NUMBER 252
ISSN 0 727 8101

DECEMBER 2016
$7.95 Recommended retail price only

LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways

Light Railway Research Society of Australia Inc.

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Distributor: Gordon and Gotch Limited.
ISSN 0 727 8101, PP 100002829
Printed by Focus Print Group.

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Imperial to metric conversions:

1 inch (in)	25.40 millimetres
1 foot (ft)	0.30 metre
1 yard (yd)	0.91 metre
1 chain	20.11 metres
1 mile	1.60 kilometres
1 ton	1.01 tonnes
1 pound (lb)	0.454 kilogram
1 acre	0.4 hectare
1 horsepower (hp)	746 Watts
1 gallon	4.536 litres
1 cubic yard	0.765 cubic metres
1 super foot (sawn timber)	0.00236 cubic metre

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Contents

Editorial

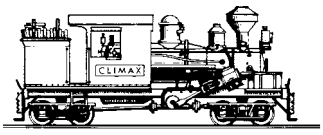
The new Editorial team has settled in well and we look forward to producing many more editions of the magazine. However, all good teams need to look forward and have a succession plan in place. The Editors are interested in having a "younger" person to work with us in the role of another Associate Editor. This will not be an onerous role, rather we see it as one of support to us, but to be part of the team and to learn the ropes of producing this magazine. If you are interested, please send me an email at editor@lrrsa.org.au and we can discuss it further.

Since the last edition was published, David Fitzsimons, one of our Heritage and Tourist Editors, has advised me that due to changes in his work conditions he will be resigning from the team. On behalf of the Council and all members I would like to say a big thank you to David for all his work on the magazine over the last 3 years or so.

Finally, on behalf of the Editorial team I would like to thank all the authors and other contributors to the magazine for their support during 2016, and to wish all our readers a very Merry Christmas and a safe and happy new year.

Richard Warwick

Front Cover: *South Maitland Railways 10 class No. 19 hauls its load of empty non-braked wooden hoppers up past the old East Greta Colliery at Gillieston Heights as SMR No. 24 heads back to the exchange sidings with a loaded train. January 1971. Photo: John Phillips*



Light Railway Research Society of Australia Inc. A14384U
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www.lrrsa.org.au

The Light Railway Research Society of Australia Inc. was formed in 1961 and caters for those interested in all facets of industrial, private, tourist and narrow gauge railways in this country and its offshore territories, past and present.

Members are actively involved in researching light railways in libraries and archives, interviewing knowledgeable first-hand participants and undertaking field work at industrial sites and in forests.

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Articles, letters and photographs of historical and current interest are welcome. Contributions should be double spaced if typed or written. Electronic formats accepted in the common standards.

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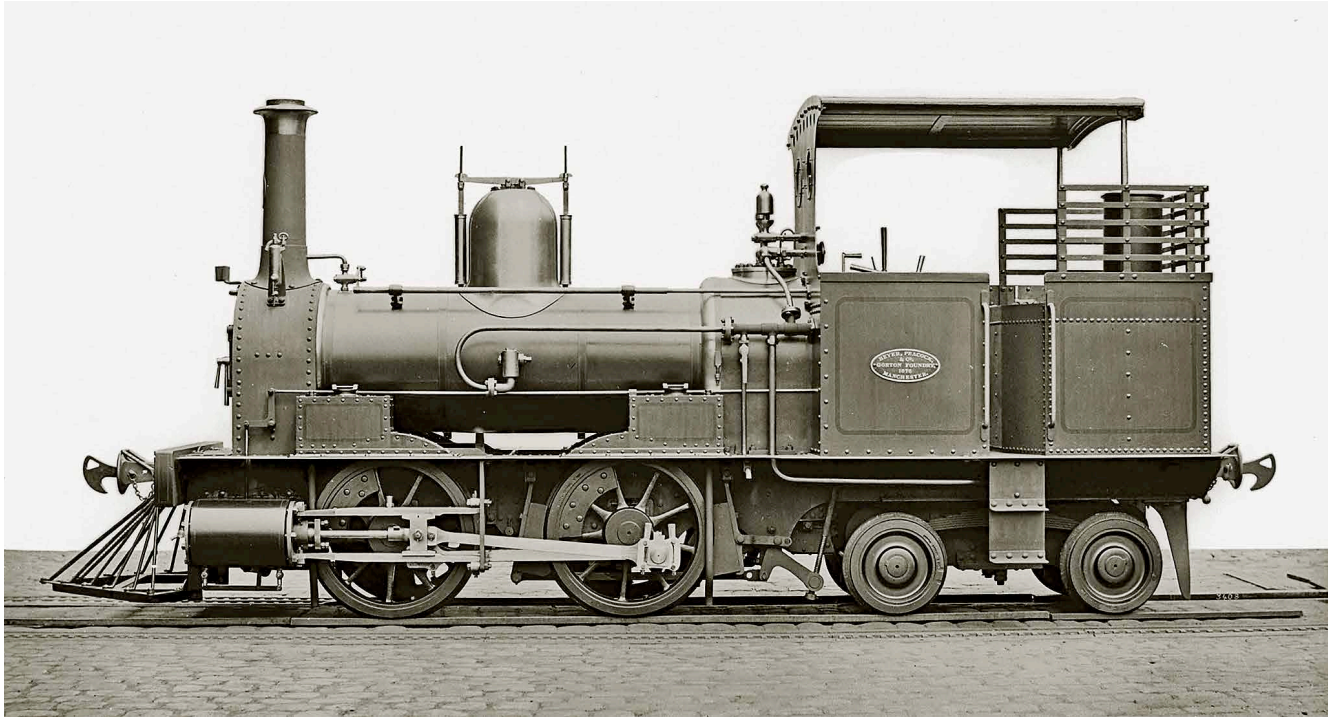


Builder's photograph of the South Australian V class 0-4-4BT locomotive built specially for the Kingston – Naracoorte railway.
Photo: Museum of Science & Industry/Science & Society Picture Library

