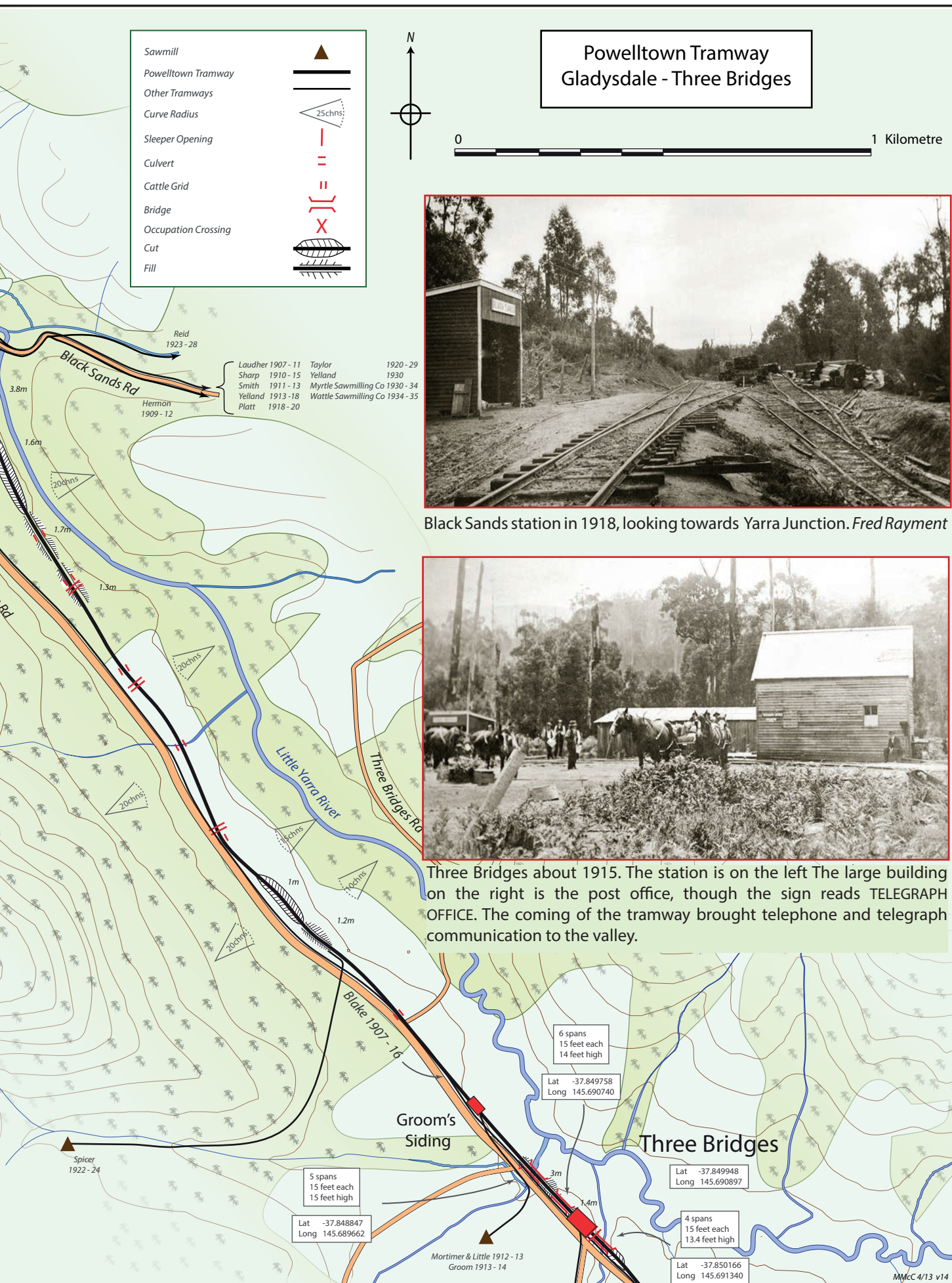
This photograph, published in *The Sun* of 30 July 1932 is unfortunately of poor quality, but is an interesting view. It shows *Powellite* on a train heading for Powelltown, and the location appears to be the bridge between Gilderoy and Powelltown, just beyond United Siding. The newspaper caption on the photograph is not correct.

