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FIRSTS AND LASTS IN WA
Photo essay marking 50 years of Avon Valley Line

THOMAS RHODES FIRTH
Senior NSW Railway Engineer, Part 2

THE GRENFELL BRANCH LINE
Its Rise and Fall, 1879–1991

AUSTRALIAN RAILWAY HISTORICAL SOCIETY NSW DIVISION

FOR ALL WHO ARE INTERESTED IN RAILWAYS

Journal of the Australian Railway Historical Society

Clyde-built diesel-electric locomotive A 1511 shunting at Esperance in January 1972. This was in the days of the old isolated narrow gauge line, prior to its conversion to standard gauge. Freight was sent from Perth in containers and transshipped at West Kalgoorlie. PHIL CROSS PHOTO

'Tin Hare' rail motor CPH 2 at Koorawatha Station on a service to Harden, 22 February 1983. The article on the history of the Koorawatha to Grenfell branch line commences on page 18. F LOONEY COLLECTION, ARHSNSW RAILWAY RESOURCE CENTRE, 055252

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EDITORIAL

We open this issue with a photo essay by Phil Cross to mark the 50th Anniversary of the opening of the standard and dual gauge Avon Valley Line in Western Australia in February 1966. Illustrated by a selection of Phil's photographs, the essay explores the remarkable changes in the technology and culture of the old Western Australian Government Railways which was brought about by the standard gauge link with eastern states and the new railway technologies that were introduced for this important event.

Part 2 of Tony Firth's account of his great grandfather, Thomas Rhodes Firth, covers the latter period of Thomas' railway career in New South Wales when he was actively engaged in railway surveys, construction tasks, inspections of the railway network and—at a national level—the attempts to address incompatabilities between the various state railway systems, particularly the issue of a national standard gauge network.

It was a remarkable career particularly in terms of the breadth of activities and accomplishments achieved by Thomas Firth. Sadly, he did not live to enjoy an extended retirement and passed away on 20 July 1903, just four months after he had stepped down.

The Koorawatha to Grenfell branch line was one of the many short branch lines opened in the New South Wales 'wheat belt' amid hopes of a bright future, only to succumb to competition from road transport and the general malaise of rural communities. The article presented here is one of several on this and similar lines prepared by Bob Scrymgeour some years ago that have been awaiting publication among a backlog of New South Wales material. Opened on 26 October 1901, the line served wheat terminals at several centres, but no trains have run since 26 October 1991.

The issue rounds off with a short Explorer item on 'The Great Western Railway opening dates' by Greg Blackwell, while 'Letters' features an account of the former NSW Railways 'HO' scale railway that eventually went to the Cowra War Museum. We hope that you find this offering and the images we have selected to illustrate the articles are of interest.

Robert Gerrard Killop

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Letters: We publish a selection of letters depending on space allowances. Letters should be kept to around 250 words and preferably be sent via email.

A line-up of Westrail locomotives at the Avon Yard locomotive terminal in 1976. Note the experimental paint scheme on L 262 (foreground), while L 263 (left) is in the eventual Westrail colours as is the T Class locomotive in the background (number obscured), while the AB Class locomotive behind the T Class remains in the original WAGR green paint scheme.

'FIRSTS' AND 'LASTS' IN WA

A Photo Essay marking 50 Years of the Avon Valley Line

Phil Cross: photos by author

This photo essay marks 50 years since the old narrow gauge line from Perth to Kalgoorlie was closed and the Avon Valley line commenced operations. The new line and the associated standard gauge project marked the commencement of huge changes to the old Western Australian Government Railways. This essay explores these changes, which included:

- Closure of most suburban goods depots in Perth, notably the Perth Goods Terminal, with all rail freight being handled at Kewdale and Robb Jetty, while train marshalling was carried out at Forrestfield.
- A change in grain handling with most Cooperative Bulk Handling (CBH) wheat bins in the central wheat belt feeding into transfer silos at Avon (Northam) and West Merredin.
- The continued operation of isolated narrow gauge lines from Kalgoorlie to Esperance and Leonora until both were converted to standard gauge in September 1974.
- Completion of dieselisation earlier than expected due to release of narrow gauge diesels from the Kalgoorlie line.
- The introduction of high horsepower diesels (3000hp plus) to Australian government railways—the L Class locomotives built by Clyde Industries at Granville in Sydney (L251–L273) and Comeng EMD at Eagle Farm, Brisbane (L274–L275 for Western Mining) from 1967.
- The closure of the old Perth locomotive sheds at Mt Lawley with this replaced by the Westrail Centre and passenger terminal.

A NEW RAILWAY: A BIG STEP AHEAD

The opening of the standard gauge railway from Kalgoorlie to Perth in 1968 brought a revolution in operations for the then Western Australian Government Railways (WAGR), which later adopted the commercial name Westrail. The scale of this impact along with other changes that occurred around the same time are well documented in *On Track*.[1]

The standard gauge was opened in segments – starting in February 1966, some 50 years ago, with the Avon Valley Line between Bellevue (on the eastern outskirts of Perth) and Northam.

Not only did this give a brand new high capacity line linking Western Australia to the eastern states, but also new freight terminals at Kalgoorlie, Merredin, Northam and Perth. The latter included the Forrestfield–Kewdale complex and Robb Jetty near Fremantle, together with new passenger terminals, particularly at East Perth.

Along with the new infrastructure, came new methods of operation, most notably the closure of almost all suburban goods depots, including Perth Goods, with all rail freight concentrated at Kewdale and Robbs (in particular). The benefits of removing Perth Goods are still being felt today—the Perth Arena and neighbouring new high-rise buildings in central Perth are where the goods terminal once stood.

In addition, both the *Prospector* and *Indian Pacific* passenger trains took over from the former narrow gauge services – the *Kalgoorlie Express* and *Westland* services respectively.

With a generous standard loading gauge, Westrail also opted for high-horsepower locomotives and Association of Arerican Railroads (AAR) standard rollingstock, many of which were captive to WA and could not be interchanged. Examples of these included:

- **The L Class:** which was a modified version of EMD's SD40 series locomotives. They were the precursor of many similar high-horsepower diesel locomotives on government-owned railways, beginning with the Commonwealth Railways CL Class.
- **The *Prospector* cars:** these were the largest passenger carriages ever built in Australia and featured at-seat catering, a first for Western Australia. These held the record for the highest speed attained by an Australian train until bettered by a New South Wales XPT in September 1981.[2]
- **The WW grain hopper wagons:** Quickly dubbed the 'Willie Weeties', these hopper wagons had a gross weight of 96 tonnes with a net load of 70 tonnes. Block trains using these wagons began operating on 11 November 1966, which was the first commercial use of the new standard gauge.[3] The WW class were joined within a couple of years by the WWA class, aluminum bodied wagons (tare of 19 tonnes and net load of 76 tonnes). The WWA class was said, at the time, to be the largest grain wagons in the Southern Hemisphere.

English Electric diesel locomotive C 1703 leads a short iron-ore train from Northam to Wundowie along a section of the old Eastern Railway—this line was closed when the Avon Valley line between Northam and Perth opened in February 1966. The section to Wundowie remained open for several years, however, to handle this iron-ore traffic to the Wundowie charcoal iron works and this train would have come down the old narrow gauge Eastern Goldfields Railway (EGR), presumably from Southern Cross to Northam and then to Wundowie. When the old Eastern Railway line closed, the iron ore was conveyed in containers on standard gauge trains that were transhipped at the Avon freight terminal outside Northam and then conveyed to Wundowie by narrow gauge four-wheel wagons. The photo was taken in November 1969 from the abandoned Spencers Brook Signal Box. This had been the junction of the Eastern Railway (to Northam) and the Great Southern Railway (GSR) to Albany until February 1966. The train is coming off the line from Northam, with the track diverging to the right under the locomotive marking the start of the GSR.

OVERCOMING A BIG HEADACHE

The old narrow gauge Eastern Railway (ER) from Fremantle to York and Eastern Goldfields Railway (EGR) from Old Northam to Kalgoorlie (which included the Leonora, Laverton and Esperance branches), were the WAGR's most important lines – but they also gave the biggest headache. The old Bellevue–Northam alignment of the ER with steep grades (1 in 40) and sharp curves was the WAGR's equivalent of the Blue Mountains for the NSW Government Railways (albeit on a smaller scale!), the Brisbane–Toowoomba line in Queensland and the Adelaide Hills line in South Australia. In particular, the Bellevue–Northam section restricted train loads, raised operating costs, as well as generating blood pressure for the operations staff!

As a result, the new standard gauge was opened in stages, the first being the double-track and dual gauge Avon Valley line which replaced the Bellevue–Northam segment. Trains began operating over the new line on 13 February 1966. The whole process of construction and commissioning of the Avon Valley line was well documented in a WA Railway Institute booklet.[4]

This was followed by the Northam–Koolyanobbing section in April 1967 and the Koolyanobbing–Kalgoorlie section in August 1968. Completion of the section to Koolyanobbing allowed block grain train operations

The standard gauge brought the high horsepower L Class and block grain trains. In May 1970, double headed L Class locomotives pass East Northam Station with a loaded grain train made up of WW and WWA hoppers. This train was loaded at West Merredin yard taking grain that had been transshipped from the narrow gauge lines serving Merredin.

A Class locomotive 1505 heads the *Westland Express* as the first passenger train on the new Avon Valley Line in February 1966.

from Merredin to commence together with iron ore train operations from Koolyanobbing to Kwinana, south of Fremantle. The first iron ore train operated on 10 April 1967, while completion of the line to Kalgoorlie allowed the start of through freight trains from South Australia on 3 November 1968.

The first *Trans-Australian* passenger train from Port Pirie arrived in Perth on 15 June 1969. The *Indian Pacific* passenger train had to wait until February 1970 for the Port Pirie–Broken Hill line to be converted to standard gauge before it could undertake the journey from Sydney to Perth.

Completion of the line to Kalgoorlie also meant, however, that two narrow gauge branch lines to Esperance and Leonora, were now isolated. They continued to operate as narrow gauge lines until converted to standard gauge on 16 and 14 September 1974 respectively. Mineral development in the Leonora–Laverton area—who can forget the famous Poseidon mine—saved the Leonora line, for without those developments, the line would almost certainly have been closed.

FIRSTS AND LASTS

All of these changes in Western Australia brought many 'firsts' and 'lasts' and this photo essay presents a selection of these.

Firsts

The first Down train on the new Avon Valley line on 13 February 1966 was the *Kalgoorlie Express*, which was followed shortly after by the *Westland Express* shown above headed by A Class diesel-electric locomotive 1505. This location is where the Avon Valley line swings away from the old Eastern Goldfields railway at Bellevue, just east of Midland.

The first *Prospector* train to Kalgoorlie passes Mount Lawley Station shortly after starting its run in the evening of 29 November 1971.

With completion of the standard gauge to Kalgoorlie, the old narrow gauge *Kalgoorlie Express* was replaced by the *Prospector* railcars. The first *Prospector* and the last *Kalgoorlie Express* ran on 29 November 1971. The first *Prospector* is shown below passing Mount Lawley Station shortly after commencing its run.

Our cover photo shows the *Western Endeavour* enthusiast train on the Avon Valley route during the historic journey of the first steam-hauled train across the continent. This was taken as the train aproached Windmill Hill where it had stopped for a photo run-by on 29 August 1970.

The photo taken at the Avon Yard locomotive terminal in 1976 (page 4) shows a range of locomotive liveries, including an experimental paint scheme on L Class diesel No. 262

Completion of the standard gauge allowed a number of narrow gauge diesel locomotives to be re-assigned elsewhere in Westrail's narrow gauge network. This helped bring forward the end of mainline steam operations in 1971 and it was not until 12 September 1976 that the Hotham Valley Railway, then known as the Pinjarra Steam & Hills Railway Preservation Society, began operating 4-8-2 steam locomotive W 920 on the Dwellingup branch as depicted on page 7.

Lasts

The last *Kalgoorlie Express* arrived at the old Perth Station on 29 November 1971 behind XA Class 2-Do-2 diesel-electric locomotive 1416 (photo page 7). The X and XA Class diesel-electric locomotives were used for the last months of the *Kalgoorlie Express*, as the train had to be diverted over the Merredin–Wyalkatchem–Goomalling–Northam Line following closure of the old Eastern Goldfields Line between Merredin and Northam.

The Wundowie train depicted in the page 5 photo, would have come down the old narrow gauge EGR — presumably from Southern Cross—to Northam and then on to Wundowie. Following closure of the EGR east of Northam, the iron ore was conveyed in containers on standard gauge wagons. These were then transshipped at the Avon freight terminal outside Northam and conveyed to Wundowie on narrow gauge four-wheel wagons as depicted in the photo on page 8.

The pig iron works at Wundowie

closed in 1981 so the iron ore traffic probably ceased at that time as well.

A DEDICATION

Re-reading some of the old literature, I cannot help but be impressed with the forethought and drive of the WAGR managers in the 1960s to make the most of the opportunity presented by the standard gauge project—it helped set Westrail up to remain competitive in the new era of open competition.