The horses didn't have a chance

The Kingston–Naracoorte Railway in the 1870s – Part 1

by Frank Stamford

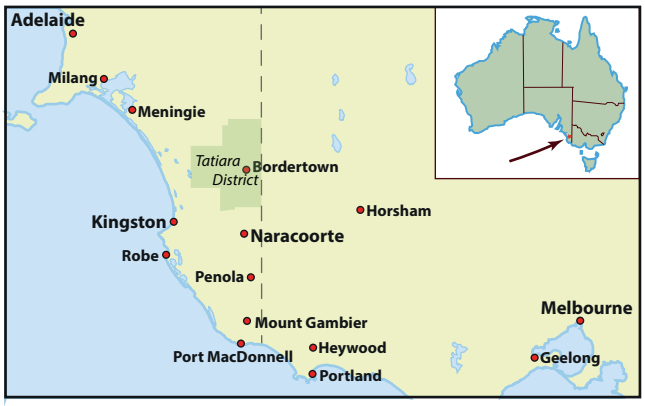
It was pleasing to see in *Light Railways* No.243 the photograph of South Australian Railways V class 0-4-4T locomotive No.9 preserved at Naracoorte. These locomotives, and the story behind them, have always intrigued me. With a maximum axle load of only 4 tons 7 cwt they were the lightest locomotives ever used for mainline work (as opposed to shunting or industrial use), in Australia. The locomotive deserves its place of honour in Naracoorte, for the V class brought a period of prosperity and growth to the town within a few months of their arrival.

The traditional story has been that these locomotives were obtained to replace horses on the Kingston–Naracoorte railway, and that both the horses and the V class proved unsuccessful in that role. However previous articles have been vague with details of just how the horses and V class failed. No wonder. They did not fail! Thanks to Trove, the National Library of Australia's digitised newspaper project, it has become possible to find how well the railway served the local community. Both the horses and the V class seem to have been ill-served by history.

The location

Naracoorte is an inland town in south-eastern South Australia surrounded by a large area of agricultural and pastoral land, particularly to its north, south, and east. (It was sometimes spelled Narracoorte in the nineteenth century, the *Narracoorte Herald* retaining that spelling until January 1948). Its development was retarded by the lack of easy access to a port to allow export of wool, wheat and other agricultural products. The nearest port was at Lacepede Bay (at the township of Kingston), about 85 km to the west. This was the only port in the south-east to provide secure anchorage for all kinds of ships, including those which could take the valuable wool cargoes directly to English markets. Unfortunately goods had to be carried by lighter to big ships, as the jetties at Kingston were in shallow waters. But other ports in the south-east were a graveyard for ships, at Robe, for example, on Guichen Bay, there were wrecks of eight vessels by 1861, most of them large three-masted ships.[1]

Lacepede Bay was adjacent to the town of Kingston, which had been built on private land. Establishment of a town and port at Kingston was started in 1858 by the brothers Archibald and James Cooke who had already taken up a pastoral run in the Maria Creek area in 1851. The town was named after George Strickland Kingston, a high-profile South Australian investor and politician at that time. Kingston provided finance to help establish the township and its first jetty, but he did not live there.[2] Surveying of Kingston as a township occurred in four stages: in 1858 the original private town of Kingston; the government town of Kingston in 1861; the Cookes' town of Lacepede in 1867 – which was an extension of their existing private town; and the government's Rosetown in 1877 – which was an extension of the government town of Kingston across Maria Creek. In 1865, when the government declared the jetty at Kingston an official port, they called it Port Caroline.

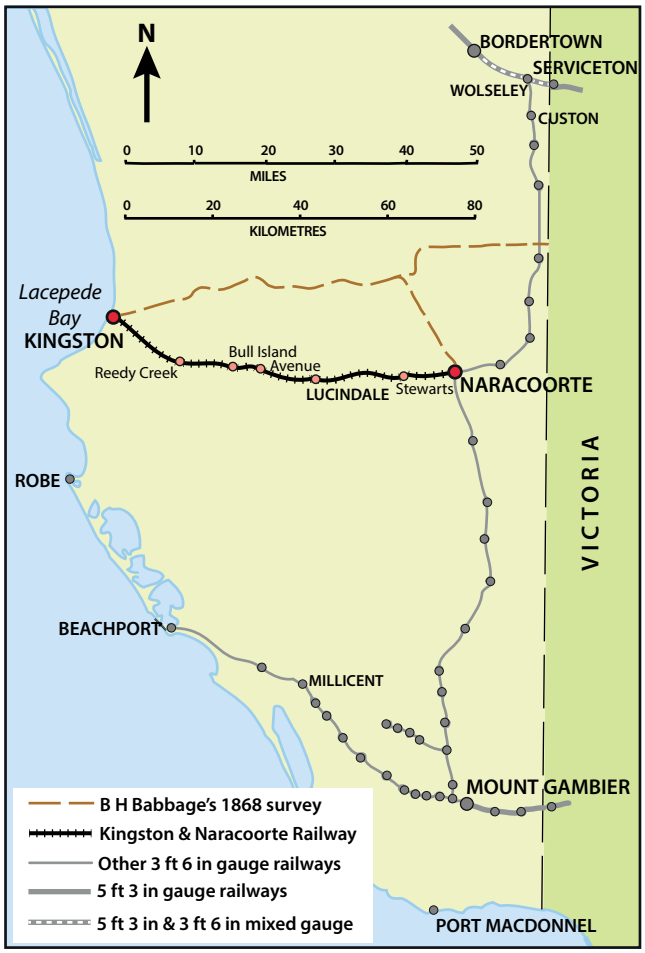


The need for so many names for so small a locality is obscure, and in practice the name Kingston is applied to the whole area.[3] (To complicate matters, there is another town called Kingston in South Australia, on the Murray River. To avoid confusion the towns are officially referred to as Kingston SE, and Kingston-on-Murray. This article refers only to Kingston SE.)

The 85 km between Kingston and Naracoorte was generally poor country, mostly unsuited to pastoral or agricultural activities, and provided a daunting barrier to road transport, both in winter and summer. Although very flat, it is crossed by a series of sand ridges (called 'ranges') which are former coastlines. Many considered it the worst country to travel through in the whole colony. In summer much of the distance was deep, dry sand, and in winter much of the route was over flats for miles in succession, covered with water up to the horses' knees.[4] The usefulness of the land was subsequently improved by extensive drainage schemes, the first of this work being carried out by Jon Rogers, the engineer for the Kingston – Naracoorte railway construction.

In the adjacent south-western corner of Victoria, settlers were seeking an outlet for their produce, and Portland seemed to be the obvious place. Since the government in Melbourne was unsympathetic – it wanted all exports to go through Melbourne or Geelong – there was an attempt by the locals to build a horse tramway from Heywood to Portland (see LR 144) but it was not completed. Those in Kingston and Naracoorte were well aware of this, and also that Kingston was a much closer port to the area than either Geelong or Melbourne.