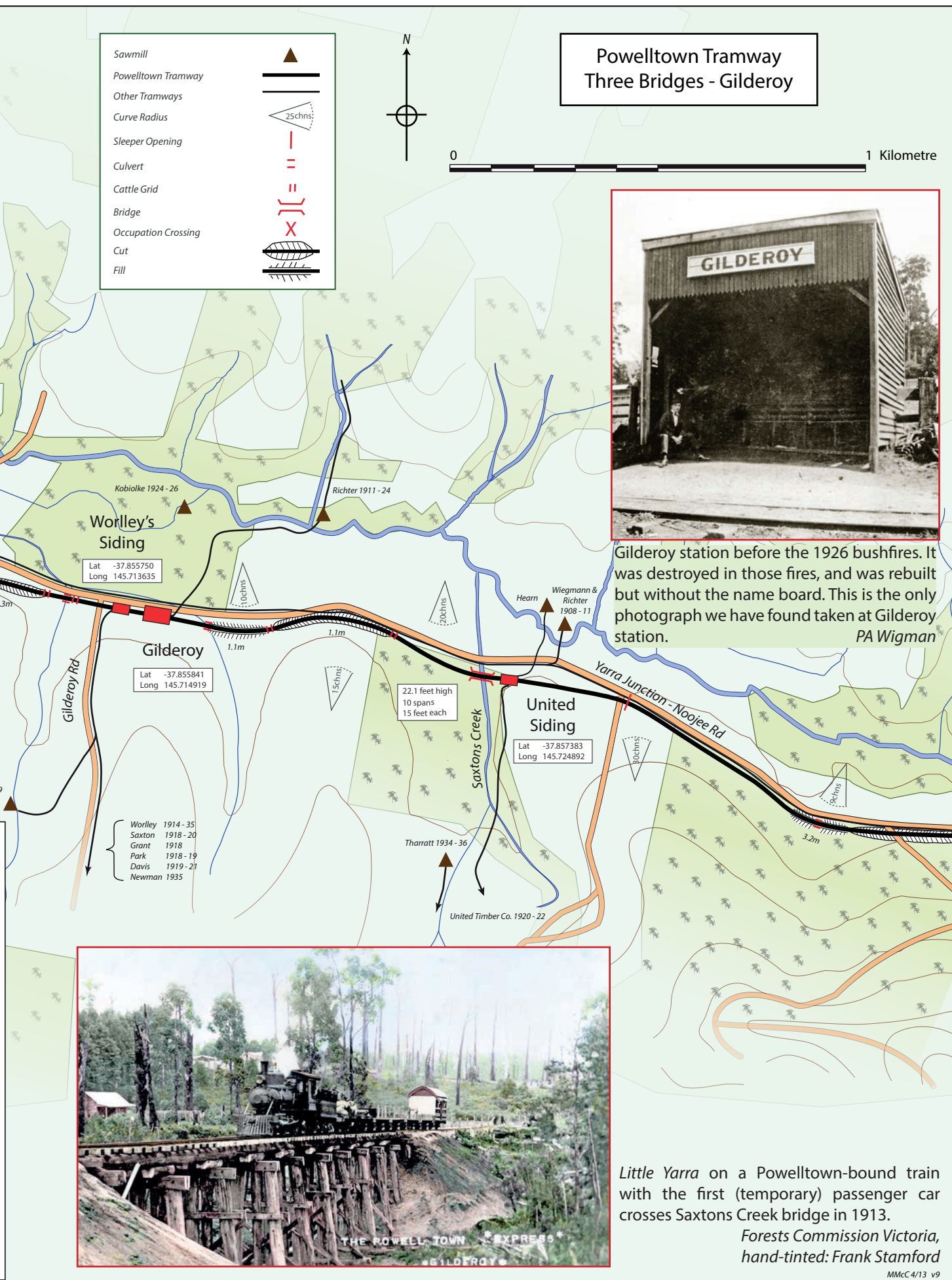


Photograph, centre pages: Powelltown in 1919. *Little Yarra* has just brought in a train from Yarra Junction. The company offices can be seen on the left of the passenger car. These offices also contained the Powelltown Post & Telegraph Office. The second passenger car is stabled on a siding to the left of the locomotive. The station waiting shelter shown in the photograph on page 19 had not yet been built.