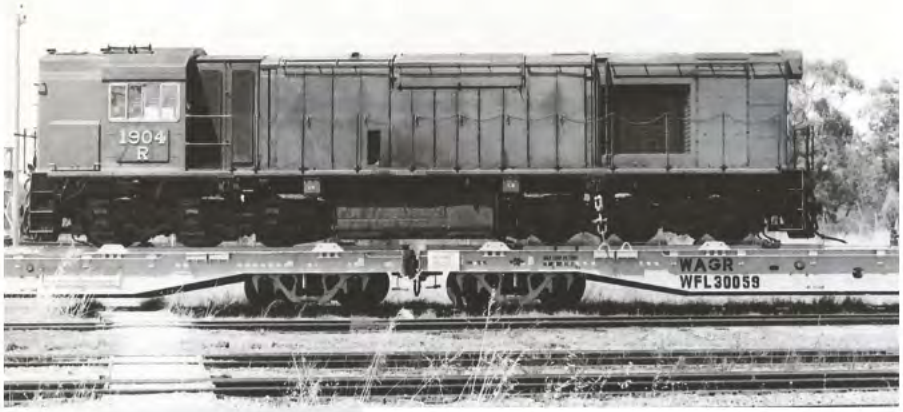
END NOTES

1. Affleck, Fred,: *ON TRACK The Making of Westrail 1950–1976*, Westrail, Perth Western Australia, 1978.
2. Wikipedia, 'The Transwa Prospector'
3. Western Australian Government Railways: 'Inauguration of Perth – Port Pirie Standard Gauge Passenger Service', June 1969
4. *The Railway Institute Magazine*; 'Inauguration of 3ft 6in gauge traffic on the Avon Valley section of the standard gauge railway'. March 1966

As noted on page 6, the last *Kalgoorlie Express* arrived at the old narrow gauge Perth Station on 29 November 1971 headed by XA Class 2-Do-2 diesel-electric locomotive 1416.

Completion of the standard gauge allowed a number of narrow gauge diesel locomotives to be re-assigned elsewhere in Westrail's narrow gauge network – this helped bring forward the end of mainline steam operations in 1971. In this photograph taken on 12 September 1976, the Hotham Valley Railway's 4-8-2 locomotive W 920 has coupled to its train from Perth at Pinjarra on the Dwellingup branch for the scenic climb to the Dwellingup terminus.

ABOVE: English Electric diesel-electric locomotive K 215 with short train in November 1971. The photo was taken at Midland Yard with English Electric diesel-elecric locomotive R 1904 being transferred to Kalgoorlie for use on the narrow gauge Esperance line. I doubt the old narrow gauge Leonora line was of sufficient standard to allow the R Class to operate.



ABOVE: A close-up view of R Class diesel-electric locomotive 1904 on WAGR standard gauge WFL flat wagons for transfer to Kalgoorlie.

LEFT: This March 1970 photo depicts the narrow gauge four-wheel wagons and iron ore containers stored in Avon Yard after the narrow gauge line east of Northam closed.

A view of the original 1889 Hawkesbury River Railway Bridge highlights its scenic setting. Thomas Firth was involved in the testing of the new bridge along with Henry Deane, Assistant Engineer-in-Chief of Railways, in April 1889.
N J Thorpe collection, ARHSnsw Railway Resource Centre 005680b

THOMAS R FIRTH, RAILWAY ENGINEER

Part 2: Senior NSWGR Railway Engineer

Tony Firth

Part 1 of Tony Firth's article on Thomas Rhodes Firth (*ARH*, February 2017) covered his early years in Yorkshire, his arrival in the colony of New South Wales as an engineer with Peto, Brassy & Betts, and his years as a district engineer on the New South Wales Railways supervising the work of contractors building the trunk lines to service rural towns and industries. It concludes with the opening of the Illawarra Line to Waterfall on 1 March 1886.

This article takes up Firth's career with the New South Wales Railways from 1888 when he was appointed to the position of Engineer for Trial Surveys and his subsequent elevation to Engineer-in-Chief for Existing Lines. The Firth family was still living in Sydney, but they had moved, probably by July 1885, from *Leinster Hall* in Tempe to a short laneway that would become Firth Street, running between Forest Road and Arncliffe railway station. There was another addition to the family when Francis Harold Firth (the author's grandfather) was born at the family home, *Glen Evie* in Arncliffe, on 6 September 1885.[1]

ENGINEER FOR TRIAL SURVEYS

In 1888 the position of Engineer for Trial Surveys of Railways became vacant. It was the custom that the appointee to such a position was nominated by the Engineer-in-Chief, John Whitton. Whitton nominated Thomas R Firth, then aged 56, on the grounds that he was not only a good surveyor, but also had a broad knowledge of railway construction.

Unbeknown to Whitton, the Minister for Works, John Sutherland, had appointed two other engineers to that position, Messrs G Townsend and D C Simpson. Whitton was of the opinion that Firth was more capable for the position than either of the other two. When he became aware that the minister had disregarded his recommendation, Whitton sent a protest against the appointments to Sutherland, especially regarding the appointment of Townsend.

Whitton felt that Townsend was an incompetent engineer, basing his position on the work that Townsend had done on the survey of the Colo Valley line in 1874. Whitton wrote a detailed report in support of his issue with Townsend and sent it to Sutherland, but the minister was unmoved.

In the Legislative Assembly, the Colonial Treasurer, in the absence of the Minister for Works, tabled a number of papers and reports in connection with the Colo Valley line and the position of Engineer for Trial Surveys on 22 March 1888. They included Whitton's recommendation of Firth as Engineer for Trial Surveys and the Minister's appointment of Townsend and Simpson to the position. During the ensuing debate, the energy and perseverance required for the position was raised as an issue, with the Colonial Treasurer

reading Sutherland's statement, which included some ill-advised language:

> If Mr Palmer was unable to do this I am quite sure that Mr. Firth, whom Mr Whitton recommended for the post, would be unable to accomplish it. Mr. Palmer was comparatively a young active man, possessing energy and perseverance, and with physical power to resist fatigue very much greater that that possessed by Mr. Firth, who from age and from the indulgence of late years in a life of ease and comparative leisure, is unfitted to undertake the active duties appertaining to the exploration and survey of new country—often inaccessible, except to those possessing untiring energy and indomitable perseverance, and who can endure the exposure and hardships inseparable from such a calling.[2]

The outcome of the conflict between Whitton and Sutherland in not known, but Thomas Firth emerged as the officer in charge of trial surveys. During 1889, he was surveying the route for the proposed North Coast Line. On 24 March, he was in Dungog for a meeting with Mr Day, the head of the local railway league and, from there, he inspected the proposed route back to West Maitland. On 14 August Firth was at Stroud where he met prominent local citizens who were lobbying for the proposed route from Clarence Town and Morpeth to Stroud. He promised to carefully consider the competing railway routes, but would not say which one would be adopted until the surveys had been completed. Ultimately a route further west through Muswellbrook and Scone was initially selected.

HAWKESBURY RAILWAY BRIDGE TESTING

There was a diversion from survey duties in April 1889, when Thomas Firth was engaged in load testing of the new Hawkesbury River Railway Bridge. On 24th of the month he joined Henry Deane, the Assistant Engineer-in-Chief, Mr Cowdery, Engineer-in-Chief for Existing Lines, and officers Shellshear and Bridge from the District Engineer's office.

Optical instruments were used to accurately measure the deformation under load of each span. In the morning trains were slowly run out onto each span, measurements taken and the trains moved off to gauge any residual movement. Water gauges were set up on both sides of span No.1 to measure the movement of every joint. When they were moved to the second span they could not be re-assembled quickly enough without leaks and only one gauge gave meaningful results. Their use for the remaining spans was abandoned. Speed tests were carried out in the afternoon by four locomotives coupled in two pairs. They were started by flagmen above the Long Island tunnel and ran across the causeway, through the tunnel and across the bridge at maximum speed.

The Hawkesbury Railway Bridge took three years to complete at a cost of £340,000 [$43.44 million in 2013 terms]. It was officially opened on Wednesday 1 May 1889 amid great pomp and ceremony by the Governor, Lord Carrington, with rousing speeches by the Premier Henry Parkes and the Chief Railway Commissioner, Mr E M G Eddy, who had been appointed to his position with work on the bridge already well underway.[3]

In April 1889, Firth joined the Chief Traffic Manager, Mr Harper, and the Chief Mechanical Engineer, Mr Thow, for a meeting of senior officials in Brisbane. They travelled by train to Brisbane where they joined colleagues from Victoria, Queensland and South Australia for their meeting on Tuesday 25 April prior to the Inter-Colonial Conference of Railway Commissioners.[4]

On the 18 October 1889, the Public Works Sectional Committee arrived at Broken Hill for a meeting to discuss the viability of extending the railway from Nyngan to Wilcannia and on to Broken Hill. They arrived by coach after a very rough trip and had their first sitting day on Saturday. One of those examined during this sitting was Thomas Firth, who had recently inspected the proposed route.

Twelve days later and 165 miles (266 km) to the south, Firth was in Wentworth with four survey parties working on the trial survey for the proposed railway from Hay to the South Australian border via Wentworth.

Thomas Firth is also recorded as a passenger on the express train from Albury to Melbourne on Saturday 15 March 1890, so he was maintaining a hectic travel schedule. He returned to Sydney on the 29 July.

September 1890 saw Firth in Forbes inspecting a suitable site for a railway station in connection with the extension of the line from Molong to that town.

INTO THE 1890s

On 28 January 1890, Thomas Firth appeared before the Standing Committee on Public Works in his capacity as Assistant Engineer in

The men who built the Hawkesbury River Railway Bridge pose for the camera at the formal hand-over ceremony in April 1889.
C A Cardew collection, ARHSnsw Railway Resource Centre, 034434

Testing the Hawkesbury River Railway Bridge with locomotives and wagons, 20 April 1889.
NSW Government Railways photo, ARHSnsw Railway Resource Centre, 038844.

Charge of Trial Surveys, regarding the proposed Mudgee to Gulgong railway. He reported that he had gone over the line six weeks previously and that in his opinion, gradients could be greatly reduced and the work lightened without increasing the cost. This would increase the number of curves but they would be of the same radius as in the original survey. While the original cost estimate for the line had been £6988 per mile, Thomas estimated that it could be constructed for £5800 per mile [equivalent to $741,000 in 2013 terms]. He had also travelled from Gulgong to Dubbo and estimated that a line could be built between these two centres for £5800 per mile. Thomas advised that the soil was good for agricultural pursuits and plenty of fencing timber was available, but not square timber. A pioneer line eventually opened from Gulgong to Merrygoen by 1910 and from there to Dubbo in April 1918. Today this line has become an important link in the national standard gauge railway network.

In the early 1890s, Thomas Firth was engaged in survey tasks across the colony. From March to July, Firth surveyed routes around Crookwell in the south and the Tweed in the north before returning to Sydney. On 3 July 1890 he and surveyor H B Hardie were in Crookwell reviewing the survey plans for the line to McAlister to determine if deviations were required to reduce some of the grades. By the 19th of that month, he was in Casino inspecting a proposed line from Tenterfield via Casino and Lismore to the Tweed Valley, with particular emphasis on the route between Brunswick and Murwillumbah.

ANOTHER PROMOTION

By February 1891, Thomas Firth was the Acting Inspection Engineer to the Department of the Engineer-in-Chief for Railways. In this capacity, he addressed the Public Works Committee on 25 February on the proposed Nyngan to Cobar and Broken Hill railway. He advised that improvements to the grade would not be a very expensive matter while achieving a very great advantage and that the deviation before reaching Wilcannia was to avoid a large lake.

Whitton's decision, based on Firth's field surveys, for the Great Southern Railway to bypass the town of Yass resulted in the construction of a light branch line from Yass Junction to serve the town. This brought Thomas Firth back to Yass on 8 April 1892 to test the new bridge carrying the branch across the Yass River. Two locomotives with a combined weight of 126 tons were run onto the bridge and, following measurements, they were then run across the bridge at speed.

Thomas Firth expressed his satisfaction at the results, the local MLA Mr T Collins drove the last rivet and then the visitors adjourned to the Commercial Hotel, where 'champagne was ordered and the usual toasts proposed'.[5]

FAMILY ISSUES

According to his great-grandson, Walter Firth, Thomas became depressed in his later years over a major railway accident near his home for which he felt personal responsibility. The accident that best fits this event was the Sydenham Junction accident of 15 February 1901, with which Thomas was involved as a senior official and expert witness, although he was not involved in the construction of this section of the railway network.

Another possible event which may have concerned him was the tragic accident at Sodwalls on 27 April 1892 in which nine people were killed and 11 injured when the mail train to Bourke was thrown off the track by a broken rail in

Portrait of Thomas Firth circa 1895. AUTHOR'S COLLECTION

Portrait of Sarah Firth (date unknown). AUTHOR'S COLLECTION

a deep cutting between Sodwalls and Tarana. The derailed carriages had their sides torn out by the rocky sides of the cutting and the deceased had been violently thrown against the bare rocks.[6] Thomas had supervised the contractors for this section of the Great Western Railway and evidently he felt a sense of personal responsibility for the safety of the permanent way there.

Thomas Firth's superiors clearly did not see any association with the accident on his behalf as, on 7 June 1892, he was appointed as Chief Assistant and Inspecting Engineer for Railway Surveys. There was sadness for Thomas and Sarah the following year, however, when their eldest son, Thomas, was killed in a show jumping accident in Parkes. He was participating in a demonstration of hunters at the Parkes show on a horse, when at the second log fence it swerved, unseating Thomas, who was thrown against the fence with considerable force. He sustained a fractured skull and died two hours later. Thomas was 29 years old and had only been married the previous year.

ACTING ENGINEER-IN-CHIEF

Henry Deane, the Engineer-in-Chief, made an overseas trip in 1894 to study light railways and tramway systems in Europe and North America. He left Sydney on the 18 May and returned on 2 January 1895, during which time Thomas Firth acted in this position.