Because the governments in both Adelaide and Melbourne were unresponsive, some of the settlers of south-east South Australia and south-west Victoria combined in a desire to separate from their parent colonies, and establish a new colony to be called Princeland, with a capital at Gambierton (Mount Gambier). Their efforts were unsuccessful, but the proposal did demonstrate the extent of frustration in the region with the apparent lack of interest by their governments in the region's needs.



At this time lightly populated countries were grappling with the problem of the cost of building railways, and many apparently viable proposals were put forward in Australia and overseas for low cost horse-hauled railways. For example, in New South Wales strong arguments were made to build all the country railways as horse-hauled lines, even the main line from Campbelltown to Albury. These ideas, which resurfaced a number of times in the 1860s and 1870s were eventually dropped when John Whitton (Engineer in Chief, New South Wales Government Railways) presented figures to prove that the traffic available could be more economically handled by a conventional standard gauge railway.[5] One notable horse-drawn line was the wooden railed 3 ft gauge Burnie – Waratah line in Tasmania, which was 45 miles long. Opened in 1878 it lasted six years before being rebuilt as a conventional 3 ft 6 in gauge railway.[6]

Faced with many demands for railways, and very limited resources, the South Australian government was one of the most imaginative in its search for cheaper ways to provide effective transport. It built and operated more horse-hauled railways than any other Australian government, and the first public railway to be opened on the Australian mainland was the horsehauled 5 ft 3 in gauge Goolwa – Port Elliot line early in 1854. With later extensions this developed into a 31½ mile horsehauled system, which was converted to steam in 1884-85.

On 16 October 1867 the South Australian parliament passed the Mount Gambier and Narracoorte Railway Bill, but nothing was done to carry out its construction at that time.[7] There was no unity of purpose amongst the south-eastern townships as to how the ports, roads, and railways should be developed. Mount Gambier wanted Port MacDonnell developed. This port facilitated sale of their produce to Melbourne, where they could get higher prices. Adelaide interests did not want this – the closer the south-east's major port was to Adelaide, the more likely Adelaide would get the business. This was one factor favouring the building of a railway to Kingston. Another was that it provided the safest anchorage.

In 1868 a government survey was made by B H Babbage for a line from Kingston, running 67 miles north-east, terminating at the Victorian border near Lake Cadnite. Commencing near the 43 mile post there was to be a 17 mile branch to Naracoorte.[8] The prime purpose of this line was to tap the western Victorian traffic. Giving Naracoorte access to a port was secondary.

In November 1869 a Bill was introduced for a locomotive-operated tramway between Lacepede Bay and MacDonnell Bay via Naracoorte, Penola, and Mount Gambier. After some administrative problems it was eventually passed in the lower house, but before it could be passed in the upper house there was a political crisis and it lapsed.[9]

From a mudhole to a desert with scrub in between…

Finally in August 1871 the Commissioner for Public Works, the Hon. John Carr, introduced a Bill for a railway from Lacepede Bay to Naracoorte.[10] By this time the South Australian government had a number of successful horse-hauled railways in operation, but they were all shorter than the 52 miles of the proposed new line. The line was not expected to carry a lot of traffic, at least initially, so the Bill specified a

The Meningie – Kingston mail coach. The mail coach departed Adelaide at 6.00pm and arrived at Milang at midnight. At Milang the passengers and mail transferred to a steamer which crossed Lake Alexandrina and Lake Albert. It provided the passengers the luxury of bunks to sleep in, and arrived at Meningie at 5.15am, where a transfer was immediately made to the Kingston coach. With stops for meals and changes of horses, Kingston was not reached until the evening. From there, another coach travelled through the night over the hazardous road to Naracoorte. At Naracoorte coaches went on to Mount Gambier, Bordertown, and Melbourne via Hamilton. Photo: State Library of South Australia B54905

horse-hauled railway of 3 ft 6 in gauge. Interestingly, two years earlier John Carr, (prior to becoming the Commissioner of Public Works) had opposed a Kingston – Naracoorte railway with these words:

> If a railway was to be made, there should be some attempt to show that there was traffic, that there was population, that there were roads to supply the railway, and they had no right to make a railway from a mudhole at one end to a desert at the other, with scrub filling up the space between.[11]

Although 5 ft 3 in gauge was the established gauge in South Australia, 3 ft 6 in gauge was adopted in this case for three reasons: it was perceived to be cheaper; it was isolated from the existing 5 ft 3 in gauge lines; and it was believed Victoria was to adopt 3 ft 6 in gauge for its proposed new railways in western Victoria.

Victoria was seriously considering the use of 3 ft 6 in gauge at this time, but this idea lapsed when Thomas Higinbotham, Chief Engineer of the Victorian Railways, presented figures showing that the expected savings from the narrower gauge were small, and not sufficient to justify either break-of-gauge problems or converting the existing system to 3 ft 6 in gauge.[12]

The use of 3 ft 6 in gauge in South Australia was very contentious. Its adoption for this, and other lines in South Australia went against the wishes of both the lower house of parliament and railway management. Despite this a very influential member of the Legislative Council – Captain Charles Bagot – was a strong advocate of 3 ft 6 in gauge, as a result upper house approval of many railway bills could only be obtained if 3 ft 6 in gauge was adopted. Bagot dismissed the break of gauge problem on the grounds that the narrow gauge lines were of a local nature and would never be connected to other lines.[13]

At least some of those proposing the railway saw it forming the start of an important inter-colonial link to Victoria and New South Wales. Some could even foresee the mails from England being delivered to Kingston for forwarding by rail to Melbourne and Sydney. At that time the overland mail route from Adelaide to Melbourne went through Kingston and Naracoorte, and the overland telegraph line took the same route. They therefore assumed the intercolonial railway, when built, would take this route instead of crossing the Mount Lofty ranges.