Rev. W. Brenton

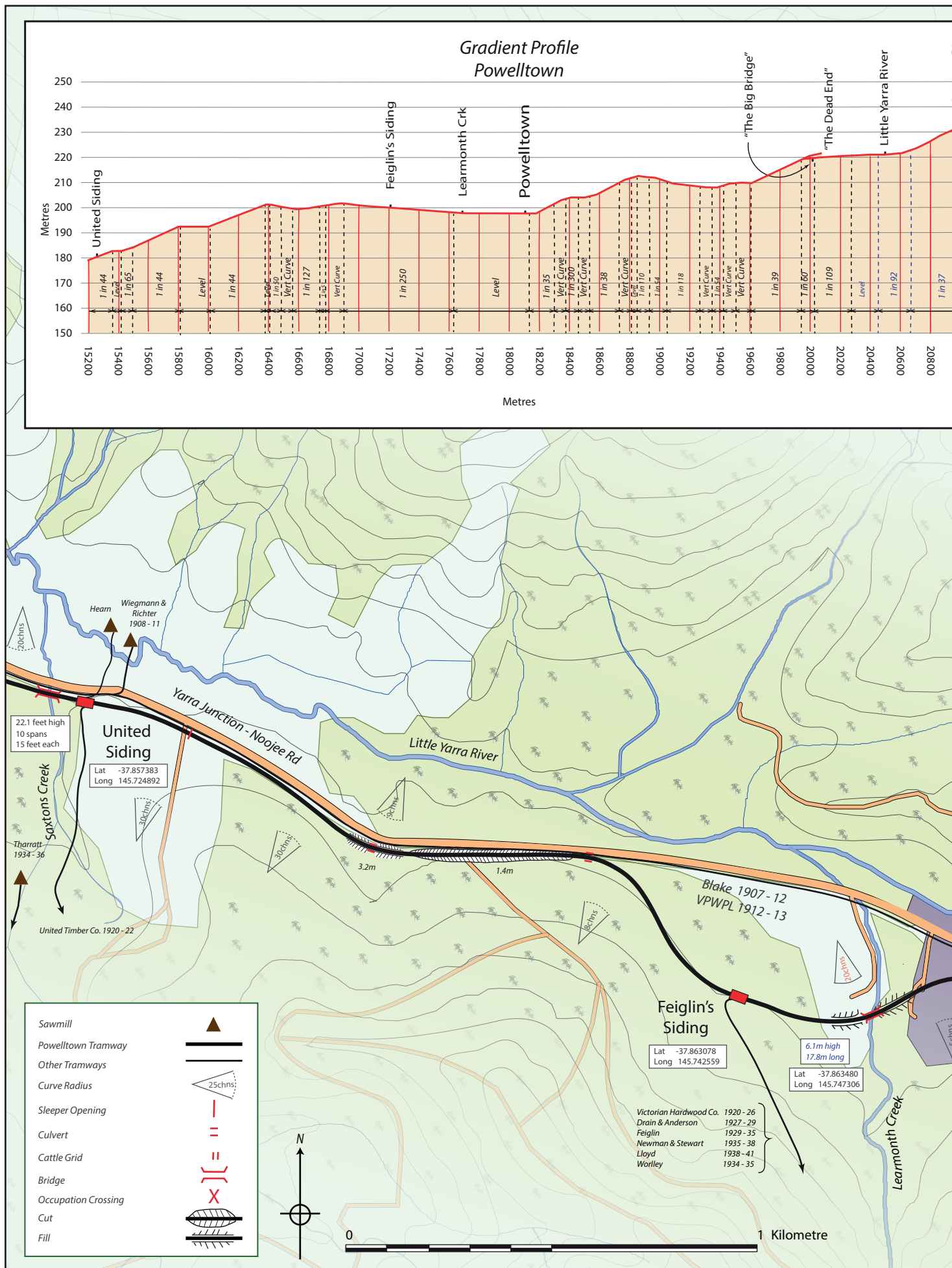


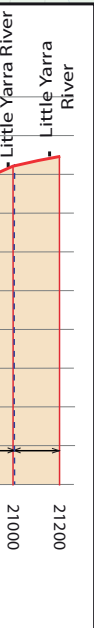












Powelltown Tramway Powelltown

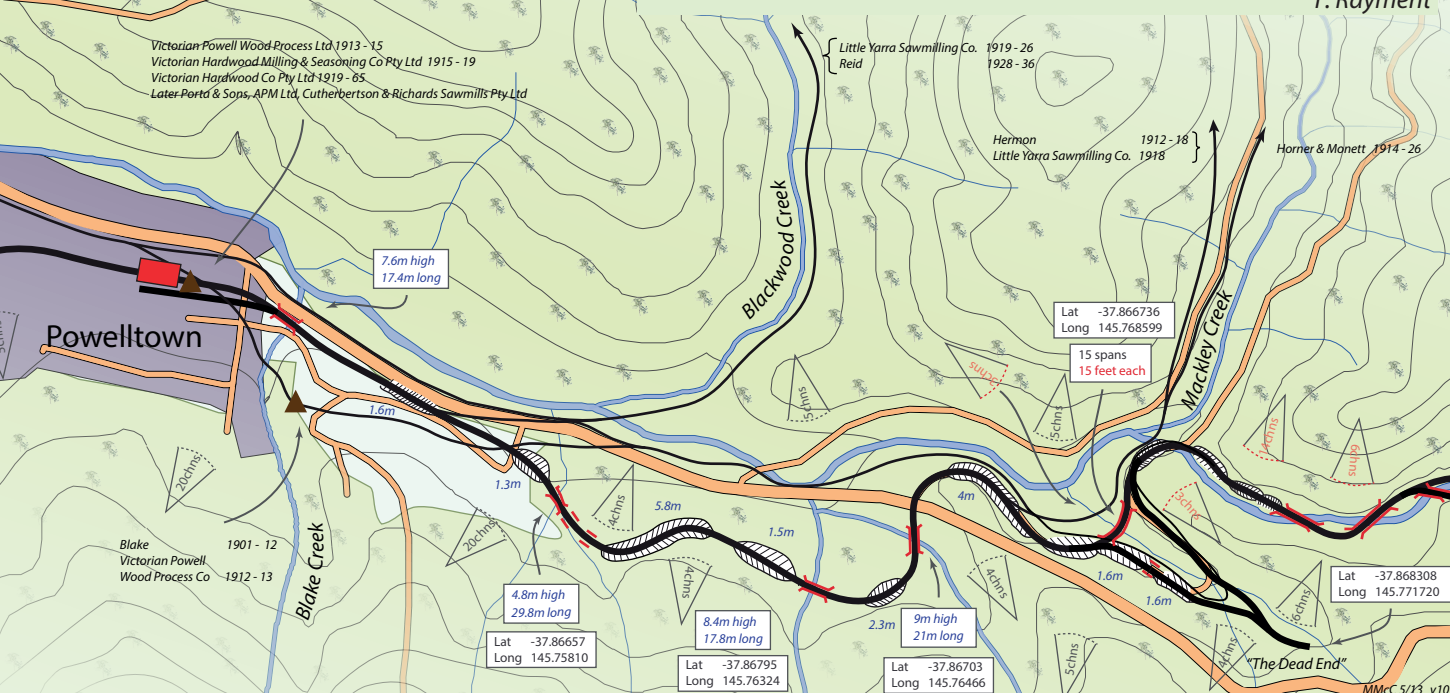


Waiting shelter at Powelltown. The company's offices are to the right.
State Library of Victoria H4242-100



The Big Bridge in November 1918. It replaced The Dead End (see map below) about 2 km east of Powelltown. To the right of the bridge is Horner & Monett's horse tramway. Their stables can be seen in the background.

F. Rayment



Beyond Powelltown

Beyond Powelltown the line and the country through which the tramway ran became much rougher. The Victorian Powell Wood Process Ltd had obtained licences to log in the headwaters of the LaTrobe River, about 11 km from Powelltown, but the company failed before it built tramways to this area. The company had taken over Blake's operations, and during 1913-14 logged in his area to the east of Powelltown. Blake's sawmill was a little to the east of the VPWPL's mill, and prior to 1912 the settlement was known as Blakes Mills.

The VPWPL built about 2½ km of steel-railed tramway beyond Powelltown to Mackley Creek. Here it built a dead-end reversing point and just beyond here was a log loading point where logs were transferred from Blake's old wooden-railed horse tramway.

After the Victorian Hardwood Milling & Seasoning Company took over in 1915 it extended the tramway to the logging leases in the LaTrobe River. This involved the construction of the 'Big Bridge' to replace the dead-end, then construction of a tramway along the valley of, and very close to, the Little Yarra River. At the divide between the Little Yarra and Latrobe Rivers - known as The Bump, it built

cable-worked inclines, with a winding-house containing a steam engine at the summit. On the east side of The Bump, the locomotive *Squirt*, and later (after the first Shay locomotive was obtained), *Coffee Pot* was also used.

In 1919 when the Victorian Hardwood Company was formed, it established a subsidiary company – the Ada River Timber Company – to take over the operations of sawmiller Harry Hermon, and get access to his timber licences in the Ada River valley. To transport this timber via Powelltown, and treat it at the Powelltown seasoning works The Bump inclines – which were a bottleneck – needed to be replaced by The Bump tunnel. This was completed in 1926 and involved a new alignment for the tramway for 2.7 km on the west side of the tunnel. It included heavy earthworks, several large bridges, and a gradient of 1 in 19 worked by locomotives.

To get into the Ada River Valley the spectacular High Lead cable-worked incline was built. It was 1.6 km long with an average grade of 1 in 4. At its summit the High Lead logging system was used, involving cables suspended from tall trees, to lift the logs off the ground to facilitate winching them.

Beyond the summit further tramways and inclines were used to access the Ada Mills.



The Big Bridge in 1919. The logs are rolling down towards Powelltown with *Coffee Pot* following behind ready to give them a nudge on the last stage into Powelltown mill yard. To the right of the locomotive can be seen the formation of the previous line which terminated in a dead-end reversing point. Note the brakeman standing on the log truck, and just to the right of him there is a man sitting on the trestle cross-heads, waiting for the train to pass.

Rev. Brenton

Right: The winding house at the summit of the Bump Incline, about 1918, believed to be looking west towards Powelltown. When the tunnel was completed, the winding machinery was moved to the High Lead incline.

Rev. Brenton



Above: A load of stores and empty log-bogies is hauled out to the bush by one of the Shay locomotives. *LRRSA Archives*

Right: *Coffee Pot*, about 1925, with a special train at the eastern tunnel portal. The log bogies have been fitted with planking to provide 'comfortable' seating, and there are at least two box cameras in the picture – obviously a special occasion, possibly the opening of the tunnel. *PA Wigman*