In this capacity, Thomas appeared before the Public Works Committee on 22 May 1894 regarding the proposed Temora to Wyalong railway. This would be built to the 'pioneer line' standards then being introduced. Pioneer lines were only fit for traffic at a speed of 20 miles an hour. Thomas considered that if the line were ballasted in the ordinary way the sleepers would last longer, and the cost of maintenance would be less. The committee initially moved that in its opinion: 'it was not expedient that the proposed line of railway be carried out, but following opposing views, it decided to defer its decision for another six months'.[7]

Also during 1894, Thomas Firth was appointed to a Board of Reference in his role as Acting Engineer-in-Chief, to review the minimum rates of pay for staff subcontracted on Government contracts. Other members of the Board were J Barling, Under-Secretary for Public Works; C W Darley, Engineer-in-Chief for Harbours and Rivers; R R P Hickson, Engineer-in-Chief for Roads and Bridges; and W L Vernon, Government Architect. The Board submitted their report to Minister for Works in the latter half of October 1894.

ENGINEER FOR EXISTING LINES

In November 1895 Thomas Firth was transferred from the Construction Branch within the Public Works Department to the Existing Lines Branch within the Railways and appointed Engineer-in-Chief for Existing Lines, "at the request of the Railway Commissioners".[8] His new office was in the Colonial Secretary's Building in Bridge Street, Sydney.

In this new position, Firth was responsible for the maintenance of all government railways in New South Wales, including the duplication of lines, improvement of grades and curves, and renewal of bridges, besides the innumerable matters which claim the constant attention of the maintenance engineer of a large railway system. He was 63 years old, but continued to maintain an exhausting schedule of field work.

In his new capacity, Thomas joined the railway commissioners on their special train for inspection tours. On 30 July 1897, he accompanied the railway commissioners, Mr Charles N J Oliver and Mr William Fehon, plus a number of other railway officials on a tour of inspection of the Illawarra line. They were on a special train and arrived at Kiama by 1.00pm. They were met by the mayor of Kiama and another alderman who lobbied for a number of issues

including that the long awaited lifting crane be erected at the station.[9]

RAIL STANDARDISATION

In August 1897, Thomas Firth joined William Thow, the Chief Mechanical Engineer, representing the New South Wales Railways at a conference of railway officials held in Melbourne to continue the task to secure a uniform railway gauge as a follow-up to the Federal Conference in Adelaide the previous April.

The meeting, held between Monday 9 and Friday 13 August, involved heads of branches from Victoria, New South Wales and South Australia. Its focus was the adoption of a uniform rail gauge across New South Wales, Victoria and South Australia.

While South Australia's situation would have required special consideration on account of its two gauges, there was a *prima facie* case for the adoption of the 4ft 8½in New South Wales gauge as the most economical means of securing uniformity as the widening of tunnels and track formations would not be required. The cost of replacing rolling stock also had to be taken into consideration. It was considered likely that after due consideration, the New South Wales gauge would be adopted as it was the gauge used in the United Kingdom and was a recognised the standard all over the world.[10]

Alas, adoption would be a drawn-out process. While a standard gauge line from the NSW border to Brisbane in Queensland opened in September 1930 and the route from Albury to Melbourne was standardised by January 1962, a national standard gauge network from Perth to Brisbane via Sydney did not eventuate until January 1970. The standard gauge link between Melbourne and Adelaide finally opened in May 1995.

TRACK INSPECTIONS

In November 1897, Thomas Firth joined Commissioners Oliver, Fehon and Kirkcaldie, the Chief Traffic Manager, Mr Harper, and the Northern District Superintendent Mr Kitching on the Commissioners' train for an inspection tour of the Northern lines. They stayed overnight in Hamilton siding on Sunday 14 November, before continuing to Newcastle the following morning with deputations from municipalities and various other bodies in the Commissioners' office at the station. According to the local newspaper, 'the Commissioners offered next to nothing to the delegations, the falling revenue being the excuse'. The train stopped at each station from there to West Maitland on 16 November. In West Maitland they were met by a deputation of Hunter River farmers lobbying for better facilities for loading produce from their area.[11]

From West Maitland, the party travelled by road to Dungog and Taree to inspect the route of the proposed North Coast railway (some of which had been surveyed by Thomas seven years previously). On 3 March 1898, Thomas Firth appeared before the Public Works Standing Committee that had been convened to give further consideration to the expediency of constructing the North Coast line from West Maitland to Taree. He was the only witness examined regarding the trial surveys he had carried out and the issues he had raised in his reports. The line from West Maitland to Dungog was eventually opened on 14 August 1911, with the lengthy extension to Taree (133.4km) opening on 4 February 1913.

In February 1898, Thomas joined a party of senior engineers on a trip to Condobolin in order to inspect the newly constructed line from Bogan Gate to Condobolin. The line passed the inspection and it was agreed that it be opened to traffic on 1 March 1898, with an official opening set for 16 March.

On 25 April 1899, senior railway officials from South Australia, Victoria,

A view of the heritage listed *Leinster Hall* in Tempe (built circa 1858), where the Firth family lived from 1883 until early 1885. AUTHOR'S COLLECTION

The large Victorian mansion near Arncliffe Railway Station as depicted by an artist in November 1956. The Firth family moved here prior to July 1885 and the short street in which it was located became Firth Street by 1887. AUTHOR'S COLLECTION

The reconstruction of Strathfield Station being undertaken circa 1900. The use of reinforced concrete for the overhead bridge on this project was a pioneer use of this technology, but in this instance it was not successful. ARHSNSW RAILWAY RESOURCE CENTRE, 113525

New South Wales and Queensland met in Brisbane to discuss technical matters in preparation for the forthcoming Commissioners' Conference. Thomas Firth, Mr J Harper (Chief Traffic Manager) and Mr William Thow (Chief Mechanical Engineer) represented New South Wales.[12]

In July 1899 work commenced on the rebuilding of Strathfield station at an estimated cost of £14,000 [$1.78 million in 2013 terms). The design work for this project had been done by T R Firth's office and the main features comprised replacing the existing platforms and their buildings with three new platforms, two of which were island platforms, and the construction of a long ramped overbridge that would allow road traffic to access the new brick overhead offices and entry to the platforms. This bridge was one of the earliest reinforced concrete bridges on the NSW Railways and was not a success. It was shored up and demolished after a relatively short life. A new signal box was erected over the centre of the lines and a new loop was provided for trains diverting to the Northern line to stand until given the 'all clear' signal to proceed. The work was expected to take four or five months.[13]

Subsequently, at the monthly meeting of the Railway Institute on 6 October, Thomas Firth was elected as a life member.

The 1900 Inter Colonial Conference of Railway Commissioners was held in Adelaide in March. In preparation for that meeting, Firth joined senior railway officials meeting in that city during February to consider matters with regard to securing uniformity of practice in connection with railway working throughout the colonies.

In his role as Engineer-in-Chief for Existing Lines, there was a requirement to regularly inspect the lines. In May 1900, Thomas accompanied two Railway Commissioners, William Fehon and David Kirkcaldie, along with a number of other railway officers to Quirindi as part of the annual inspection. On 2 June he again accompanied Fehon, Kirkcaldie and other officials to Albury and 12 days later, he accompanied a similar group on an inspection trip to Kiama on the Illawarra Line. On 21 July, Firth and Divisional Engineer Mr Watson were at Warren in western New South Wales to assess flooding problems attributed to the branch railway line to that centre.

In early October 1900, rumours that one of the piers of the railway bridge over the Hawkesbury River had subsided were aired in the Legislative Assembly, but were denied by the Colonial Secretary, Sir William Lyne, although it was noted that vibrations created by trains passing over the bridge had resulted in speed restrictions being imposed.[14] It appears that this led to Thomas Firth being seconded to an 'expert board' that investigated these problems. The board found that the vibrations were caused by the inadequate expansion bearings on the bridge and recommended that they be replaced as a matter of urgency.

Federation Day on 1 January 1901 saw grand celebrations throughout the new Commonwealth of Australia. In a long article outlining the history of the NSW Railways on this day, *The Sydney Morning Herald* listed the senior management officials in the Department of Railways, including 'Engineer in Chief for Existing Lines, Mr T R Firth'.

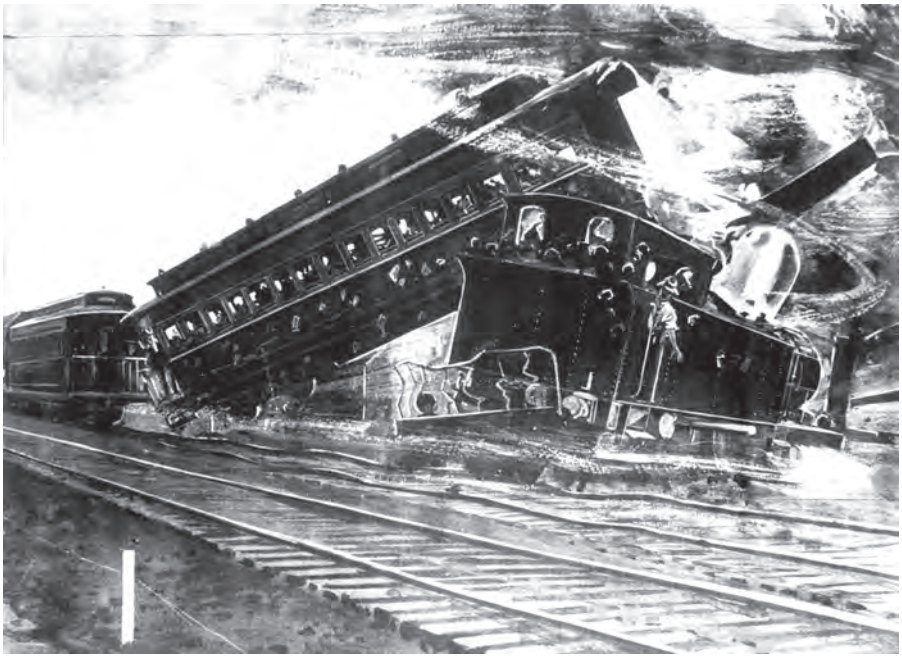
THE SYDENHAM ACCIDENT

At 6pm on 15 February 1901, there was a major railway accident at Sydenham in which the F Class 2-4-0 side-tank locomotive No. 363 was derailed and seven passengers and the fireman were killed, while 26 people were injured,

including the driver who was hospitalised.[15] Thomas Firth was on the scene within half an hour to assist in the assessment and recovery process. He appeared several times as an expert witness during the coronial inquest, which continued for well over a month after the accident.

Expert witnesses Norman Selfe and Professor William H Warren of Sydney University gave evidence that the weight distribution of the locomotive was unsatisfactory rendering it unsafe at high speed. Professor Warren estimated the speed at the time of the accident at 51mph, and that this was the major factor in the derailment. The Chief Mechanical Engineer, William Thow, considered this class of engine was unsuitable for running at passenger train speeds.[16] As a result of the recommendations made by the enquiry, this class of locomotives was confined to shunting duties at locomotive depots.

Some 500 railwaymen attended the funeral of the train's fireman, Sydney Alexander Stephen King, and another victim, John James Morrison, who worked at the Eveleigh Railway Workshops, on Sunday 17 February. The railwaymen walked before the hearse from the residence of King's parents in William Street, Redfern to Mortuary Station, where they met up with the cortege of railwaymen for Morrison's funeral and the whole of the group lined up beside the station to let the hearses pass through to the funeral train. Following arrival of the funeral train at Rookwood Cemetery, six men carried each coffin to the graveside.[17]



Artist's impression of the Sydenham accident of 15 February 1901, with the F Class 2-4-0T locomotive in the foreground.
Town & Country Journal, ARHSnsw Railway Resource Centre, 009119

WINDING DOWN

Thomas Firth was increasingly finding the regular travels required of his position a burden. In April 1901 he

Delegates at the April 1899 Conference of senior railway officials in Brisbane. T R Firth is second from the left in the front row. J F Thallon, Goods Traffic Manager (GTM) Queensland is in the centre with Mr Horniblow, CME Qld to his right and T H Woodruffe, CME Victoria on the right. Standing (L to R) are Messrs Norman VR, Roberts SA, Harper NSW, Thow CME NSW, Neill SA and W Fitzpatrick GTM Victoria.

attended the Conference of Heads of Branches of Australian Railways in Melbourne. Soon he would be closely involved in developing the design and specifications for Sydney's new central station.

On 20 July 1901 the Parliamentary Standing Committee on Public Works recommended the 'expediency of erecting a Central Railway station and Administrative Offices on the north side of Devonshire Street and extending the railway system to the Colony thereto'.

Mr E O'Sullivan, the Minister for Works and a strong backer of the project, established the [Central] Station Advisory Board, comprising railway experts to "investigate the question of the design and arrangements of the station". The members were:

- The Engineer-in-Chief for Railway Construction, NSW, Henry Deane;
- The Government Architect NSW, Walter Liberty Vernon;
- The Engineer-in-Chief for Existing Lines, NSW, Mr T R Firth;
- The Engineer-in-Chief for Railways, Queensland, Mr H C Stanley; and
- The Chief Engineer for Existing Lines, Victoria, Mr C W Norman.

The Board were to fulfil the wishes of the Minister that: "the building should be a monumental work of stateliness and beauty". The design for the Sydney Terminal Station was to be a collaboration between the Government Architect's Office and the railway engineers. The layout was largely determined by the planning requirements of the engineers, to which an appropriate architectural style was overlaid. Walter Vernon had selected two of his rising architects, Horrie McLeash Blair and John Barr, with the former's Italianate Baroque design selected.[18] The initial scheme did not contain the required accommodation and an enlargement of the building was approved by the minister.