As a demonstration of the lack of unity in the south-east, after the Bill passed in the House of Assembly (the lower house), the following petitions were received by the Legislative Council (upper house):[14]

- From 363 "inhabitants of Mount Gambier" *against* the railway
- From 231 "inhabitants of Robe Town and vicinity" *against* the railway
- From 285 "residents of the District of Penola and its vicinity" *against* the railway
- From 286 "inhabitants of Kingston, Naracoorte, &c" *in favour of* the railway

Despite these petitions, the Bill passed and was given Royal Assent on 23 November 1871. The amount authorised to construct the line was £160,000. The survey was completed by June 1872. The plans presented to Parliament in July 1872

Part of the main street of Naracoorte in 1878. *Photo: State Library of South Australia B21766-185*

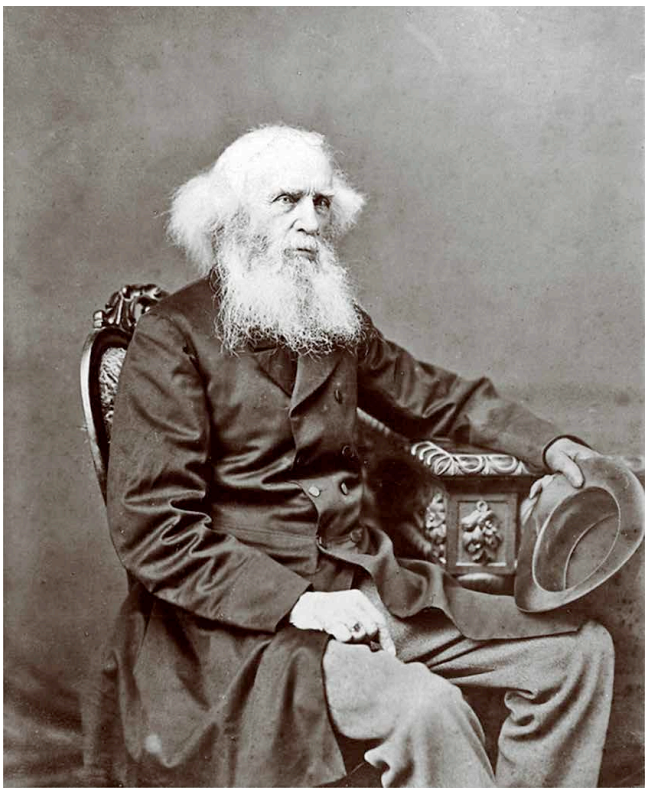
by the Engineer-in-Chief, HC Mais (Henry Coathupe Mais, 1827-1916) specified that stations would consist of stables and goods sheds, with a small shed for passengers, all of "very simple and economical character". The rolling stock would consist of "two passenger cars, about fifty goods trucks, and twenty-five horses". The permanent way would be adapted to horse traction only, and "would not be designed to ultimately carry a locomotive engine". The rails would be 30 lb/yd, however alternative estimates were given for 35 lb/yd and 40 lb/yd rails.[15]

In March 1873 tenders were called for the construction of the earthworks. At some stage the decision was made to use 35 lb/yd rails, which may explain a newspaper report to the effect that the line was designed for horse traffic, and it was said that although the works were not heavy enough for locomotives of the usual weight travelling at the normal speed, "it is thought that the line will be suitable for a light engine going at a slow rate should it ever be necessary to use steam instead of horse power upon it".[16]

Construction commenced in April 1873. All work, with the exception of laying the track, was done by contractors. The work did not proceed as quickly as expected due to the difficult conditions and shortage of labour. Track laying commenced in April 1875 and was finished 12 months later.[17] The trackwork and buildings at stations and sidings came later.

The argument against horses

One of the most vocal supporters of the railway was the co-founder of Kingston, businessman James Cooke, who saw it as being potentially an outlet for a vast amount of traffic from western Victoria. On 18 July 1873 the *Southern Argus* published a letter from him in which he said "The recent commencement of the railway ... is an event of the highest order for the advancement of this colony". However, he foresaw two major problems: firstly the gauge of the line – Victoria was building to 5 ft 3 in gauge; and "the omission of the provision for steam in opposition to the spirit and intention of the last Act in 1871 and a previous Act for a railway in the South East". He said that the Bill clearly showed that the permanent way was to be provided for steam power when required. He added that a "53 mile railway" was too long for horses, and that its narrow gauge "would not admit of full horse power, double in front".



Captain Charles Bagot (1788-1880) more than anyone else was responsible for the adoption of 3 ft 6 in gauge in South Australia. *Photo: State Library of South Australia B17890*

Cooke was a prolific letter writer, and four days later the *South Australian Advertiser* carried a somewhat similar letter from him. Cooke had visions of Kingston becoming one of Australia's major ports. But most others had more modest views of its future.

The *Adelaide Register* of 5 February 1874 gave a report of a well-attended meeting at Kingston on 28 January 1874 where local roads, the jetty, and the railway were discussed. It was considered ridiculous to use horses on a "50 mile railway", especially on 3 ft 6 in gauge, which would only allow one horse abreast. Heavy trains would need "a long string of horses", leading to "a great loss of power and a good deal of danger". It was said the railway had attracted attention in the press in western Victoria, and the *Hamilton Spectator* had ridiculed the "One horse tramway".

The *Border Watch* of 6 March 1875 reported a recent visit of the Commissioner of Public Works to Lacepede Bay. Strong representations were made to him on the need for steam on the line due to its length, its probable extension to Border Town bringing all the produce of the Tatiara region to the line, and the probability of the VR coming to meet it with a steam powered line. The Commissioner's response was that the amount voted for construction would not allow for steam, and he could not promise it would be opened with steam, as he did not think parliament could be induced to vote a further amount. He also said that he thought that horses could bring the traffic down, as on the Port Wakefield line. Events in 1876 were to prove him right on the latter point – at least while the line terminated at Naracoorte – but by then the decision had already been made against horses. What he did not say was that the decision had already been made to convert the Port Wakefield line to steam operation, and that the locomotives had already been ordered.[18]

The Commissioner had clearly stated the obstacle preventing the use of steam on the line. There were too many competing claims for railway construction, and this one was seen as controversial and unnecessary by many of those in other parts of the colony. Consequently, parliament only begrudgingly approved the funds for a horse line, and many were vocal in stating their objections to voting for more funds.[19]

The Commissioner was a member of the government, and was therefore constrained in giving his personal opinion. On the other hand, the Engineer in Chief of Public Works – Henry Mais – was a public servant, and when questioned in parliament he hinted at doubts about the viability of horses,

Engineer-in-Chief's Department.

South-Eastern Railway.

MEN wanted for Laying Permanent Way, getting Stone for Ballast, and other work on Section No. 1, South-Eastern Railway.

Apply to the Resident Inspector, Kingston.

JON. ROGERS,
1193 Assistant-Engineer S. E. District.