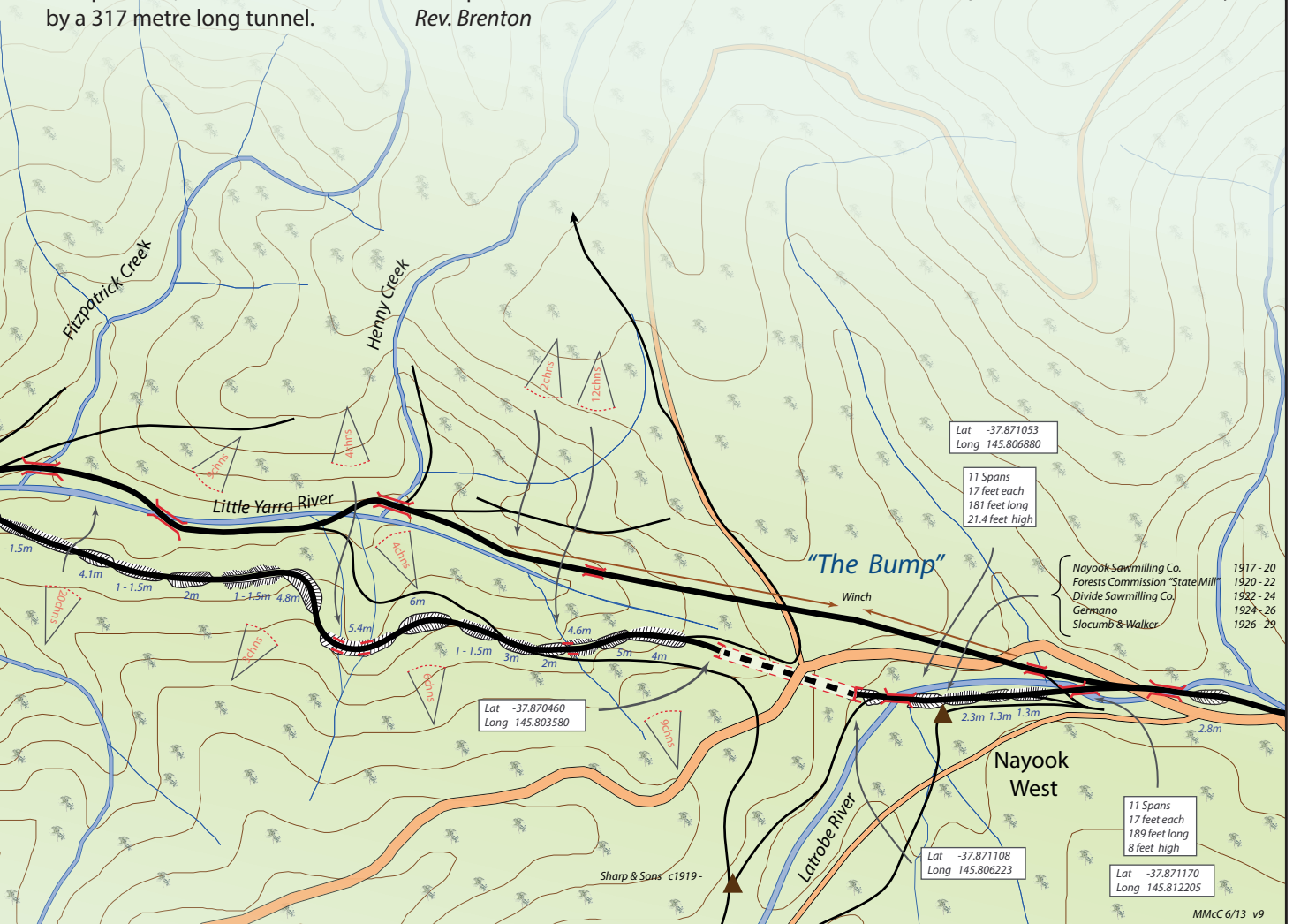
Powelltown Tramway The Bump



The foot of the west (Powelltown) side of the Bump incline, about 1918. In 1926 it was replaced by a 317 metre long tunnel. *Rev. Brenton*



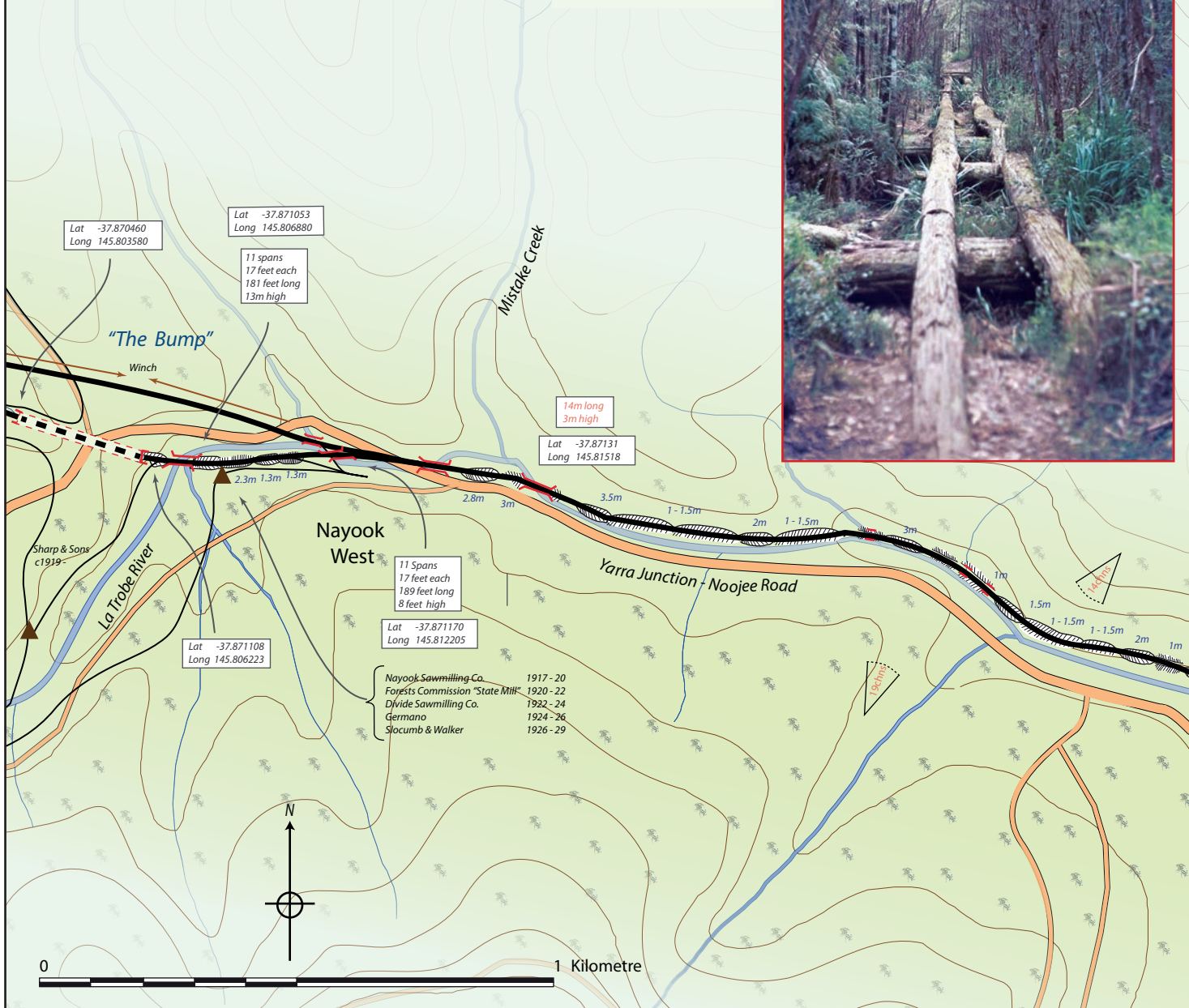
The west (Powelltown) end of the Bump tunnel in 1937. The hole in the embankment on the left was excavated to provide track ballast. *AR Lyell*



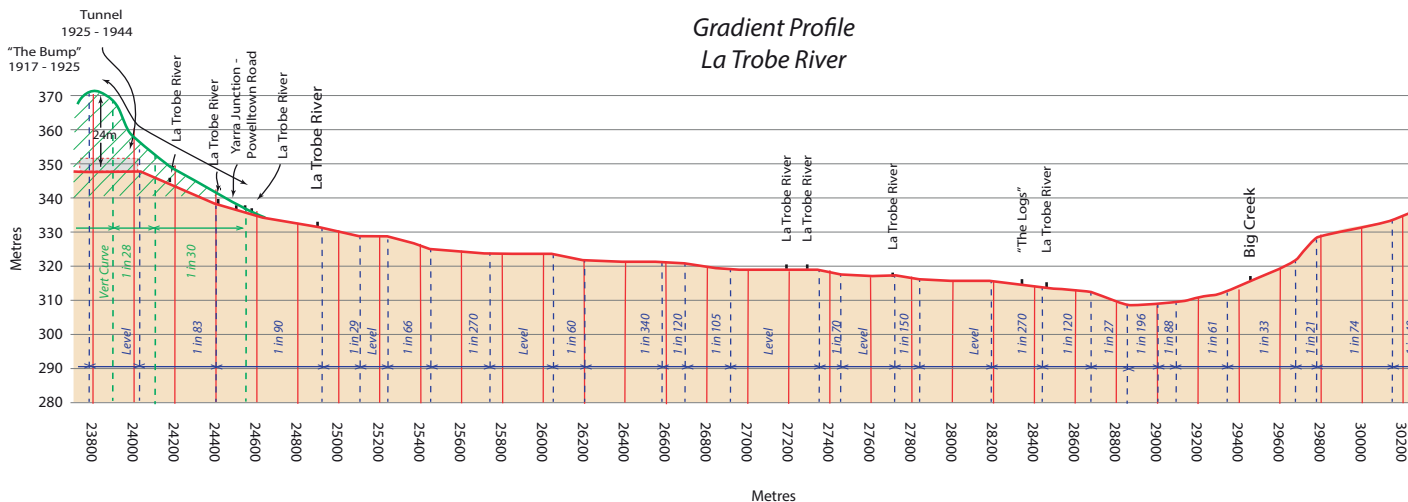
Powelltown Tramway La Trobe River / Big Creek