Unfortunately, Thomas Firth would not live to see the official opening of the grand new station on 4 August 1906. During 1902 Thomas was granted extended leave on account of his deteriorating health. In December of that year he was elected Vice President of the Railway and Tramway Musical Society.

Unfortunately, Thomas' health did not improve and he formally retired in March 1903 at the age of 71. He was succeeded as Engineer-in-Chief for Existing Lines by the locally-born engineer, and his son-in-law, James Fraser.

To mark his retirement, he was formally presented with a grand illuminated address at a ceremony on 14 April 1903. The double-sided address depicted three railway construction projects with which he had been closely involved: the Locksley Deviation, Faulconbridge Railway Station and the Wagga Wagga viaduct replacement.

On 20 July 1903, Thomas Rhodes Firth died of Bright's disease (or Nephritis, inflammation of the structures in the kidney) at his home, *Glen Evie*, in Firth Street, Arncliffe. He was 71 years old.[19]

The *Sydney Morning Herald* published the following obituary:

> Great regret was expressed in engineering circles yesterday on it becoming known that Mr. T. R. Firth, late Engineer-in-Chief for Existing Lines, had died in the morning at his residence, Arncliffe. Mr. Firth was born in Yorkshire, England in 1832, and was, therefore, 71 years old at the time of his death. He started his professional career as a pupil of Mr. Rhodes, an eminent civil engineer in London. After concluding his articles Mr. Firth entered the service of Messrs Peto, Brassey, and Betts, at the time an eminent English railway-building firm. He proceeded to France as one of the engineers engaged in supervising railway construction contracts entered into by his firm with the French Government. When Messrs Peto, Brassey and Betts afterwards took up a contract to build railways in this State Mr. Firth was sent out to supervise the works.
>
> In 1863 he left the firm of Messrs Peto, Brassey and Betts and accepted the position of district engineer in the railway construction branch of the New South Wales Railways Department, and had charge of the works then in progress on the Blue Mountains line. In 1873 he was placed in charge of the trial surveys for the southern line to connect New South Wales with Victoria, and subsequently took charge of the construction of the section between Goulburn and Wagga. In 1890 Mr. Firth was appointed chief engineer of the Railway Construction Branch, and five years later, at the request of the Railway Commissioners, was transferred to the Existing Lines Branch, with the rank of Engineer-in-Chief. He held the post until he retired from the service last March.
>
> Possessing the bluff, straightforward characteristics of a north countryman, Mr. Firth was, at the same time, an indefatigable worker who rendered honest service in all he undertook. He was looked upon as a man of the strictest integrity, and his death will be deeply regretted by all who came into contact with him.[20]

T R FIRTH'S CONTRIBUTION

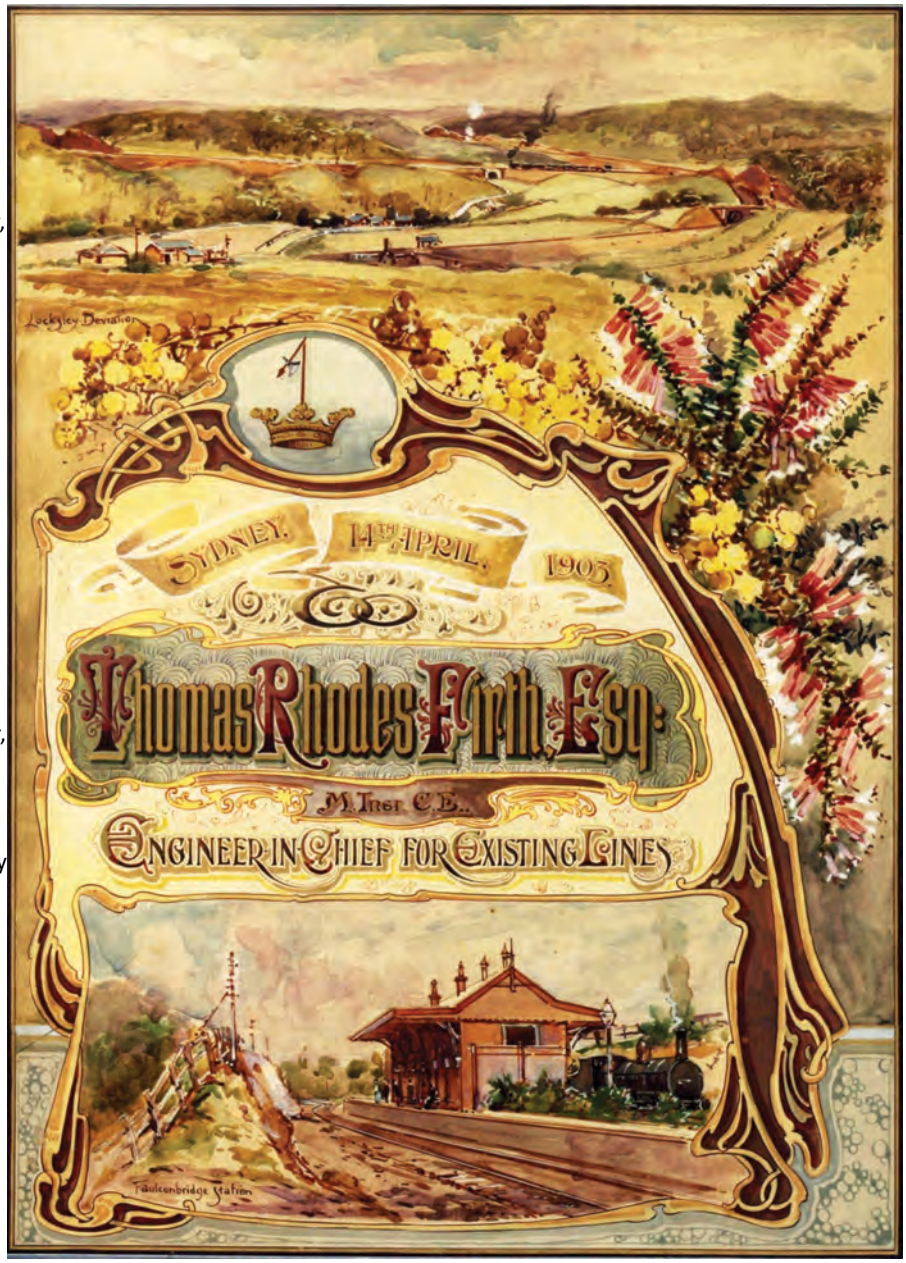
T R Firth had arrived in New South Wales at the dawn of railways in that colony and he played a prominent role in supervising the contractors who built the main trunk railways to link Sydney with its rural hinterland and eventually the railway systems of the neighbouring colonies. In his role as Engineer for Trial Surveys, he undertook field surveys across the colony during the 'Great Railway Years' from 1873 to 1885, covering both the North Coast Line and numerous branch lines.

Thomas Firth's contribution was recognised by senior management and he served as Acting Engineer-in-Chief during 1894 and he was promoted to Engineer-in-Chief for Existing Lines in November 1895. This placed him in the top echelon of Australian railway officials, so he was actively involved in meetings of senior railway managers to address the national challenges facing the various government railway networks. When Thomas arrived in New South Wales, the railway system had just 90 miles of track; when he retired, it comprised 3000 miles. For a man who gave so much in creating and maintaining the railways, there was sadness for his family that his retirement period was so short.

END NOTES

1. *Sydney Morning Herald*, 11 September 1886, Birth Notices; the NSW Registry of Births, Deaths & Marriages records the place of birth as Firth Street, West Botany.
2. *The Sydney Morning Herald*, Friday 23 March 1888, p4
3. *Newcastle Morning Herald & Miner's Advocate*, Thursday 2 May 1889, pp 4 and 6
4. *Brisbane Courier*, Tuesday 25 April 1889
5. *Sydney Morning Herald*, Saturday 9 April 1892, p10

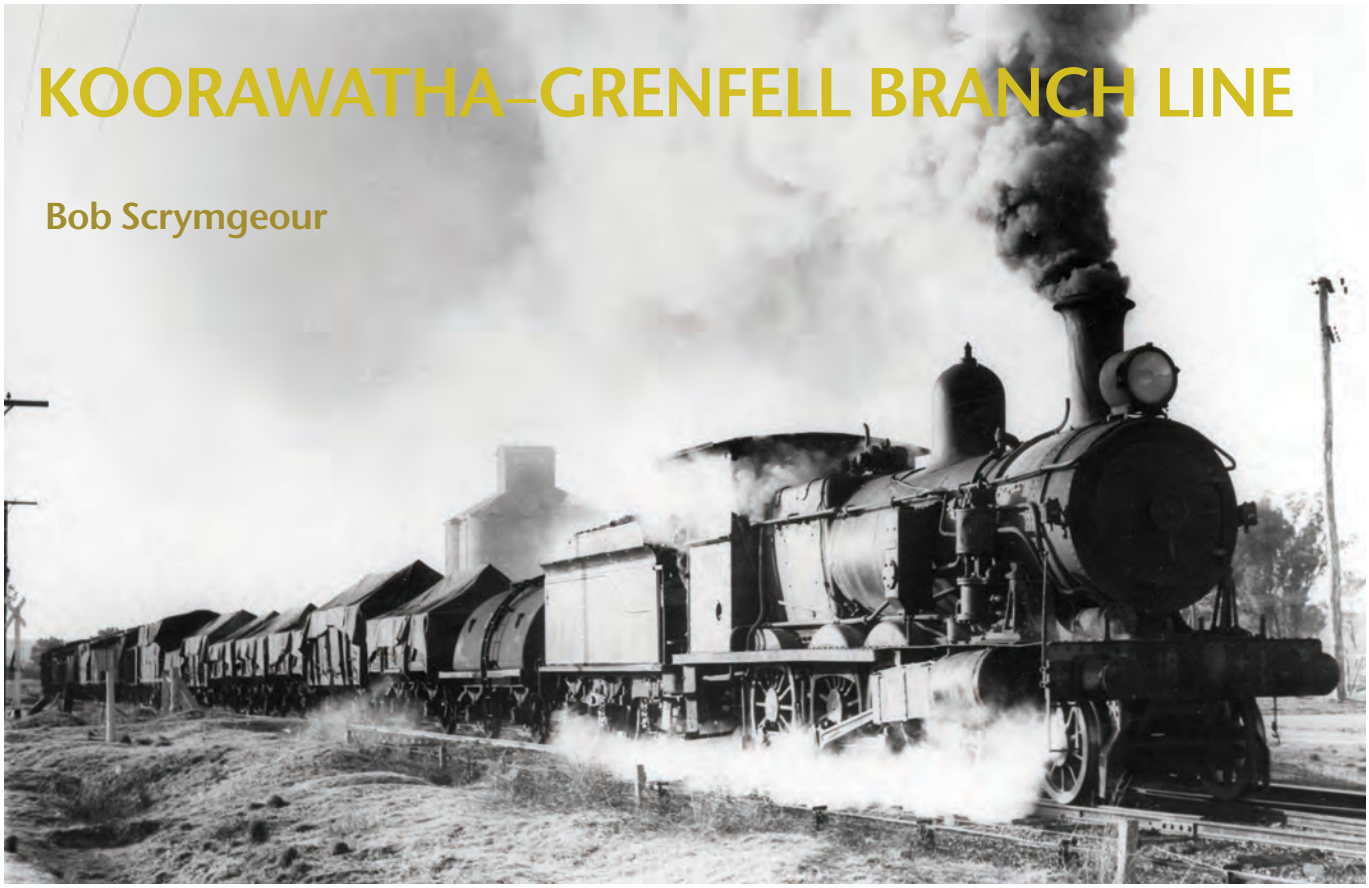
6. *Brisbane Courier*, Monday 2 May 1892, p3, 'How the accident happened'
7. *Sydney Morning Herald*, Wednesday 23 May 1894. p5. 'Proposed Temora—Wyalong railway'
8. *Sands Directory*, 1896
9. *Kiama Independent & Shoalhaven Advertiser*, Saturday 31 July 1897, p2
10. *The Argus*, Saturday 14 August 1897, p7, 'A uniform railway gauge'
11. *Newcastle Morning Herald & Miners' Advocate*, Tuesday 16 November 1897, pp 4 and 6
12. *Brisbane Courier,* 24 April 1899, 'Conference of Railway Officials'
13. *Sydney Morning Herald*, Tuesday 25 July 1899, p3, 'Strathfield Railway Station'.
14. *Newcastle Morning Herald & Miners' Advocate*, Thursday 4 October 1900, p5 and 18 October 1900, p5.
15. *Sydney Morning Herald*, Saturday 16 February 1901, p9, 'Terrible Railway Disaster'; *The Sydney Mail & NSW Advertiser*, Saturday 16 February 1901, p453.
16. *The Sydney Mail & NSW Advertiser*, Saturday 23 March 1901, p708, 'The railway accident'.
17. *Sydney Morning Herald*, Monday 18 February 1901, p8, 'Funerals of the victims'.
18. McKillop, Bob, Ellsmore, Donald and Oakes, John, *A Century of Central: Sydney's Central Railway Station 1906–2006*, Redfern, ARHSnsw Division, 2008, pp 23–28.
19. *Sydney Morning Herald*, 21 July 1903, 'Death Notices'.
20. *Sydney Morning Herald,* Tuesday 21 July 1903, 'Death of Mr T R Firth'.