From the Border Watch*, 6 October 1875, p.6*

saying that "I do think that anything beyond eight horses is a loss decidedly", and that when traffic is uncertain "the engine has the benefit. An engine can work day and night without intermission if you have a man to attend it".[20]

The progress of the railway was being watched by newspapers in western Victoria; the *Hamilton Spectator* was reported to have written "The ordinary railways in Victoria and South Australia, well supplied with full power locomotives are choked during the wheat and wool season, but a horse tramway is to take away the traffic of one-fifth of the colony of Victoria".[21]

All of these representations were having some effect. In June 1875 the Commissioner of Public Works (Mr West-Erskine) said that the government would make the railway sufficiently strong to carry a light engine,[22] and in August told parliament an initial estimate of £40,000 was being allowed in additional loans to cover the costs.[23] In July and August there was correspondence between Mais and Jon Rogers – the engineer in charge at Kingston – to define the requirements to adapt the line to "light locomotive traction".[24] By November the locomotives were already on order.[25]

On 20 November 1875 the *Observer* reported the Public Purposes Loan Bill was before parliament which sought to spend another £45,000 on the railway, with no information as to why. In response to a question, the Commissioner of Crown Lands said that it was to make the line suitable for locomotives, not horse traction. He said that it had been found that on a long line, locomotives were not as expensive as horses.[26]

Smith Street, Naracoorte viewed from the town square, with Fidler & Webb's store on the right, c.1875. Horse and bullock wagons, as shown in this picture, provided Naracoorte's lifeline until the opening of the railway to Kingston. Photo: State Library of South Australia B30111

The extra funds were approved. They covered the cost of servicing facilities, water supply, turntables at Kingston and Naracoorte, fencing along five miles of the line, heavier ballast, cattle pits at crossings, gradient boards and mileposts, and semaphore signals at stations.[27] The turntables were 33 ft long, the same as being installed on South Australian 3 ft 6 in gauge lines at Port Wakefield and Port Pirie.[28]

Track laying

The earthworks, bridges, and flood openings had been subcontracted, but track laying was carried out by the Public Works Department. Early in March 1875 the ketch *Crest of the Wave* delivered to Kingston railway trucks and implements for laying the permanent way. The overseer in charge of the work had arrived by the mail coach on 26 February,[29] and on 27 March ten more trucks were delivered on the *Annie Taylor.* The Kingston correspondent of the *Border Watch* reported on 27 March that these were now nearly all put together "so that it is now impossible that the Government can delay much longer, and disappoint a great number of the working class who are hanging about the township waiting for the work to commence". Work did commence, and a fortnight later the rails had been laid through the town, and the ballast was rapidly being spread in the first five miles. By 24 April it was expected that track laying in this section would be completed early in May.[30]

On 18 August it was reported that the Commissioner of Public Works had stated in the Legislative Assembly that the Kingston to Reedy Creek section (12 miles) would be opened in a month's time, and that the whole line would be completed by Christmas if the weather was favourable.[31]

But on 2 October the *Border Watch* reported that "We are assured that the Narracoorte railway cannot possibly be opened before nine months, and very possibly may not be so till the end of 1876. About fifteen miles will be opened at the Kingston end as soon as an engine arrives, but it will only be used for the haulage of material for the construction of the line."

One wonders from where Mr West-Erskine was getting his information, for what the *Border Watch* reported on 2 October turned out to be very well informed.

An engine for the railway ...

The *Border Watch* of 22 September 1875 reported great disappointment in Kingston on the arrival of the SS *Penola*. A large crowd had assembled at the end of the jetty to witness the unloading of the engine for the railway "but no engine". The locals concluded that the Government was afraid to ship it as they knew there were no cranes able to handle it at Lacepede Bay.

A week earlier the Kingston correspondent in the *Border Watch* wrote "There must be some truth in the statement that we are to have an engine on the Narracoorte and Lacepede Bay Railway very shortly … carters [of sleepers] have been informed that the work will only last till such time as Government can get things ready to send round the engine".[32] At this stage the South Australian government did not own any 3 ft 6 in gauge locomotives. The first, what later became the U class 2-6-0s, were to arrive in March 1876, but in any case they were considered too heavy for the Kingston – Naracoorte line.

West-Erskine stated in debates that a temporary engine would be provided.[33] The budget for 1875-76 was passed on 21 September 1875 and included an estimate of £2555 for management and running expenses of the line. In the £2555 were allowances for salaries, and running and maintenance expenses for "locomotive power" for six months.

At about the same time that parliament was approving the use of locomotives the *Border Watch* reported that the cranes and other appliances for landing a locomotive had arrived. An engine was being cobbled together in Adelaide! A fortnight later the *Narracoorte Herald* reported that the locomotive was to leave Port Adelaide on 11 December for Kingston, where the vessel would be beached and "it will be got out on a temporary tramway, and so conveyed to the line". It was reported to weigh about 18 tons.[34] This report may have been partly based on local hearsay – there had been a lot of discussion in Kingston and Naracoorte on how they could possibly land a locomotive at Kingston's notoriously rickety jetty. In any case the locomotive weighed about 7 tons "for hoisting", and 9 tons "fully equipped" and was landed in pieces on the jetty.[35]

On 15 December the Commissioner of Public Works (Mr West-Erskine) and the Engineer-in-Chief (H C Mais) visited Kingston. West-Erskine said the first 29 miles of the line was finished, but opening it to traffic would interfere with the completion of the line. He said the engine at present on the line was a temporary one, and the locomotives for general traffic were only ordered to leave England next April.[36]

In fact the engine was not on the line at that time, its arrival was reported in the *Border Watch* of 5 January 1876:

> KINGSTON.
> The *make-shift* engine, as it is called by the exporters in Adelaide, for the Kingston and Narracoorte railway, arrived here on Monday morning [the last Monday in 1875 presumably – 27 December] by the schooner Annie Taylor. It was safely landed, and is now in the yard being properly cleaned and fitted up previous to being put on the line. Should the weather continue favourable and allow the work to progress as well as it has done, the engineer expects to have made two or three trips (we do not know how far) before the end of the week. Contrary to the expectations of some of our Narracoorte friends the heaviest part of the engine, which only weighed a little over five tons, not 20, did not go through the jetty on being landed, but the landing could never have been done as it was had it not been for the quantity of strengthening pieces that were added to our dilapidated jetty. Every one you meet expresses a hope that our Government will not take advantage of this feat, for you can call it nothing else, to say that we require no new jetty, the present one being capable of landing five tons once. It is difficult to say if this could be done again.
> A rumour is afloat about this neighbourhood, but I can scarcely believe the truth of it, that on the occasion of the first trip of the engine a grand pleasure excursion will leave Kingston for Baker's Range or as far as circumstances will allow them to travel, and on their return a grand treat is to be given by a well known resident of this township…

From the Leader, *2 January 1875, p.2*

CLAYTON and SHUTTLEWORTH'S MACHINERY.—The undersigned continue to receive Clayton and Shuttleworth's portable steam engines and thrashing machines, with all the most recent improvements.