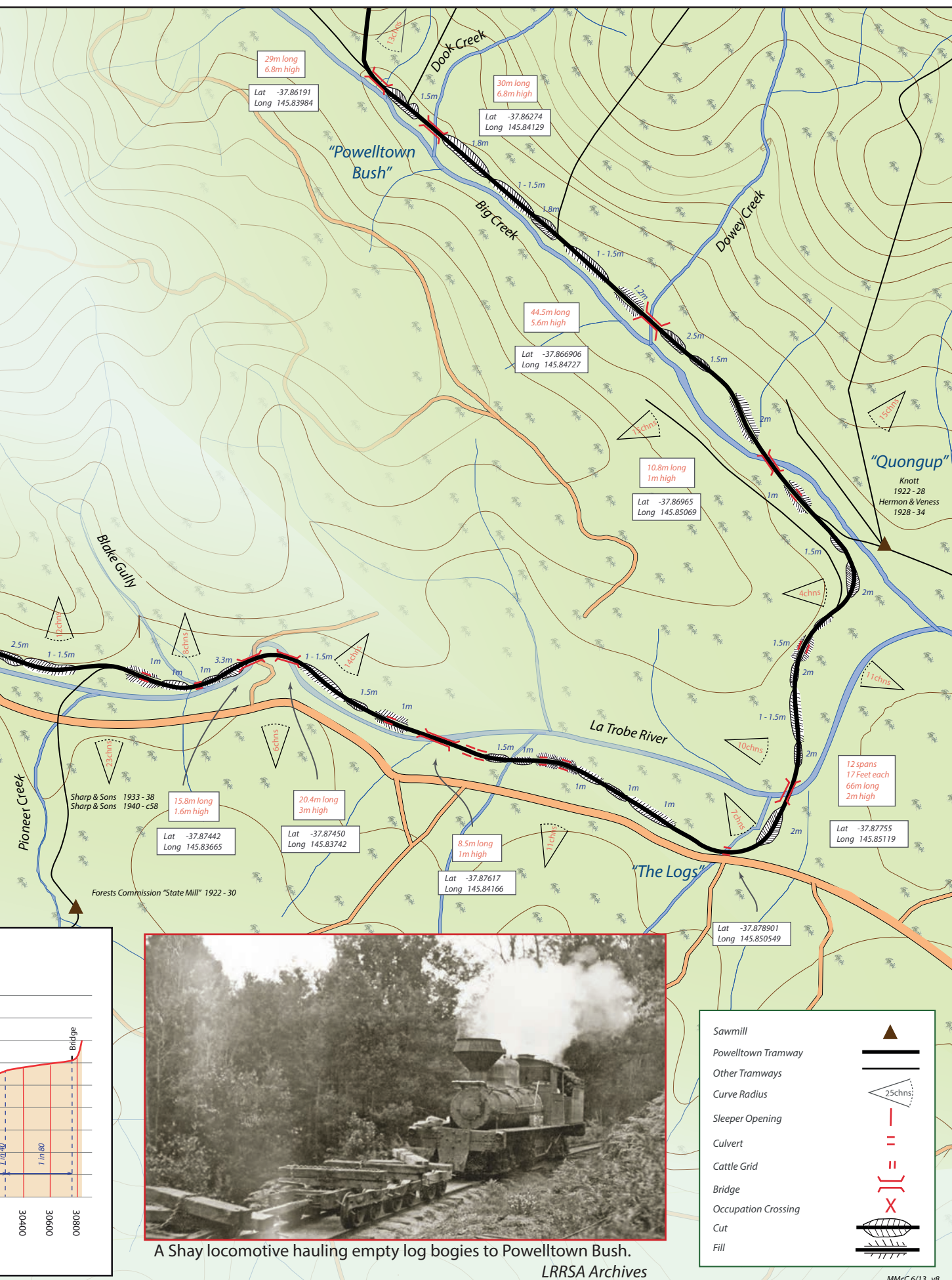
La Trobe River bridge
just north of 'The Logs',
September 1972.