The front of the illuminated address presented to Thomas Firth on 14 April 1903, with the Locksley Deviation depicted at the top and the Faulconbridge Railway Station below.
Firth Family collection

KOORAWATHA–GRENFELL BRANCH LINE

Bob Scrymgeour



C30T Class 4-6-0 locomotive 3008 offers a spectacular scene as it gets a wheat train underway out of Greenthorpe yard in June 1964.
C H Pratten photo, ARHSnsw Railway Resource Centre, 107187

Grenfell is located in the Central West of New South Wales (NSW) and is described in the railway timetable as being 276 miles 38 chains [444.947km] from Sydney and it has an elevation of 1238 feet [377.3 metres]. It is surrounded by the towns of Forbes, Cowra, Young and West Wyalong. The area has rich soil and supports a vast wheat and grain industry together with sheep and cattle grazing properties. This article describes the politics behind the construction of a railway to serve the Grenfell district, with the final outcome being a branch line from Koorawatha to Grenfell. The construction, operation and demise of the branch line are covered.

BACKGROUND

On 1 June 1815, surveyor George West reached the Lachlan River and John Oxley also explored the same area in April 1817, both men reaching an area close to what was to become the town of Grenfell. Both also reported good pastures in the area.

John Wood was the first squatter in the Grenfell area and moved onto a run called *Brundah* in 1833, located about halfway between Koorawatha and Grenfell. Two notable bushrangers, Ben Hall and Frank Gardiner, saw the potential of the area and staged a hold-up in the 1850s. Gold, however, brought an influx of men in the hope of making their fortunes with *The Sydney Morning Herald* reporting in December 1863 that the Emu Creek area [later renamed Grenfell] gave the appearance of being good gold-bearing country.

So as it happened in late 1866, gold quartz was found in an outcrop which later turned out to be a reef. Within two months large parties of miners and their families had arrived and erected tents and bark huts along the seam and it was reported that by 1867 as many as 10,000 prospectors had arrived. Gold was also being found in gullies and at Quondong three miles to the south-east and by 1868 the district was the largest goldfield in the colony.

Surveyors arrived in 1866 to lay out the town, but had some difficulty as miners were following the seam there. Nevertheless, District Surveyor Edward Twynam drew up the first town plan on 26 February 1867. The settlement, to be called Emu Creek, was laid out in a square with wide streets, except for George Street, which was twisting and only 33 feet wide according to the *Grenfell Record* of 22 September 1867.

Shortly prior to the town being proclaimed, John Granville Grenfell, the Commissioner for Crown Lands for Warrego, was shot by bushrangers whilst riding in a coach on 7 December 1866. He subsequently died of his wounds, and the new town was renamed in his honour on 1 January1867. In that year a wide range of services, including doctors, banks, hotels had been established in the town and its first newspaper, the *Mining Record* first appeared from 15 June 1867. Two days later, one Henry Lawson was born in a tent on the gold fields. The town recognised their famous son by erecting an obelisk on the site in March 1924, two years after his death and the town continues to host an annual Henry Lawson Festival.

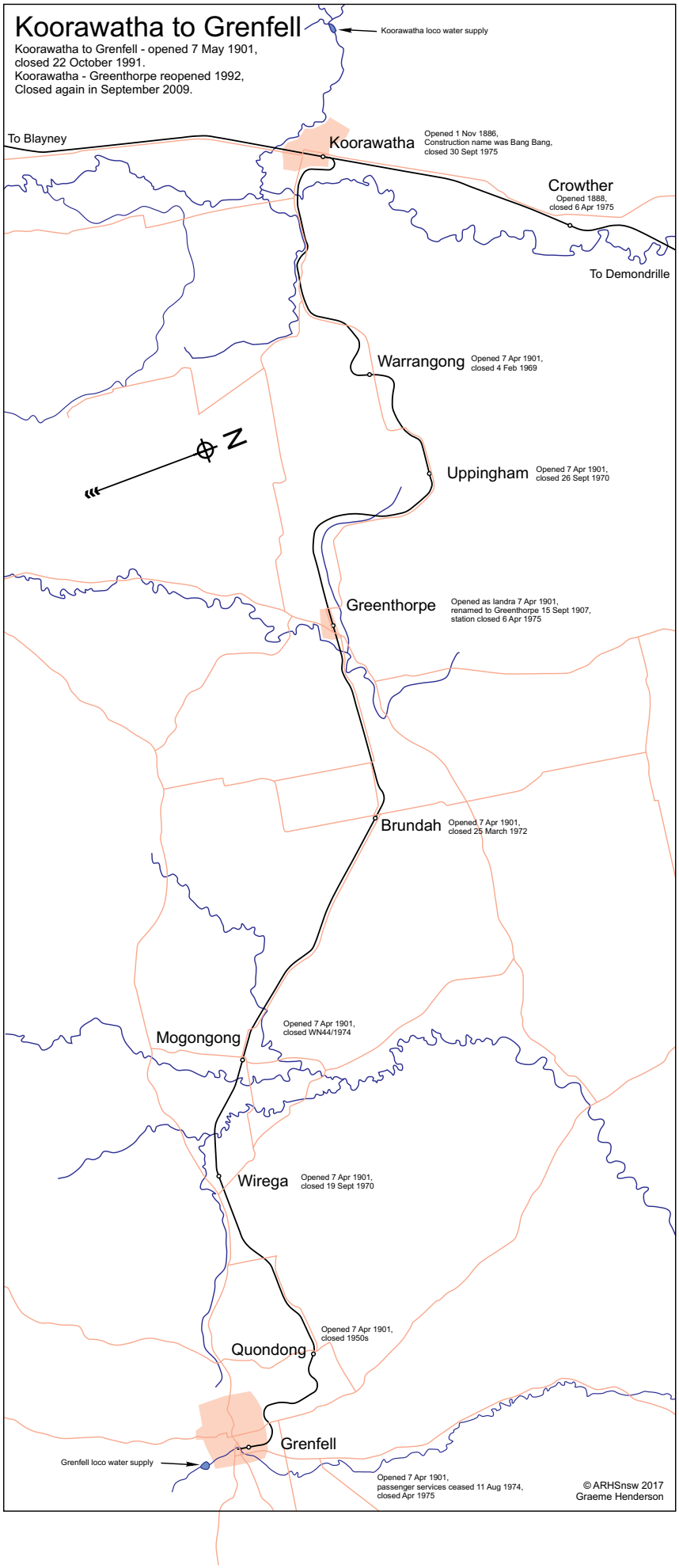
By 1870 gold was becoming harder to find and 'gold harvesting' had petered out by 1875. Wool became the main income source for the Grenfell area and, as transport improved there were hopes for a new 'gold rush' based on the golden grain. By now railways had started to be laid out into country areas and naturally Grenfell's farmers joined in

the politics to gain this benefit as it was taking coach and wagon trips five hours or more to cover the 30 miles to Young. As the Main Southern line from Sydney was opened to Harden–Murrumburrah in 1877, Grenfell locals held a meeting in 1879 at which it was agreed to canvas the district for a petition to be taken around, seeking a railway to be constructed from Orange to Forbes and Grenfell, then continuing Young and Murrumburrah. A reply was received from the Hon. James Watson that a line from Blayney to Murrumburrah would go as close as possible to the populated areas of Young, Grenfell, Cowra and Carcoar. The Grenfell Railway League continued to hold frequent meetings to press on with their original proposal.

The Murrumburrah to Blayney line had been proposed in Parliament in 1881 and the Grenfell Railway League put forward nine reasons why the line should follow their previous proposed route through the town. Unfortunately, the original survey plans for the line between Murrumburrah and Young were destroyed in Sydney's great Garden Palace fire in 1882, making it necessary to again survey that section of the line. That same year a survey from Young to Grenfell was being undertaken and by that September, the surveyors reached Grenfell.

Also in 1882, Messrs O'Rourke and McSharry were awarded the contract for constructing the Murrumburrah–Young section of the line. This was opened at Young on the 26 March1885. Grenfell's hopes were dashed when on 3 February 1885, Fishburn and Company were awarded the contract for the Young to Cowra section, which would follow an alignment east of the town. This section was opened on 1 November 1886.

Agitation continued for a line to Grenfell, but it was not until 9 December 1897 that James Henry Young, the Secretary for Public Works, moved in Parliament that the question of a line, via Young or to Grenfell be referred to the Public Works Standing Committee, which met on 20 December 1897 to investigate the proposal for a line from Koorawatha to Grenfell. The settlement of Koorawatha, adjacent to Bang Bang Creek, had been surveyed in December 1860 and it went to the Executive Council for approval on 15 October 1861.The town was subsequently laid out on the west side of the creek.



PUBLIC WORKS STANDING COMMITTEE ASSESSMENT

The proposed railway was described as the first portion of a proposed line from Koorawatha to Wyalong. It would run chiefly west, crossing the Crowther Range and Tyagong Creek. The Standing Committee had favoured the line commencing from Cowra thence to Grenfell, Wyalong and onto Hillston, but a survey had shown that formidable difficulties would be encountered crossing the Browla Range, rendering commencement at Cowra unsuitable, so Koorawatha was selected as the point for the branch line to commence.

Although the proposed line from Young to Grenfell was twice surveyed, it would be on an acute angle to the existing Blayney to Cowra line, and accordingly, most farming properties it would serve were within six miles either side of the line, so it would serve a smaller wheat-growing area than a line branching from Koorawatha. Furthermore, the cost of this route would add £177 per mile to construction costs.

Residents in the Young district objected to the proposed line from Koorawatha as they considered Young to be the most important town on the Harden to Cowra line and therefore the junction should commence there. Mr Taylor, Chairman of the Young Railway League, claimed that the Koorawatha to Grenfell line would principally pass through the estates of three landholders, one of whom already had a line across his land. He also submitted electoral statistics which revealed a small population along that route, claiming that it would only be used for three months of the year during shearing and harvesting activities. Mr Taylor further submitted to the inquiry that the previous government had promised the railway from Young to Grenfell and had surveyed the line in 1883, reserving 40 chains of land on either side of the survey line. In common with other railway leagues of the period, Mr Taylor claimed that closer settlement warranted the line, which would junction some three miles out of Young at the chilling works. He claimed that the line would serve 69 holdings comprising 115,710 acres from which the wool clip was 1813 bales and 117,000 bushels of wheat per annum, while the population along the route was 811.

The Railway Commissioners had given details of the cost of construction as £89,250, or £3000 per mile, including land and compensation, the latter being estimated at £1000. Of this cost earthworks accounted for £14,233, timber bridges and openings £6109, plates ballast and sleepers £15,904, station works £5568 and station buildings at £6295. Since the original survey it had been decided to place the station one-and-a-quarter miles closer to the town than had previously been suggested. Annual expenditure was given at £5909 made up of £2667 interest on capital at three percent; and per way, locos and maintenance at £3232. Traffic income was given as £3,960 being derived from goods traffic of £2650, passengers £950 and mail at £360. The forecast was therefore a loss of £1949 per annum. Government statistics indicated that in 1896, 2300 acres yielded 213,171 bushels of wheat and within a short time it was anticipated that production would double.

Finally after taking all the evidence, Mr Fegen moved that the proposed Koorawatha–Grenfell line be accepted and the motion was passed on 1 April 1898. On 30 November.1898, James Young moved in the Legislative Assembly that the Koorawatha–Grenfell line be approved and it was carried by 46 to 16 voted. Following the second reading of the Bill in December 1898, the Koorawatha–Grenfell Railway Act No. 41 of 1898 was assented to (later amended to Act 12 of 1900).

CONSTRUCTION

Construction of the Koorawatha–Grenfell line commenced in the midst of the 1890 economic depression. According to the *Grenfell Record* of 25 November 1899, on Wednesday 22nd, there was a large number of men awaiting the arrival of the engineer, who had an appointment on that day, for the engaging of hands to proceed with work on the line. There was considerable disappointment and inconvenience when this officer failed to appear resulting in: 'about one week's loss of work for about 100 men'. The delay was due to the late arrival of the plant, etc.

The newspaper also reported: 'a hum of dissatisfaction of the intelligence that 50 per cent of the labour required would come from Sydney, 25 per cent from Newcastle and only 25 per cent from the unemployed in the local district'. Later that evening a telegram was received from Koorawatha by Mr Wickham stating: "too many men here already. Will try and give Grenfell end a start on Monday if possible."

Construction commenced towards Grenfell in late November 1899 by day labour under the direction of the Public Works Department. Again the *Grenfell Record* reported on 2 December 1899 that:

> An open air protest was held on Saturday evening the 25th November 1899 in front of the Brian Borie Hotel to protest to the Minister for Works against employing only 25% of the men from the Grenfell area to work on the line.130 names had been forwarded to the Labour Bureau and it was believed that 80 to 100 men would receive employment. The meeting was presided over by the Mayor, Mr. Filby. Earlier in the week about 100 men had been engaged about Koorawatha, some 40 at the head of Tyagong, 20 near Brundah woolshed and 20 at One Mile, Grenfell. A start at that place was being made on the east side of the Young road.

Later on the 'big plough', procured from Mr Newman, was put to work and additional hands were engaged, while 'occupations' were to be found for 20 or 30 more drays and horses, besides teams and water carriers.100 men of the Sydney unemployed were due at Koorawatha and there are too many men available although the engineers stated that the earthworks would be completed in four months. The Record concluded by indicating that: 'of the 35 Sydney men 7 had cleared out, leaving the Government minus rail fares, advanced food supply value of 14 shillings'.