New and second-hand plants in stock, and supplied on liberal terms. Duplicate brasses, belts, beater plates, cranks, &c., always on hand as hitherto.

Orders sent to England by each outgoing mail for machinery for next season.

HENRY P. WELCH and Co.

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PORTABLE STEAM ENGINES
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THRESHING MACHINES.
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Are now landing
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Portable Steam Engines, 8-h. p.
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Latest Improved.
ENGINE YARD and STORES,
172 Queen-street,
Melbourne.

From the Leader, *2 January 1875, p.3*

The locomotive made its first trial trip on 5 January,[37] and a report of that trip appeared in the *Border Watch* of 15 January 1876, which said the locomotive took 9½ hours to travel the 32 miles of track then laid.

But all was not well with it. In a telegram from the Kingston correspondent later that month the *Border Watch* reported:

> The makeshift engine in use on the railway line met with a serious accident yesterday. It lies disabled, arm broken, at Bull's Island awaiting medical attendance, or more probably post-mortem examination. No lives were lost or other accident.[38]

Rogers reported the mishap to Mais on 25 January:

> I have the honour to report that one of the crank pins on the driving shaft of the ballast engine broke off yesterday, close to the shoulder, when the engine was at a distance of about 21 m from Kingston The fracture showed that a flaw had been in existence for some time… I shall leave the engine where it is, without taking it down to Kingston, and send Drinkwater to Adelaide with the shaft by next steamer – Gantling, the stoker, can be employed in truck fitting until the new shaft arrives.
>
> This morning I have made arrangements to carry on the haulage of the permanent way materials for the remainder of the distance (about 13 m) by horses, and after the repair to the engine are finished it will find full employment in ballasting, which a temporary break down will be of no consequence.
>
> Before the accident the engine was working well, and I have no doubt it will yet do good service in enabling us to utilize the spoil heaps of ballast to a much greater extent than we would otherwise be able to do.[39]

The locomotive was treated with a great deal of derision in the Kingston community. On 12 February the Kingston correspondent reported:

> The Engineer [John Drinkwater] arrived on Thursday by the Coorong, and I hear starts on Monday to put together the pieces of the makeshift engine which he expects to again have at work in the course of a few days. However, it is expected that it will not be for long, the public here believe that the mended pieces of the machinery will prove too strong for the other rotten and decayed parts, and every day we may be on the look-out to hear of some serious accident, probably attended with loss of life. I hear it is in contemplation to establish at Kingston an insurance company for the benefit of the work men who are obliged to make use of this mock piece of machinery to convey them to and from their work.[40]

and on 11 March:

> We have had another visit, from 'Puffing Billy', who I believe makes another start on Monday morning, and, intends going to within three miles of Narracoorte if he don't break down between here and there.[41]

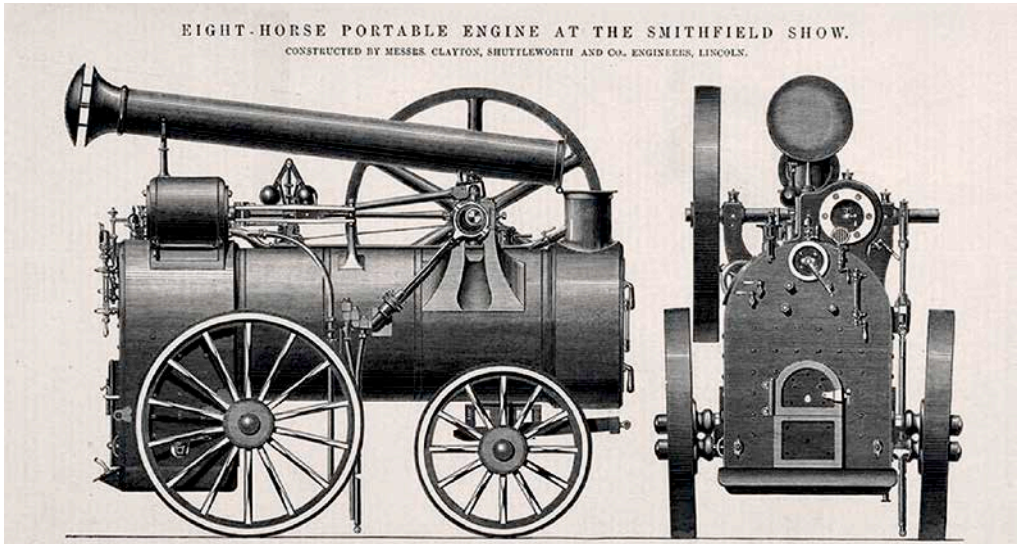
What was this locomotive?

In a report to parliament in November 1875, H C Mais referred to this locomotive, and the reason it was being built:

> The earthworks and masonry of this line are completed, and the rails laid to a point twenty miles from Kingston. The long distance which the rails have to be drawn has greatly impeded the progress of the work, especially as the traction power has been obtained by horses. A portable engine, fitted to run on rails, will be sent to the works within a fortnight, and it is confidently expected that the line will be opened throughout before June, 1876.[42]

The most detailed description of this locomotive that I have found was in the *South Australian Register* of 28 January 1876. It said:

> Regarding the engine temporarily employed in bringing rails from Kingston along the line, and which has been ludicrously and untruthfully described as having a series of belts and pulley-wheels, we would just remark that to a casual observer the engine differs very little from those employed generally upon railways.



An example of a Clayton and Shuttleworth portable engine manufactured in the 1870s. A similar engine was apparently used as the basis of conversion to the "makeshift" engine.

It certainly was a portable engine, but by the addition of connecting rods with crank-wheels and intermediate shafts, coupling-rods, and other machinery, it has been converted into a tolerably useful locomotive, and answers very well the purpose for which it is employed. Of course it is not to be expected that any great speed can be obtained, but the engine and three trucks loaded with iron will travel the whole distance of the line made, about 36 miles, in six hours. The draw backs are want of facilities for coaling and taking in water, and the amount of attention required in cleaning out the pipes and spark catcher, all of which necessitate the loss of two out of the six hours. So that it will be seen that the actual rate of travelling is nine miles per hour. The engine saves the employment of a huge amount of manual and horse labour, and, as we said before, is only to be used temporarily."