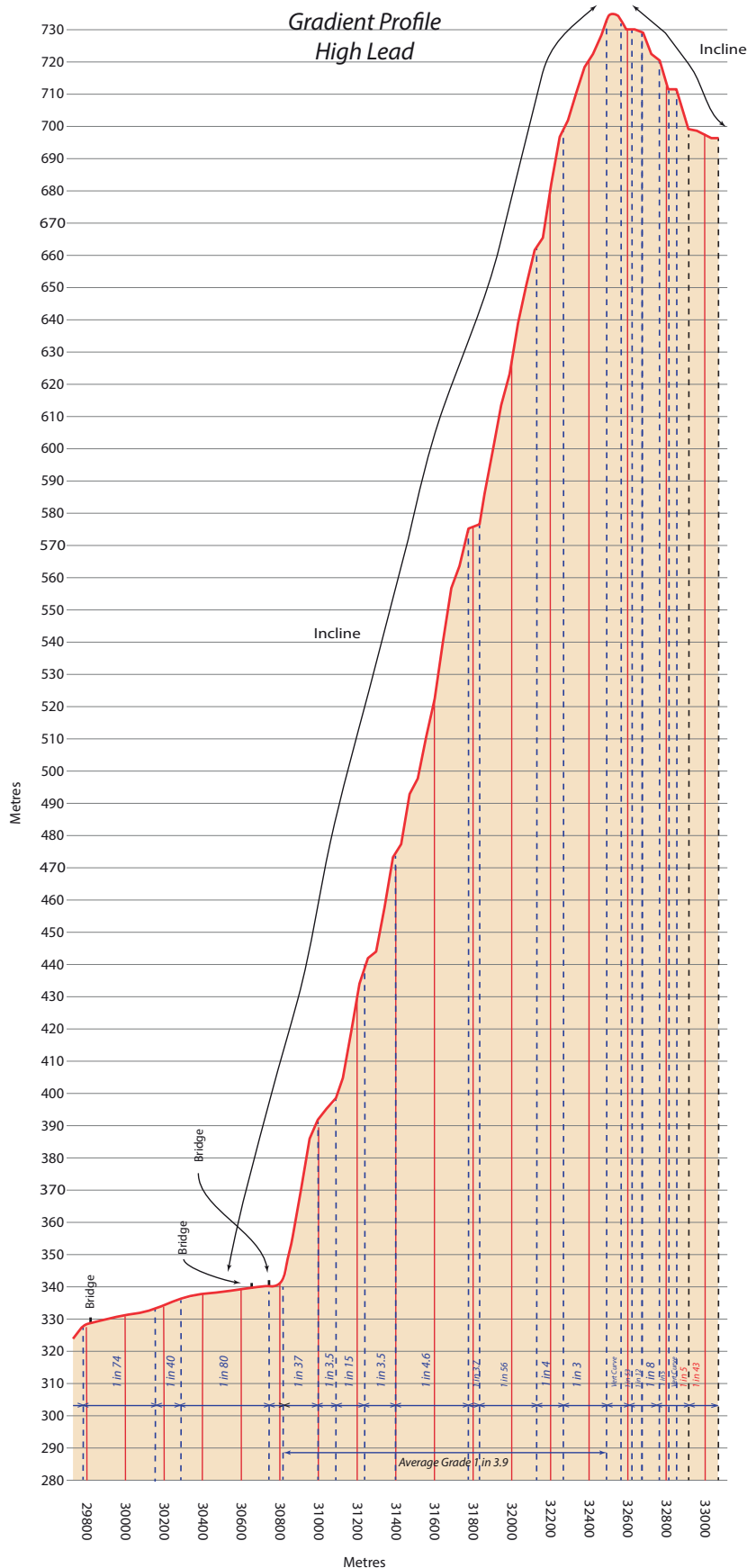
Colin Harvey



Gradient Profile La Trobe River







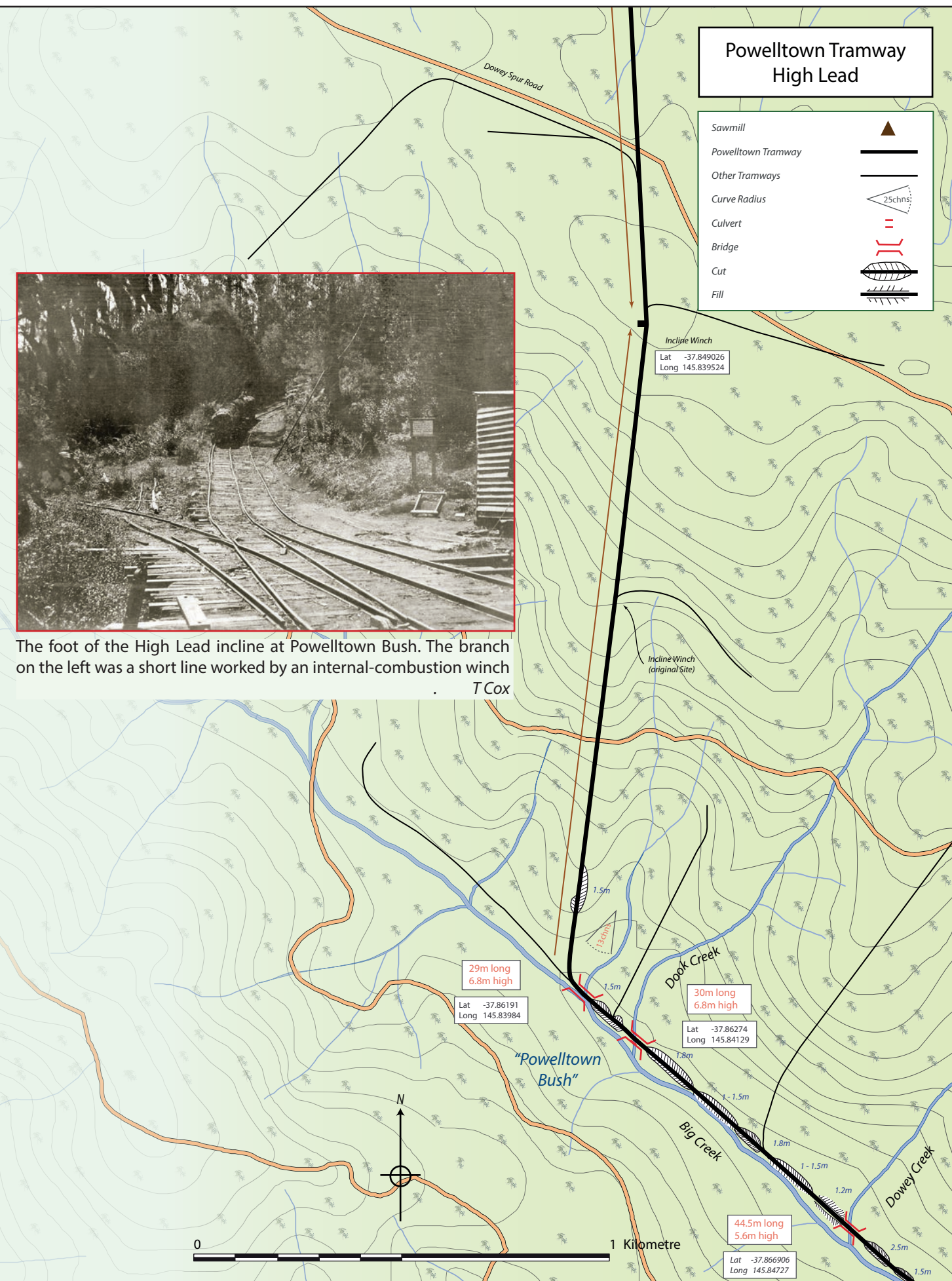
Hikers make use of the High Lead incline. In the distance, just ahead of the leading walker the mid-point passing loop can be seen.

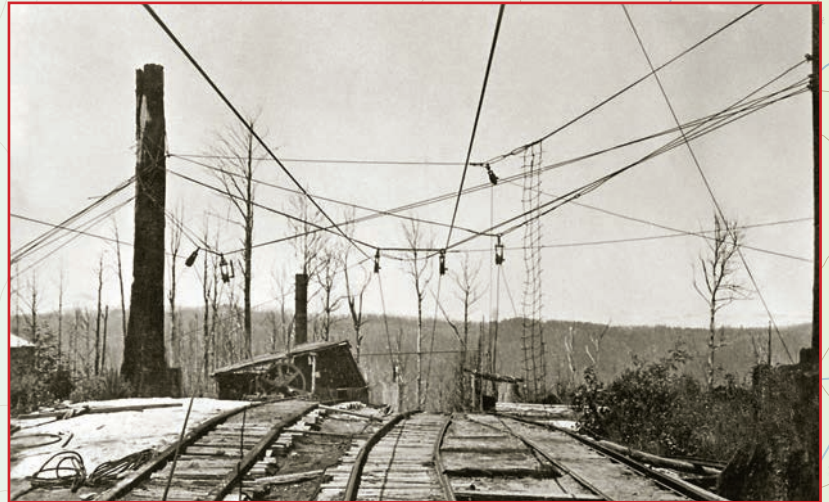
Frank Hosking



A Shay locomotive and *Coffee Pot* at the siding for State Mill, just south of Blake Gully (see map, page 25), about 1927. Until 1928 *Coffee Pot* was used from this point to Powelltown Bush. The photographer is looking towards Powelltown.