By July 1900, construction was well in hand and the works locomotive was travelling over six miles of track. This was laid using 80 pound/yard rail on sleepers costing two shillings each, which were obtained directly from the cutters. Some contracts had been let, including to Mr A Taylor for the supply of timber for bridges, Messrs Epsley and Morgan for bridge piles and Mr F W Kinch to erect trucking yards. The *Cowra Guardian* of 16 June 1900 advised that earthworks on the line had been completed for some time and that plate-laying would be commence shortly. Some 20,000 sleepers had been sent from Temora.

The line was classed as a pioneer line, and so it was unfenced and only earth ballast was used rather than stone

LEFT: Rail motor CHP 38 stands at Koorawatha Station on 30 April 1982.
I K Winney collection, ARHSNSW Railway Resource Centre, 100108

aggregate. By January 1901 the track had reached Grenfell and, although the line had not been officially opened, some 4000 bags of wheat had been transported over it. Initially wheat storage was in the goods shed and other sheds were requisitioned when necessary. The line was formally taken over by the Railway Commissioners for traffic on Tuesday 7 May 1901 (*Sydney Morning Herald*, Saturday 4 May 1901). The *Grenfell Record* of 1 June 1901 recorded that its reporter:

> Took passage on the first train to leave Grenfell under the Railway Commissioners' control and could truly say that the trip to Cowra was a delightful afternoon trip. The carriage was all that could be desired and superior to those on the loop line and were of the vestibule pattern, side corridor with toilet at one end and a smoking compartment at the other. The First Class fare to Sydney and return (via Blayney) was 3 pounds 19 shillings and 9 pence, whereas Second Class was 2 pounds 13 shillings and 3 pence, via Harden the fares were 4 pounds 10 shillings and 3 pence and 3 pounds and 6 pence respectively. The distance, via the west, was 269 miles and the two principal stations being Brundah and Iandra at the latter was a nice station building, in charge of a station master, for whom there was a neat cottage. Fine trucking yards were provided.
>
> Our reporter concluded that the extension taken over on the 7th May 1901 and the line was pioneer type with formation as light as possible and due regard was made to obtaining easy grades. The permanent way was laid with 60 pound [weight] /yard T rails, 8 foot sleepers and earth ballast.

Interlocking was completed at Warrawong, Uppingham, Brundah, Mogongong, Wirrega and Quondong on 29 June 1901.[1] The Koorawatha to Grenfell branch line had been: 'completed and handed over in May 1901'.[2]

Station buildings were at Warrawong, Brundah, Uppingham, Mogongong, Iandra, Wirrega, Quandong and Grenfell. Permanent way [laid] on 60 pound rail on round-top sleepers, earth ballast except bridge ends and station yards. Water supply at Koorawatha and Grenfell and in each case was supplied by gravitation. The steepest grade was 1 in 75 with a 1 in 100 against the load, with ten-chain curves, while the line was unfenced except in station yards. The estimated cost was £92,350, with £95,580 having been expended to date.

OPENING CEREMONY

An official opening ceremony was held at Grenfell on Saturday 26 October 1901. Officials in attendance included the colourful and outspoken Minister for Works, Hon. E W O'Sullivan, accompanied by the then Member for Grenfell, Mr Edward A Holman, Mr William M Daley, Member for Gipps and George Henry Green, MLC, who arrived that morning and were met at the railway station by a crowd of townspeople and school children. A large triumphal arch was erected in the main street and the local mayor expressed pleasure in the ministers' visit. The minister stated that: 'Since he came into office he made a special point of establishing railways in the interior. He believed in light lines as a speedy means of opening up country'. He then broke a bottle of wine, the produce of the district, and declared the railway open, amidst cheers. Mr O'Sullivan was then driven to the Empire Hotel where luncheon was served.

Following an inspection of portion of the area served by the railway, the official party was entertained at a banquet at the local Oddfellows Hall in the evening. Responding the toast to 'The Ministry', Mr O'Sullivan set out

RIGHT: C30T Class 4-6-0 3008 heads a mixed train at Brundah with the Metcalf grain silos dominating the background.
E H Oliver photo, ARHSnsw Railway Resource Centre, 040949

Z14 Class 4-4-0 locomotive 1407 ready to depart from Grenfell Station with a passenger train on 1 August 1940. C C Singleton photo, ARHSnsw Railway Resource Centre, 206154

the achievements of the Government in assisting rural communities in New South Wales. He stated that he did not believe in class legislation, but would assist whenever possible all classes of the community. Interestingly, he concluded his address thus:

> He was strongly in favour of 'womanhood suffrage', and he considered it right and just that they should have a voice in the country's affairs. (Cheers) (*The Sydney Morning Herald*, Monday 28 October 1901).

DESCRIPTION OF THE LINE

Diagrams of the individual station yards are presented on p24.

The line to Grenfell branched away to the west from the island platform at **Koorawatha** (393.596km; alt. 340.8m) and, following a short section on falling grades, a climb of mostly steady grades of 1 in 75 was undertaken to the 100ft-long platform on Down side of **Warrangong** (250m 42ch; 403.18km; alt. 403.2m). A loading bank was also situated on the Down side and a loop on the Up. The siding was opened on 7 May 1901 and closed on 15 October 1969. A 20-ton weighbridge was erected on 25 December 1909, together with an extension of the siding and loading bank.[3] On 7 June 1969 the platform and loading bank were deleted.[4]

Again on rising grades the next station was **Uppingham** (253m 4ch; 407.24km; alt. 455.6m). It also opened with the line in 1901, but the siding was removed on the 12 July 1950 and the site closed on 26 September 1970.

The line proceeded on falling grades of about 1 in 100 through mainly cropping fields to the next station, **Iandra** (257m 66ch; 414.92km; alt. 384.4m) also opened in 1901. It was named after the adjoining 32,000 acre property of wheat country bought by George Henry Greene in 1878. The name was changed to **Greenethorpe** on 15 September 1908 after the property owner; the 'thorpe' suffix allegedly being an old English word for village.

From 1 June 1907 this site opened as a booking station for goods and passenger traffic.[5] (WN 22) The platform was on the Up side and the 1975 Local Appendix indicates it was 44 metres long. A goods shed (11m x 5m) was provided. The station served a large grain-growing area and, to cope with the grain storage, Metcalf silos with a capacity of 4100 tons were built in 1926, while 27,200 tonne capacity bulk-head storage facilities were added in 1969. On 26 March 1926, the Grain Siding, which had temporarily been altered to two dead-end sidings, was converted to a loop and relocated to a new position at the rear of the wheat silos. There were 1560 feet of standing room in the clear in the Grain Siding which is on a grade of 1 in 200, falling for Down trains.[6] Greenethorpe had extensive sidings to cope with the traffic, but the site was closed on 6 April 1975.

On the 15 October that year, tenders were called for the purchase and demolition and removal of the stockyards; and on 9 November 1977 tenders were called for purchase demolition and removal of the 20-tonne weighbridge and filling the pit.[7]

The line fell on gentle grades until flattening out to reach **Brundah** (261m 52ch; 421.09km; alt. 370m). Opened in 1901, grain silos of 1650 tonnes capacity were added in 1932, being situated on the former loop. The platform on the Up side was 30 metres in length. Alas this site too was closed on 25 March 1972.

An undulating run brought trains to **Mogongong Station** (267m 8ch; 429.86km; elevation 366m), which opened in 1901 with a short concrete-faced platform (30m) on the Up side. A movable sheep race capable of dealing with five sheep vans was

Standard Goods locomotive 5597 in the right foreground heads a ARHS tour train as it waits to cross with locomotive 5480 hauling a short mixed train at Koorawatha on 17 October 1964. N J Simons collection, ARHSnsw Railway Resource Centre, 063247

provided, while a 20-ton weighbridge was installed on 13 February 1908.[8] From Tuesday 14 March 1916, the Goods Siding was extended 156 feet at the Greenthorpe end giving capacity for 22 four-wheel vehicles. (WN 11) New sheep trucking yards and portable races were provided at the rear of the Loading Bank in August 1926, giving capacity for six sheep vans without a locomotive.[9]

The Goods Siding was abolished and the interlocking equipment removed on the 19 September 1975.[10] The platform still existed in 1978, but the loop had been removed by that time. This facility also closed on 25 March 1972.

The next stop was **Wirega** (269m 45ch; 433.81km; alt. 372.4m). Four silos of 5450 tonnes capacity were opened on the former loop siding in 1941. Not listed in the 1973 Local Appendix as having a platform, the 1958 timetable made provision to stop at Wirega as required. It too opened in 1901 but was closed on 19 September 1970. On 22 March 1941 the connection from the Main to the Goods Siding (Lever A) was relocated 575 feet closer to Koorawatha and the siding extended to 1038 feet in the clear. The points and catch points at the Koorawatha end of the siding were worked by No. 2 Lever of Frame A fixed on the Up side of the line.[11]

The next to last site was **Quondong** (273m 74ch; 440.340km; alt. 414.5m), which also opened in 1901. The siding was abolished and points and crossings to the Main removed from 23 January 1950, as were the Lever and Bracket locks A and B.[12] The 1958 timetable made provision for the train to stop if required, but closure occurred on 2 December 1967. All aspects of this site had been removed by 1978.

Mixed traffic 4-6-0 locomotive 3063T on the turntable at Grenfell, 18 October 1964.
N J Simons collection, ARHSnsw Railway Resource Centre, 063271

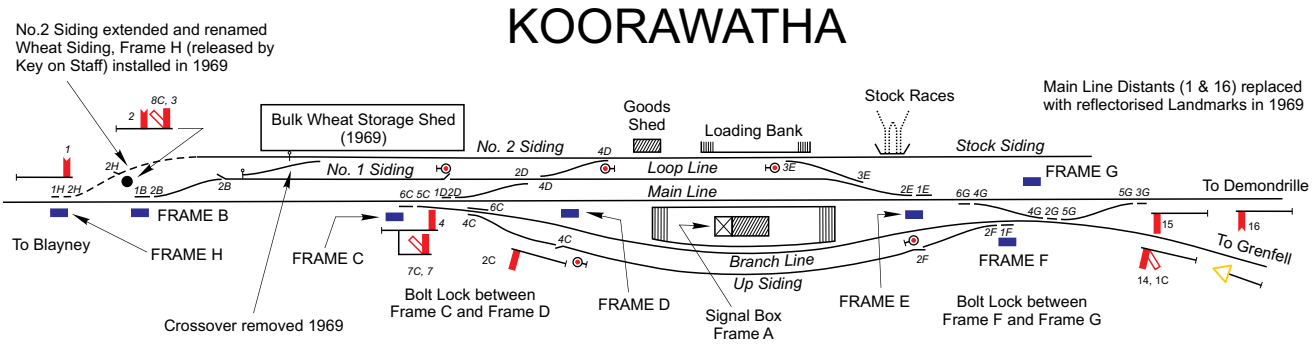
Finally on falling grades the line approached the terminus of **Grenfell** (276m 38ch; 444.95km; alt. 377.3m). Entering the town, there was a livestock siding at 440.29km and the wheat siding at 444.63km. Originally the locomotive facilities comprised a 50-foot turntable, an ashpit (on the turntable road) and a water tank located at the terminus end of the line. The 1973 Local Appendix gives the platform length as 68 metres and an 18 x 5 metre goods shed. Silos with a capacity of 8700 tonnes were erected in 1926 and a bulkhead-type storage facility of 14,950 tonnes capacity was built in 1968, the latter being on the opposite side of the yard. A five-ton goods crane and a 20-ton cart weighbridge were evident in the 1935 yard diagram. A siding branched off the No. 1 goods siding to provide access to the Great Western Milling Company's premises.

The Flour Mill siding was added on 18 March 1902, while the loco dam was strengthened on 8 July 1912 and a weighbridge was installed on 16 March 1903. The Flour Mill siding subsequently became the Great Western Mill Company siding until May 1944, when it became the J J Sullivan P/L siding. In mid-1963 it was altered to Miller's siding.[13] On Saturday 2 March 1912, a new Grain Siding was connected to the Up side of the Main line, inside the Down Home signal and an additional 20-ton weighbridge was erected on 24 August 1912.[14]

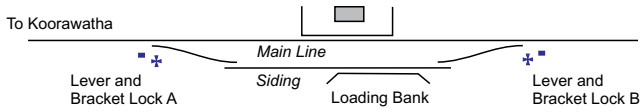
From 11 May 1970 major alterations to the yard were made to accommodate new facilities for the Grain Elevators Board. The stockyards were relocated 16 chains closer to Koorawatha and the new wheat storage sheds were located opposite the site of the old stockyards. The Down siding became a plain loop and the existing stock siding was converted to a double dead-end siding for the Grain Elevators Board, being renamed the Wheat siding, a total length of 1450 feet. A new dead-end Stock siding, approximately 1250 feet long was brought into use on the Down side of the Sydney end of the

Branchline diesel-electric locomotives 4905 and 4916 head No. 7029 wheat train at the grain bulkhead in Grenfell on 4 April 1986.
P MacFarlane photo, ARHSnsw Railway Resource Centre, 007686