In mid-1875 Mais had enquired from the Melbourne firm of Henry P Welch and Co. regarding the availability of a portable engine. Welch offered a new Clayton & Shuttleworth engine for £480 or a second-hand engine for £420 which had done only eight months work driving a thresher. The make of the second-hand engine was not given.[43] Welch & Co. were importers of a vast range of items, ranging from whisky to mining equipment, and their advertisements suggest they had Clayton & Shuttleworth portable engines in stock at Melbourne. On 21 September Welch & Co. telegraphed Mais to advise the engine had been shipped on that day on the *Aldinga*. On 6 October Rogers wrote to Mais asking that the locomotive be sent as soon as it was ready. He added "I trust no time will be lost in providing it when ready, as constant difficulties are occurring with the teams under the present horse arrangement for the haulage of the permanent way material".[44]

Rogers then wrote to Mais requesting permission to employ a second gang of track layers after the makeshift engine arrived. He pointed out that with the present system he did not think it possible to exceed one-and-a-quarter miles of track laying per week, but during the harvest months it was doubtful even that rate could be maintained (due to unavailability of horses).

He pointed out that the rate of progress could not be compared with other lines, "because we are not only laying the permanent way, but are at the same time providing, carting and spreading about 700 cwt [36 tonnes] of additional ballast to every mile". Heavier ballasting was required as a result of the decision to use steam locomotives. The makeshift engine was often referred to as the "ballast engine" and handling the ballast was probably the main reason for its existence. Using the makeshift engine and a second gang he expected two miles per week could be laid.

He said that almost 20 miles of track had already been "linked in". Sleepers had already been stacked along the line from 35 miles to Naracoorte "ready for laying by hand, and will not require haulage, so that the weight of materials to be brought up from Kingston will be reduced one half, or to about 70 tons per mile.[45]

To provide water for the locomotive, Rogers asked that eight ordinary 400 gallon wrought iron tanks be sent, with two hand pumps. For temporary use with the "ballast engine" he would mount them on sleepers. Later at each of the four intermediate stations he was proposing to use two of them coupled, and supplied by a hand pump. He said that only two special feed tanks would be necessary, one for Kingston, and one for Naracoorte.[46]

By January 1876 the rails were within 15 miles of Naracoorte, and it was estimated Naracoorte would be reached in about two months. About two miles of track were being laid each week.

But:

…although the line will then be ready it is anticipated that the Government will go off into such rhapsodies over the completion of the line that they will require at least nine months longer before they will be able to declare the line open for passenger traffic. At present there is very little prospect of the engines arriving for some time, not at least before the stations have been erected and the line quite finished.[47]

During the line's construction the government came in for an almost incessant barrage of criticism for its perceived incompetence. The *Border Watch* of 26 April 1876 had a report from its Kingston correspondent saying that it was of the utmost importance that the railway should be opened for traffic for the commencement of the wool season, but nothing had been done about building stations, goods sheds, or necessary work on the jetty. He then mentioned the Kingston Court House, which:

although now completed for many months, stands full of emptiness…When this building was advertised it had to be finished in a certain time, and although after signing the contract labour became scarce and rose in value, the works had to be done to the time, no matter at what inconvenience or loss to the contractor; and, after all, to what good ?

Never mind that the stations had not been built, never mind that there were no goods sheds or intermediate sidings nor completed yards at the terminal stations, and never mind that the locomotives were still six months away, the government were now panicked into taking some action. Arthur Hardy MP impressed upon the government the need to have the line open for the next wool clip. He suggested that some engines should be lent, but was told that could not be done. At that time South Australia's first 3 ft 6 in gauge locomotives – eight U class 2-6-0s – were being put into service at Port Wakefield and Port Pirie, but no facilities existed at Kingston for steam locomotives, and in any case they were probably considered too heavy. So the government gave instructions that the railway should be prepared for temporary use with horses. This involved 'blinding', that is covering the limestone ballast and the sleepers with gravel, and fitting safety rails to the bridges.[48]

This news prompted the following from the *Border Watch*'s Kingston correspondent:

The opening of the Kingston and Narracoorte Railway by horse traction is likely, I hear, to give our Government an opportunity of turning our intended court house to some use. It is rumored here that several intending contractors for the supplying of the necessary number of horses required for the work, have of late visited Kingston, and all are unanimous in their opinion that the building, from its proximity to the line and proposed landing station, would be in every way suitable for the purpose of being used as a stable, and have returned to Adelaide determined on impressing on the minds of the powers that be an easy method of drawing into the Treasury a sufficient amount to enable them to supply furnishings for our Court House, and thus allow it to compete with any in the colony! Although this plan does not meet with the approval of all the influential members of our community, they have all made up their minds to offer no opposition, as they hope the use or perhaps abuse of the building will only be required for a very short time, and can see that the Government are determined to adopt no other means of providing sufficient funds to devote to its proper use a building which in its present condition is considered as one of the many follies of South Australian Government.[49]

Perhaps the thought of having horses in its new court house was too much for the government, for it was opened shortly after.[50] Later in June Kingston was alive with activity, with the rail yard covered with tents, and workmen busy everywhere preparing the line for traffic. Sheds were expected to be completed in 16 weeks.[51]

In an unusual move, the government issued regulations allowing private individuals to hire trucks and use their own horses on the line. The cost of truck hire was £1 10s per week, plus payment of 1½d per ton per mile. This resulted in an absolutely blistering response from the Narracoorte correspondent of the *Border Watch* railing against the government: "It is almost impossible for anyone who is not on the spot to conceive the bungling that has characterised the management of this line ..." The majority of business people in Naracoorte would not be able to fill a five ton truck with goods for a week, and there would be squabbles as to who would have trucks.[52]

To overcome these problems, Naracoorte businessmen combined to call tenders for horse traction on the line, and agreed to give their traffic to the successful tenderer. Five tenders were received and that of J C Golding at 14s 9d a ton was accepted. This rate was about a quarter of the going rate by road. The highest tender was 21s per ton.[53]

By the end of July most of the rails had been laid in the yards at Kingston, and many people were employed transhipping the wheat which was being brought down the line from Naracoorte.[54]

Early in August a reporter for the *South Australian Advertiser* visited Kingston and inspected the first six miles of the line. On that inspection he met a train coming from Naracoorte. It consisted of six trucks with a total load of 30 tons, and was hauled by five horses. "The teamster estimated that it would have taken his five horses twice the time to take two tons along the road."[55] At that time the track on the jetty was of 4 ft gauge[56] and all goods had to be transhipped from the railway trucks to the jetty trucks. Even if the gauge was the same, the journalist doubted the track on the jetty would bear the weight of railway trucks. He had arrived on the SS *Omeo* which had departed Port Adelaide at 5.00 pm and taken 20 hours to get to Kingston, where the vessel landed at a jetty "so rickety and ancient that every bump of the boat against its side seemed to shake the whole fabric".