Courtesy John Burrows



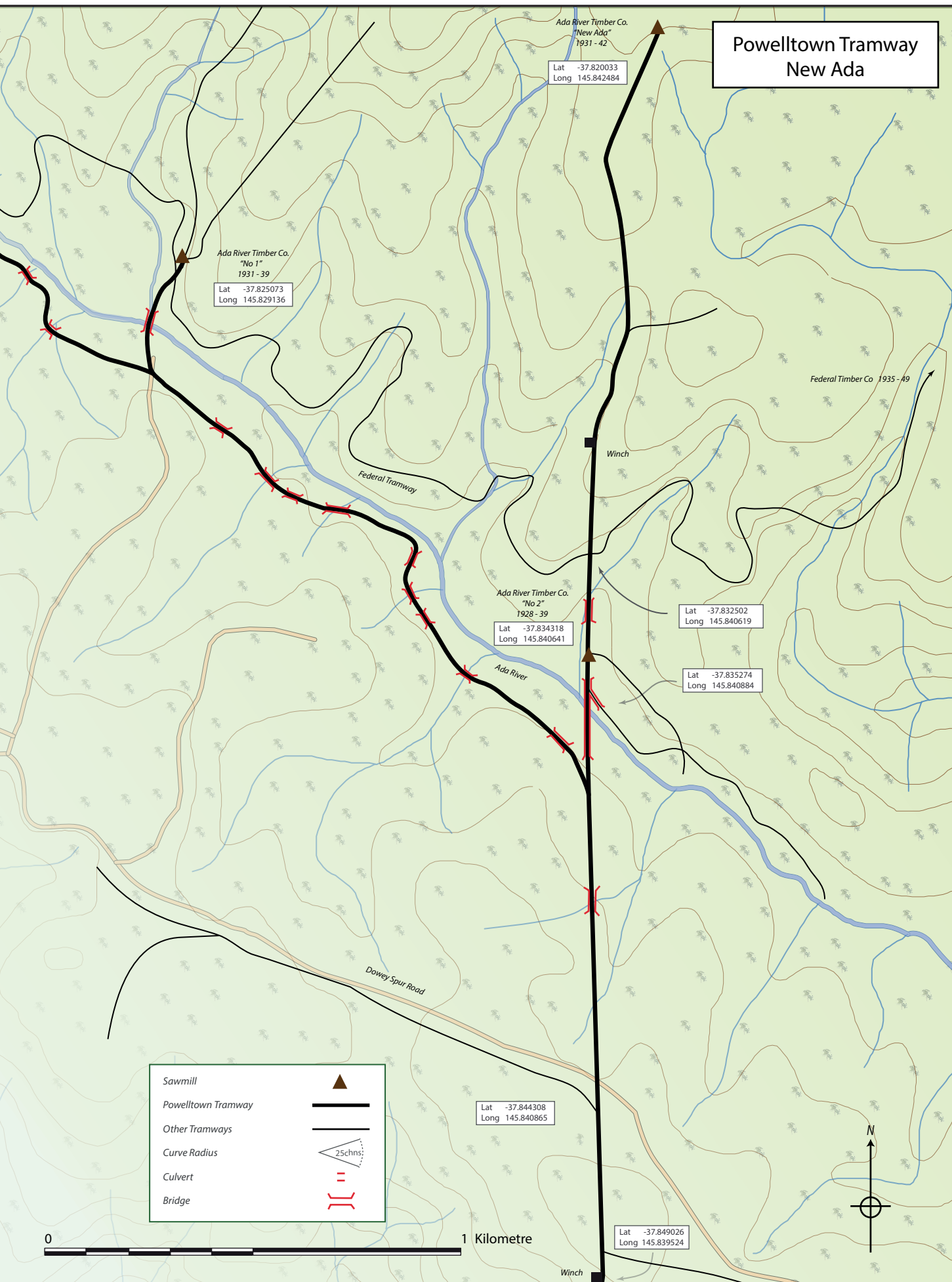


The High Lead summit, looking north. The winch house can be seen left of centre.

AR Lyell



Ralph Alger



Powelltown Tramway Starlings Gap

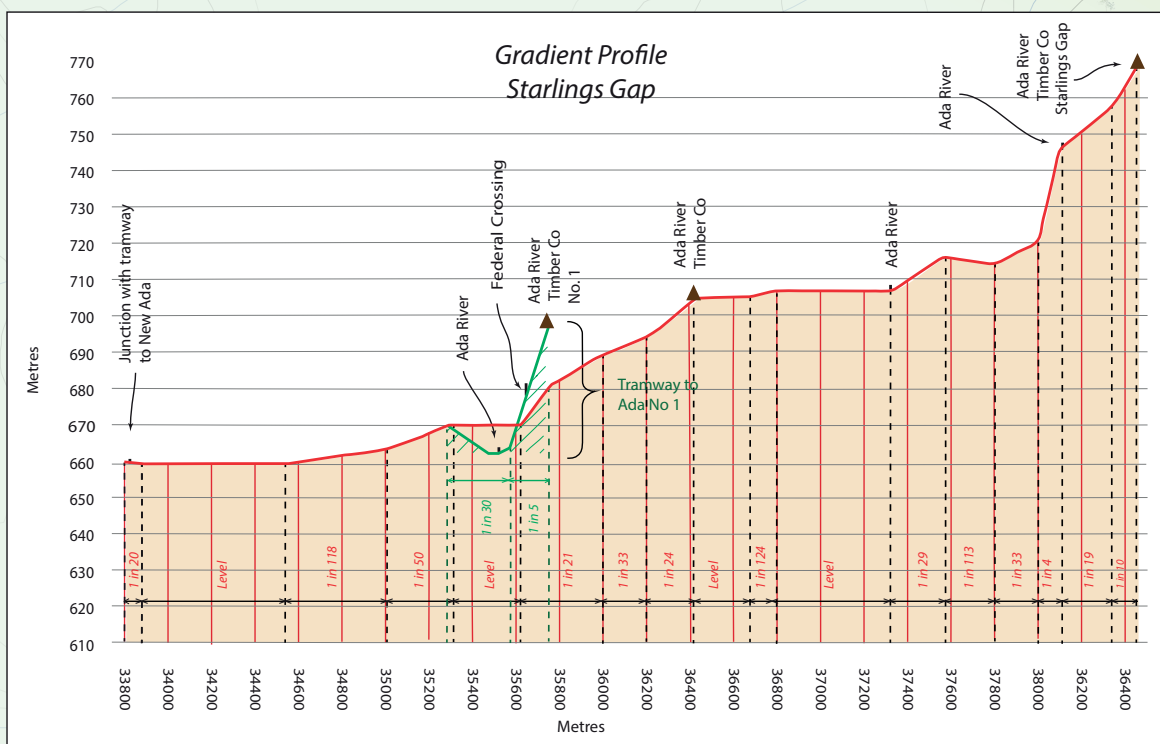
Warburton Sawmill
& Tramway Co
No 6
1916-17
Hermon
1917-21
Ada River Timber Co
1921-27