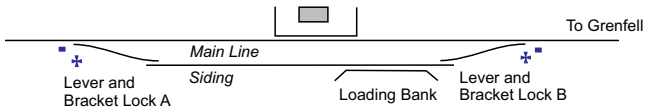
KOORAWATHA



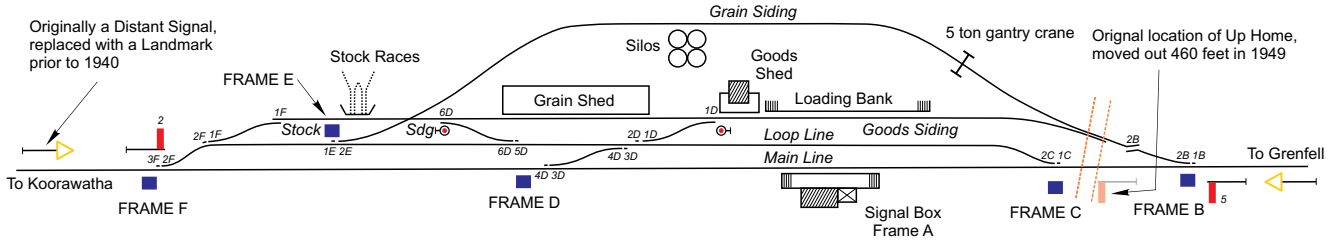
WARRANGONG



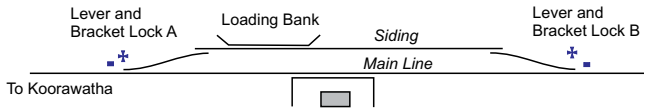
UPPINGHAM



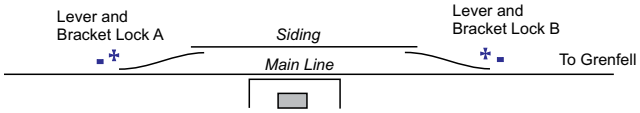
GREENTHORPE



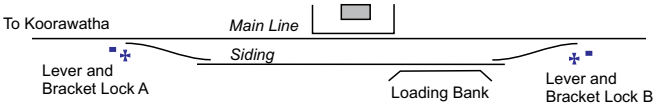
BRUNDAH



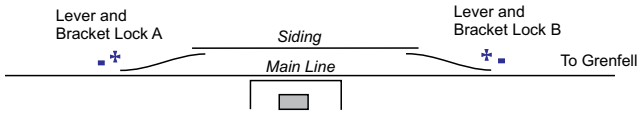
MOGONGONG



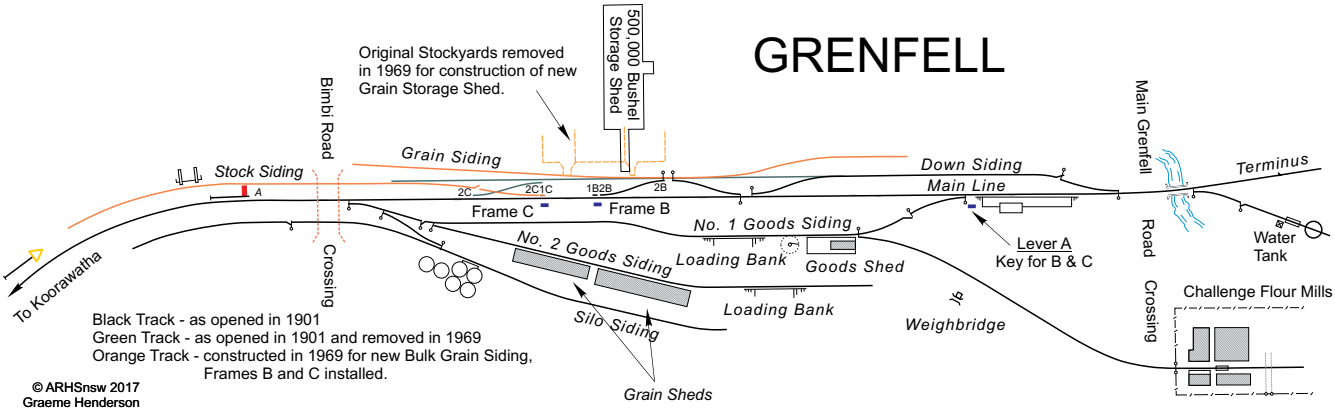
WIREGA



QUONDONG



GRENFELL



Mainline unit 42210 and branchline locomotives 48114 and 4884 couple-up with a string of bogie wheat hoppers at Koorawatha on 10 December 1995. L J Ryan photo, ARHSnsw Railway Resource Centre, 028803

yard. Points faced Up trains at 276 miles 19 chains. Tenders were called on 23 April 1975 for the purchase, demolition and removal of the old Grain Shed.[15] On 4 July 1978, the Ordinary Staff Box was relocated from the Station Master's office to the Goods Shed, only to be relocated outside the Goods Shed shortly after when that facility closed.[16] (*Railway Digest*, Sept. 1978)

TRAIN SERVICES

Following the opening of the line, the initial Timetable showed a daily mixed train to and from Grenfell, via Harden and Blayney as follows:

Down services:

Sydney: depart 7.30pm

Blayney: arrive 3.37am, depart 4.20am

Cowra: arrive 7.05 am, depart 8.35am

Koorawatha: arrive 9.25am, depart 9.55am

Grenfell: arrive 12.10pm.

Up services:

Grenfell: depart 2.00pm

Koorawatha: arrive 4.15pm, depart 4.30pm

Cowra: arrive 5.15pm, depart 5.55pm

Young: arrive 9.05pm, depart 9.35pm

Sydney: arrive 5.40am

The 1902 the Railway Commissioners' Report documents that there were four employees at Grenfell, with 1907 passenger tickets sold, while 7935 tons of outward goods and 2738 tons of inwards goods had passed through the station. An additional 6586 bales of wool had been transhipped.[17] As from 7 May 1904 maximum speed on the branch increased from 25mph to 30mph. An additional service commenced on Monday 30 August 1920, being a mixed train departing Cowra at 7.10am, Koorawatha at 8.53am, Greenthorpe at 10.00am and arriving Grenfell at 11.00am.[18]

Whilst initially trains only ran three days a week, later needs saw the introduction of a six-day a week service, excluding Sundays. Rail motors were introduced in February 1927, but due to heavy passenger bookings it was necessary to implement full passenger trains to meet the demand.

By the 1960s, however, passenger numbers had decreased and serviced reverted to three days a week and ultimately it was the rail motor which again became the main conveyance. These too were dispensed with in February 1972. Thereafter until 11 August 1974, all passengers were carried in the brake van on the thrice weekly service. By 1972 the timetable comprised mixed trains that only operated on Mondays, Wednesdays and Fridays. On Wednesdays there was also a connection from Harden.

Down trains:

Sydney: depart 10.15pm

Blayney: arrive 4.13am, depart 4.40am

Cowra: arrive 6.56am, depart 7.30am

Koorawatha: arrive 8.24am, depart 8.28am

Grenfell: arrive 10.30am.

Up Trains:

Grenfell: depart 1.00pm

Koorawatha: arrive 2.00pm, depart 2.20pm

Cowra: arrive 4.45pm, depart 8.30pm

Blayney: arrive 11.04pm, depart 11.31pm

Sydney: arrive 5.33am.

Trains were restricted to 30 mph in daylight, with a reduction to 20 mph on curves of 15 chains or less. The speed allowed at dark was 15 mph. Trains were predominately operated by 30T Class 4-6-0 steam locomotives. An early diesel roster onto the Grenfell Branch line occurred on the 23 August 1966, when 49 Class diesel locomotive 4915 lifted 687 tons of wheat from Grenfell.

The last regular passenger service to Grenfell ran on 11 August 1974 and Grenfell Station was closed in April 1975. All services were suspended and the line closed on 22 October 1991. The Koorawatha to Greenthorpe section gained a reprieve 12 months later and was reopened to assist with the movement of the annual grain harvest. The line then continued to be closed to trains and reopened for each harvest on an annual basis through to 2009 when the line was permanently closed. Floods in December 2010 damaged the line, particularly sections of the Blayney to Demondrille south of Koorawatha, beyond repair closing the line permanently.

INCIDENTS

In August 1902, burglars broke into the Grenfell Station building and dynamited the safe, getting away with £29 and a cheque for one pound. Another noteworthy event occurred in March 1911, a record load of wheat was driven through Grenfell. Drawn by 34 bullocks, the load comprised 321 bags of wheat, each bag weighing approximately 180 pounds, giving an estimated weight, including the wagon, of 30 tons.[20]

OTHER PROPOSALS

As noted above, the Public Works Standing Committee met in 1899 to consider extending the line from Grenfell to Wyalong. The cost of this project was given as £1,422,292 (equivalent to $203 million in 2013 terms) or £2411 14 shillings and 9 pence a mile. Subsequently this proposal was scrapped but other lines were considered such as Young to Forbes and Grenfell to Forbes. There were also proposals for Grenfell to be incorporated into a railway from Sydney to Goulburn, Crookwell to Koorawtha, then extending to Wyalong and beyond. The Weddin Shire Council proposed in 1912 that a light line be constructed from Grenfell to Bimbi, which in 1899 was reported to have a population of only 380. The village of Bimbi is situated to the south-west of Grenfell, about halfway towards the Stockinbingal to Forbes line.

A proposal from the Warraderry Railway League sought a line from Grenfell to Warraderry, a point some 20 miles north-west of Grenfell. This proposed line would proceed through the Warraderry Valley, between the Warraderry and Warrumba Ranges, towards the Lachlan River. Construction was then to closely follow the main road to Goolagong. The Minister for Public Works, Mr A Griffith, was induced to move in Parliament that the proposal be put to the Public Works Committee on the basis that a wheat belt ran through the Warraderry Valley. The Railway League met to prepare evidence for presentation to the Public Works Committee and some landowners gave an undertaking to give land, free of cost also, to provide fencing and cattle stops and to waive any claims for compensation. Indemnity was also given to the Railway Commissioners against any loss incurred, not exceeding £2500 in any one year.

The Public Works Committee met in 1912 to review the proposal for which the estimated cost of construction to be £5000 per mile, while the Railway Commissioners gave the annual estimated operating costs for the line as £5724, whereas revenue would only be £1100 per year. On 21 October 1913 the Public Works Committee resolved against building the line. The proposal was again put forward in 1938 with a similar outcome.

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Grain Elevators Board, Annual Report, 1976

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- *Grenfell Record*
- *Cowra Guardian*

Local Appendix Western Division,

Ryan, Lachlan, *Lines to the Lachlan*,

Weekly Notices

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Thanks are extended to John Forsyth for his assistance.

END NOTES

1. Weekly Notice, 21/1901
2. *Annual Report of the Public Works Department*, 30 June 1901
3. Weekly Notice, 52/1909
4. Weekly Notice, 23/1969
5. Weekly Notice, 22/1907
6. Weekly Notice, 19/1926
7. *Railway Digest*, December 1977,
8. Weekly Notice 7/1908
9. Weekly Notice, 11/1916; 33/1926
10. *Railway Digest*, July 1976
11. Weekly Notice, 12/1941
12. Weekly Notice, 7/1950
13. Weekly Notice, 47/1944; 20/1963
14. Weekly Notice, 35/1912
15. Weekly Notice, 19/1975; *Railway Digest*, May 1975
16. *Railway Digest*, September 1978
17. *Railway Commissioners Annual Report*, for the year ended 30 June 1902.
18. Weekly Notice, 19/1904; 35/1920
19. *Railway Digest*, September 1966; December 1967
20. *The Sydney Morning Herald*, Thursday 28 August 1902; 17 March 1911.

OPENING DATES FOR THE GREAT WESTERN RAILWAY BETWEEN PENRITH AND BATHURST

Greg Blackwell

When each section was opened, was it opened for all types of traffic?

The answer is no. As indicated in the recent article by Bob McKillop (*ARH*, 947, September 2016), the Great Western Railway between Penrith and Bathurst was **constructed** in sections allocated to different contractors, and the contracts were usually awarded progressively. In most cases, construction of each section commenced before the previous section had been completed, but construction delays or the failure of a contractor in one section had implications for contractors in following sections.

The Great Western Railway was also **opened** in sections, but these were often different to those of the construction contracts. The practice was that, as each new section was completed, a temporary terminus was established near the end of the section at a location that was suitable for the handling of goods, mail or passenger traffic or a combination of these:

- For **goods traffic** the terminus required a location where the main road ran close to the railway (as at Weatherboard, Mount Victoria and Raglan) or crossed the railway line (as at Rydal), or at a place where there was a suitable existing secondary road that connected with the main road and resulted in a significant reduction of the haulage distance by road (as at Macquarie Plains). It also required room to install one or more sidings with loading/unloading facilities, and there needed to be enough level ground for the temporary storage of goods awaiting despatch by rail or collection by consignees and carriers.
- For **mail traffic**, the terminus required a location along an existing mail coach route (as at Weatherboard, Mount Victoria, Bowenfels, Wallerawang and Rydal) or where there was an existing road that connected with an already-established mail coach route and was suitable for horse-drawn coaches (as at Brewongle). The location obviously also had to be suitable for the transfer of mail bags between a railway carriage and a mail coach. Passenger traffic was treated in the same manner as mail. Passengers simply transferred themselves between the train and mail coach (or coaches) or private horse-drawn vehicles.

The priority appeared to be the speeding-up of the carriage of mail and, because trains were faster and more reliable than horse-drawn coaches, whenever it was possible to increase the distance that the mail was carried by rail, this was done. As a result of this policy, a new section was sometimes opened for the carriage of mail and passengers before it was opened for goods traffic. Therefore, with respect to some of the sections of railway listed in the 'Annual Reports of The Railway Commissioners', especially in the early decades of railway construction, the dates of opening are the dates on which that particular section opened for some, but not all, types of traffic.

When were the sections between Penrith and Bathurst opened?