Lat -37.813437
Long 145.800164



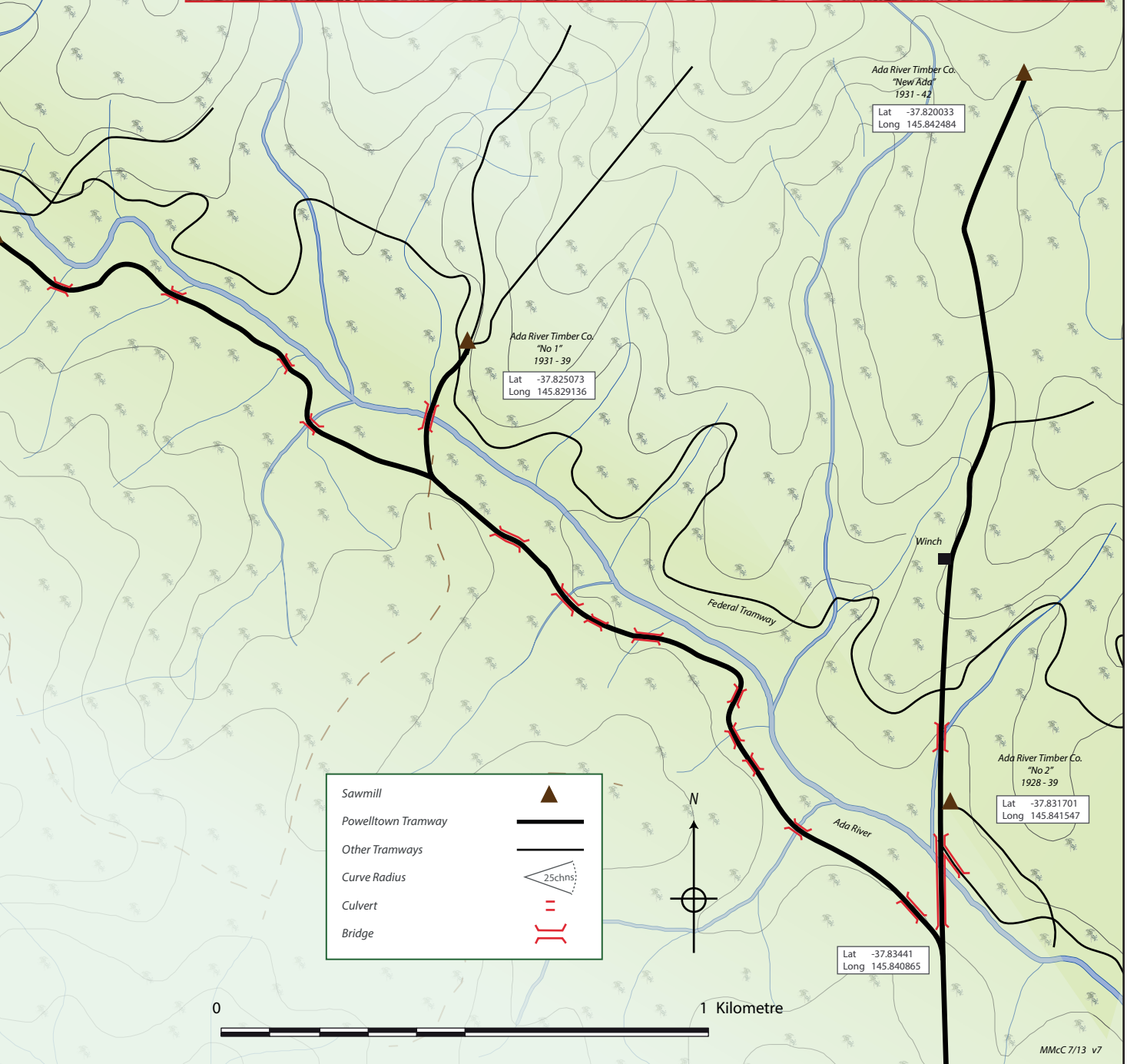
To obtain cut and fill, bridge measurements, and line elevations involved five site visits between Powelltown and Dowey Spur Road. The surveys were made by (left to right): Colin Harvey, Mike McCarthy, Peter Evans, and the photographer, Brett Evans. Mike McCarthy produced the maps. Details of how it was all done can be found in the October 2013 issue of the LRRSA's journal, *Light Railways*. The photograph above is taken on the tramway walking track east of Mackley Creek near the Big Bridge site.

Ada River Timber Co.
1927-31
Lat -37.823735
Long 145.818534



Looking north to Ada No.2 Mill in 1927 from the long bridge over the Ada River. The mill was still under construction at this time.

Tenth Malvern Scout Group



THE UPPER YARRA VALLEY HISTORICAL SOCIETY MUSEUM

upperyarramuseum.org.au

The Upper Yarra Museum, maintained and managed by the Upper Yarra Valley Historical Society, is located in the former Yarra Junction railway station buildings and precinct. Photographs, artefacts, tools, machinery and numerous other items are displayed at the Museum in heritage and non-heritage buildings. The diverse and extensive collection reflects the timber, rail, tramway and domestic themes of the Upper Yarra Region. A blacksmith's workshop operates during the Museum's opening times: Wednesdays, Sundays and every third Saturday, 11am to 4pm.



WALK INTO HISTORY

The Walk into History is a 35km walking route from Warburton to Powelltown, and is maintained by the Victorian Department of Environment and Primary Industries (DEPI).

It follows the route of the Federal timber tramway from Big Pats Creek, near Warburton, via Starlings Gap to just north of the Ada No.2 Mill site. It then follows the Powelltown tramway, down the High

Lead incline, and along Big Creek, the La Trobe River, and Little Yarra River for most of the route into Powelltown.

Although the total length of the walk is 35km, there are numerous opportunities to walk short sections of it. More information on the Walk into History is available from DEPI offices, or on the internet by entering "walk into history powelltown" into Google.



LIGHT RAILWAY RESEARCH SOCIETY OF AUSTRALIA INC.

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The LRRSA was founded in 1961 to promote interest in special purpose railways, and the industries they served. It attracts members with interests in industrial archaeology, social history, mapping, bush walking and photography. These railways have been associated with a wide range of industries, including sugar production, timber milling, quarrying and mining, tourism, and manufacturing.

The Society holds regular meetings, publishes books, and its journal *Light Railways*. Membership is open to all interested persons. Members receive a substantial discount on the price of Society publications. If you would like to join the Society, or if you have information or photographs which you think may be of interest, please write to the Honorary Secretary at the address above.

Books about the Powelltown tramway:

Arsenic and Molasses: A Pictorial History of the Powelltown Tramway and Timber Milling Operations, by Frank Stamford, published by the LRRSA 1998. A4 size 88 pages. Available from the LRRSA Online shop: www.lrrsa.org.au

Powelltown: A History of its Timber Mills and Tramways, by FE Stamford, EG Stuckey & GL Maynard, published by the LRRSA 1984. A4 size 160 pages. This book is out of print, but usually available on the second hand book market.