1. **Penrith to Weatherboard:** see page 27.
2. **Weatherboard to Mount Victoria:** on Friday 1 May 1868 for all traffic due to the proximity of Mount Victoria station to the Western Road.[1]
3. **Mount Victoria to Bowenfels:** on Monday 18 October 1869 for mail and passengers.[2] Due to the Postmaster-General apparently not having finalised arrangements for the carriage of the mails by rail from Bowenfels, the daily (Monday to Saturday) mail train continued to run only between Sydney and Mount Victoria for an extra week—until Monday 25 October.[3] Bowenfels was never a temporary terminus for through goods traffic but coaches conveyed mail and passengers from there to Bathurst via Rydal and to Mudgee.
4. **Bowenfels to Wallerawang:** on Tuesday 1 March 1870 for passenger and goods traffic with the intention to commence transferring the mails at Wallerawang on 1 April 1870.[4] As it turned out, the mail trains (and connecting mail coach from and to Mudgee) continued to terminate at, and commence from, Bowenfels until 24 April 1870.[5] From 24 or 25 April, the Mudgee mail coach operated to and from Wallerawang.
5. **Wallerawang to Rydal:** for all traffic on Friday 1 July 1870.[6] The main Sydney to Bathurst road crossed the Great Western Railway at Rydal until it was superseded by the Great Western Highway in 1929.
6. **Rydal to Locke's Platform** (later Locksley): for passenger traffic only on Saturday 20 April 1872.[7] Locke's Platform was never a terminus for through mail or goods traffic due to its distance from the main road to Bathurst.
7. **Locke's Platform to Macquarie Plains** (later Brewongle): for mail and passenger traffic on Monday 1 July 1872 (and goods traffic on Monday 15 July).[8]
8. **Macquarie Plains to Raglan:** on Tuesday 4 March 1873 for mail and passenger traffic.[9] It was not until Monday 4 August 1873 that Raglan became the new terminus for goods traffic.[10]
9. **Raglan to Kelso:** on Thursday 4 February 1875 for mail and passenger traffic.[11] On Monday 22 November 1875, Kelso station commenced handling all goods traffic destined for (and presumably from) Kelso, Bathurst, Hill End, Tambaroora, Wattle Flat, Sofala and Peel. Any goods destined for other places would still be consigned via Raglan station.[12]
10. **Kelso to Bathurst:** on Tuesday 4 April 1876, presumably for all traffic.[13]

Wentworth Falls (formerly Weatherboard) Station in the early 1900s. Note the gas lighting.
N J Thorpe collections, ARHSnsw Railway Resource Centre, 023775

When was the section between Penrith and Weatherboard opened?

I have chosen to discuss the opening of this section separately because it is a lot more complicated than the others and the specific date of opening depends on your definition of that term.

According to the Commissioners' Annual Reports, the 28-mile section of the Great Western Railway from Penrith to Weatherboard (later renamed Wentworth Falls) was opened on 11 July 1867, however, if the definition of 'opening' is the **commencement of regular train services**, then it may have opened at least three days earlier due to an interesting sequence of events.

The sequence commences with the suggestion by the Engineer-in-Chief (John Whitton), sometime before Monday 17 June, that the section be opened for the carriage of mail and passengers. On 17 June, acting upon Mr Whitton's suggestion, the Minister for Public Works (James Byrnes) inspected the line between Penrith and Weatherboard and recommended it be opened due to the 'desperate state' of the Western Road, within ten days if the necessary arrangements could be made.

On Thursday 20 June, the Nepean River flooded and the two punts by which all traffic (including the mails) on the Western Road, crossed the river upstream of the new road/rail bridge, were placed out of use. On learning of this, the Minister for Works arranged that the west-bound mail and passengers on the evening of Friday 21 June, should, as a temporary measure, be taken over the Nepean River by train and up to the foot of Lapstone Hill where the mail coach would be waiting with the mail and passengers bound for Sydney. Shortly after making this arrangement, however, the Minister received a telegram from Penrith stating that both punts had broken their moorings and been swept away, so he determined that the section to Weatherboard Station be opened at once. The carriages ordered for use on the Great Western line beyond Penrith had not yet arrived in the colony, so a suitable carriage would be 'fitted up' for the conveyance of passengers, and arrangements would also be made for the carriage of goods.[14]

Unfortunately, the line was not opened in accord with the Minister's decision because, unbeknown to him, the punts swept away in the flooded river had crashed into and considerably damaged a section of the timber trestle approach on the western side of the Victoria Bridge. The *Sydney Morning Herald* of Tuesday 9 July 1867 reported that temporary repairs to the western approach had been completed sufficiently to enable trains to use the line. The mails and passengers to and from the western districts were now being conveyed by rail as far as Weatherboard Station. The [temporary] train comprised an engine hauling a 'break [sic] van' that had been 'fitted up for the conveyance of the mails and passengers'. It left Penrith after the arrival of the evening mail train from Sydney and waited at the Weatherboard Station for the arrival of the mail coach from Bathurst, before arriving ar Penrith shortly after midnight. This report, therefore, infers that a regular train service to and from Weatherboard commenced on or before Monday 8 July, so should this be the opening date for the section?

The *Sydney Morning Herald* of Tuesday 23 July 1867 states that as well as the damage caused by the punts to the western approach:

> The rush of water was so great that the earth was completely swept away from three rows of piles leaving them suspended in the air by the fastenings which attached them to the superstructure.

The bridge approach trestle had been repaired sufficiently to allow the use of 'the ordinary carriages and a light engine', but it was 'not sufficiently supported to permit of the running of a heavy engine'. The same article also claimed that this section was also open for the carriage of goods. The *Sydney Mail* of Saturday 27 July announced that:

On and after 22 July, one Down train and one Up train would run daily (Sundays excepted) between Sydney and the Weatherboard Temporary Station for the conveyance of passengers [and presumably mail].

It may be inferred from these two reports that the use of the regular (as opposed to the makeshift) carriages commenced on Monday 22 July, so should this be the opening date?

If by the word 'opened', we mean **'handed over from the contractor to the Government'**, then, according to a report on the progress of railway construction in the *Sydney Morning Herald* of Wednesday 23 October 1867, the Penrith to Weatherboard section did not open until the end of October or the beginning of November 1867. The report included the following statements:

- That portion of the Western line lying between Penrith and the Weatherboard, which has been opened for the mail and goods traffic for some weeks, will be taken over from the contractors next week, and additional trains will then run every day.
- (Also in the Legislative Assembly on 4 October), Mr Byrnes said that: 'As soon as the line was placed in the hands of the Government, there were three or four different sites between Penrith and the Weatherboard that would be fixed upon for the erection of platforms, and the timetable would include each stopping place, one of which would be near the residence of Mr Wascoe'.

Finally, to make matters even more confusing, the *Sydney Morning Herald* announced on Saturday 30 November 1867 that two trunk line extensions were to be opened that day—the Great Southern line between Mittagong and Moss Vale, and the Great Western line between Penrith and the Weatherboard.

The newspaper did not specify the type of traffic that these lines were now open for but, as discussed above, mail and passengers seem to have been conveyed regularly to and from Weatherboard from about 8 July and goods traffic since around 22 July. So the question remains: what is the correct opening date for the section of the Great Western Railway between Penrith and Weatherboard Station?

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1. *Sydney Morning Herald*, Saturday 2 May 1868, p7; Commissioners' Annual Reports.
2. Commissioners' Annual Reports and *Sydney Morning Herald*, Friday 5 November 1869, p6.
3. *Sydney Mail*, Saturday 23 October 1869, p5.
4. *Sydney Morning Herald*, Saturday 5 March 1870, p4; Commissioners Annual Reports; Government Notice in the *Sydney Morning Herald*, Friday 4 March 1870.
5. Government Notice in the *Sydney Morning Herald*, Friday 22 April 1870, p8.
6. *Sydney Morning Herald*, Wednesday 13 July 1870, p10; Commissioners' Annual Reports.
7. *Sydney Morning Herald*, Friday 26 April 1872, p3.
8. *Empire* (Sydney) Saturday 29 June 1872, p2.
9. *Empire* (Sydney), Tuesday 4 March 1873, p2.
10. *Sydney Morning Herald*, Tuesday 5 August 1873, p4.
11. *Sydney Morning Herald*, Saturday 13 February 1875, p9.
12. *Sydney Morning Herald*, Thursday 25 November 1875.
13. *The Sydney Mail and New South Wales Advertiser*, Saturday 8 April 1876, p466.
14. The *Sydney Mail*, Saturday 22 June 1867, p4; *Sydney Morning Herald*, Friday 21 June 1867, p4.

Letters

Short Letters around **250 words** and submitted by email are preferred

The NSW Railways 'O' gauge model railway

ARH 952, February 2017

I read with great interest, Chris Banger's article on the 'O' scale layout at the Royal Easter Show. He also made reference to the layout's replacement in the 1960's, which was a 'HO' scale layout.

Well, I thought you and your readers, might be interested to know what became of that 'HO' layout. It was displayed each year at the show, then packed into boxes and stored at the Chullora Workshops. At some time in 1980s, one of the boxes it was stored in was destroyed in a fire. Shortly after, the layout was sold at auction and was bought by the Cowra War Museum. Being minus one of the boxes, it could never be restored in the same configuration as it was in its Easter Show days.

Doug Stewart, a local Cowra identity, came to the rescue and, along with three or four others, rebuilt the layout, utilising what they had on hand. The rebuild was completed by 1993 and the model railway became a feature exhibit at the museum.

Sadly, Doug passed away in 1998 and the one person who loved and cared for it the most, was gone. After that, the layout gradually fell into disrepair and by 2010, it was no longer operational.

In April 2016, I was asked if I could "rescue it". When I first saw the model's condition, I was horrified at the state it was in. Anyone with a lick of sense would have written it off, but blindly undaunted by the task, my partner, Tam, and I, decided to give it a go. We cleared the layout down to its bare bones and then assessed what could be salvaged, what could be repaired and what had to be trashed. It took a month to clear it off and sort it out. None of the trains were operational, nor were the controllers or the tracks. Indeed, there was no power whatsoever. In the end, we decided that the only option was to completely rewire the layout. All the rewiring was carried out by my lady, Tam.

I repaired the locomotives that were repairable, and I rebuilt the controllers. The track work was also reworked to allow for a four track continuous loop operation. Once all that was done, we decided to give the layout's scenery a complete make over. Doug Stewart had divided the layout into two sections. We worked on the largest section, which measures 33 feet by 13 feet. The entire layout measured 54ft x 13ft.

Unfortunately, we did not get to complete our task. We had worked on it, nearly every day, for ten months and the section was operational and 95 per cent completed, but in early 2017 the owners of the museum decided to close the doors and sell the contents at auction, including the model railway layouts. So, after all that work, we had to down tools and walk away. We can only hope that someone will buy this wonderful set-up and continue to operate it.

I have attached some photographs of the layout, including one of Doug Stewart with it in 1995.

Dallas Nyberg, Cowra NSW 2794

The former NSW Railways 'HO' gauge model railway under restoration at the Cowra War Museum in April 2016 and January 2017 (above) and (below left) with Doug Stewart operating it for visitors in 1995. COURTESY DALLAS NYBERG

Correction March 2017 *ARH*

The caption for the bottom photo on page 26 repeats the caption of the image on page 27. The correct caption for the page 26 image is: Standing on the formation and looking with the line heading towards the mine site. The curvature can be seen in the centre of the view and going to the left.

Ken Café's letter regarding the apparently anomalous numbering of the platforms at Museum and St James requires explanation. In fact they ARE numbered consistently with the general method – face Central and number from your left. The contentious issue is which way you look at these City Circle stations to 'face Central'. Bradfield makes it clear in his 1926 paper read before the Sydney Division of the Institution of Engineers Australia, and reprinted by ARHSnsw in 1987, that one must face Circular Quay. In his description of the work he names the two stub lines then in use as the Up City East and the Down City East. He writes on page 339:

'The Down City East tunnel on the eastern side descends on a grade of 1 in 150 to pass under the two Eastern Suburbs tracks to a point adjacent to Park Street and thence on a rising grade of 1 in 56 to St James station...'

That is unquestionably the line we now know as the City Outer, and the line which most of us standing at St James or Museum would regard as the 'Up' line, but it isn't. Perhaps the difficulty of the nomenclature, and we would have had the Up City West and the Down City West and who knows what at Circular Quay, led the powers that be to adopt the perfectly clear 'City Outer' and 'City Inner' at an early date. Nevertheless, by Bradfield's word, and who can dispute that, the platforms are correctly numbered.

Bill Phippen, ARHSnsw RRC Manager

Railway Resource Centre photo, February *ARH*, page 10

The photograph of Wagga Wagga Station on page 10 of the article, 'Thomas Rhodes Firth: Railway Engineer', has a clear label 'WAGGA' and is captioned as such in the ARHSnsw Railway Resource Centre database. Thanks to Tony McIlwain, it is clear that the photograph is actually of Tamworth Station and the details for this image are being updated to reflect this.

We have sourced three early postcards of Wagga Wagga Station from the John Newland collection, together with the 1879 NSWGR drawing for the station building and the most suitable of the postcards and the drawing are reproduced below.

While there are similarities between the two station buidings, it is evident that the station building on page 10 of the February *ARH* has three gables, while the Wagga Wagga Station has only two

RIGHT: Postcard of Wagga Wagga Station in its early days with a four-wheel van in the dock platform in the foreground and the goods shed in the background.
JOHN NEWLAND POSTCARD COLLECTION

BELOW: The 1879 drawing of the station building for Wagga Wagga with signatures of the contractor and John Whitton.
ARHSNSW RAILWAY RESOURCE CENTRE

The reverse side of the grand illuminated address presented to Thomas Rhodes Firth on 14 April 1903 featured the replacement Wagga Wagga Viaduct, together with an extended message and the signatures of the presenters. FIRTH FAMILY COLLECTION

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