From September the carriage of the mail by road was transferred to the railway, using a special passenger truck.[57] This resulted in a doubling of the passenger traffic between the two towns.

Some people were unsatisfied with this change:

> We are also at a loss to understand by what rule our Government charge 13s. for the pleasure, of riding. 52 miles during the middle of the night in an open carriage, whilst our Adelaide friends can be treated to a drive in a first-class carriage to Tralee [sic – Tarlee], a distance of 54½ miles, for 10s 3d. Besides, I hear we are to have no return ticket.[58]

Their complaints seem unjustified. The Naracoorte correspondent of *Border Watch* reported that on the first day the mails ran there were 13 passengers, with 14 in the return direction. The reason the mail truck ran at night from Kingston to Naracoorte was that it was requirement of the mail contract, as it was just one leg of a journey the mail took to get from Adelaide to Mount Gambier. It is not too surprising that the passenger truck was attracting more passengers than the road coach it replaced. The road journey at night was perilous.

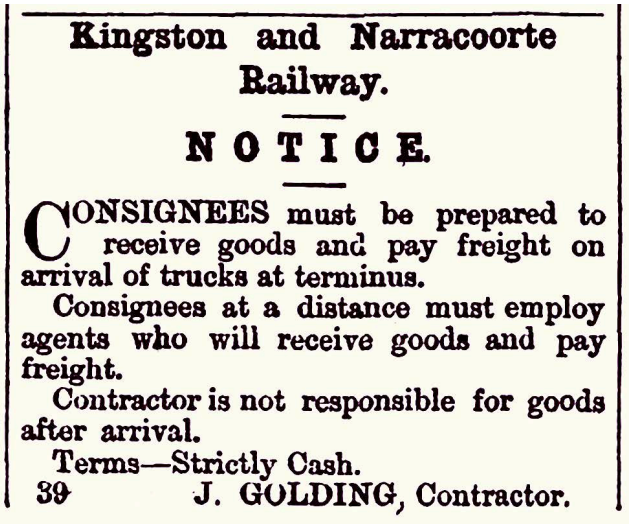
In the *Border Watch* of 28 October the Naracoorte correspondent reported large quantities of wool arriving at the town for despatch on the railway, and that it was not uncommon to see 10 to 20 trucks full of bales ready to run down the line to Kingston.

During this time the makeshift engine was still being used on construction work, and was sharing the line with the horsehauled trains. Early in July it apparently ran into difficulties, for it was reported that it had left Kingston at 9.00am but did not make it into Naracoorte until 2.30am the following morning, taking 17½ hours for the 52 miles and "the men had to push the engine up the inclines".[59] Late in August it was reported that it had been thoroughly overhauled and had since made several journeys along the whole line in five hours, "exclusive of stoppages".[60]

The perils of the Kingston – Naracoorte mail coach

from the Chronicle and Weekly Mail, *18 September 1875, pages 10-11*

The mail from Adelaide, that should have arrived at Mount Gambier at a quarter past 1 o'clock on Thursday afternoon, states the Border Watch of September 11, did not reach its destination till about a quarter to 6 on Friday morning–16½ hours behind time! This extraordinary delay, the longest that has occurred for years, arose from circumstances over which there was certainly no control. On Wednesday night— a cold and stormy, one— the coach, drawn by four horses, left Kingston with five passengers besides the driver — Mr. Higgins. About 19 miles from Kingston it got bogged on Hensley's Flat — which is at present an almost impassable swamp — in a locality known to travellers and coach-drivers as the Glue-Pot. This occurred a little over three miles from Mr. Hensley's head station. All efforts to drag the coach out of the mud proved futile. One of the front wheels of the vehicle was smashed to pieces, and to crown the difficulties of the situation the driver and passengers had enough to do to prevent some of the horses being drowned in the swamp. One of them lost its footing, and it was with the greatest difficulty that it was raised again. When some hours had been lost in trying to get the coach out, the horses were loosed from it; and after a three miles journey, well worthy of remembrance, the driver and some of the passengers reached Hensley's and sought assistance. Mr. Hensley kindly lent a buggy and a return was essayed to the deserted coach. Having advanced to within 20 yards of, it a stand was made, and the driver, assisted by the passengers, commenced the task of unloading the coach, and carrying the mails and luggage through mud and water up to their waist, to the buggy. There was a large quantity of luggage besides the mails, and about an hour was spent in this task. In trying to start with the buggy on the return to Hensley's a new difficulty arose. The swingletrees broke, the horses floundered, the harness gave way, and two of the horses got clear away, and had not been found when the coach arrived at Narracoorte! The buggy was also damaged considerably otherwise; but it was patched up as well as it could be, considering the means of repair at hand, and drawn by one horse to Hensley's, the passengers walking the distance through an unbroken swamp. After some refreshment, two new horses were obtained, and a start was made for Narracoorte, which was reached at 7 o'clock on Thursday evening. The trip was one of the worst experienced on the road, and it is fortunate no serious injury was done to life or limb. As it was, the driver sustained several severe kicks from the horses whilst in the mud. The opening of the railway between Kingston and Narracoorte will be anxiously looked for by travellers whose duty compels them to take that route"



Kingston and Narracoorte Railway.

NOTICE.

CONSIGNEES must be prepared to receive goods and pay freight on arrival of trucks at terminus.

Consignees at a distance must employ agents who will receive goods and pay freight.

Contractor is not responsible for goods after arrival.

Terms—Strictly Cash.

39 J. GOLDING, Contractor.

From the Narracoorte Herald, *12 December 1876, p.4. Similar advertisements appeared in every issue of the Herald during the period of temporary horse haulage.*

The first excursion train?

On Monday 31 October an excursion train was run from Kingston for about ten miles to the Nettles for a Sunday school picnic. Four or five trucks were fitted up with seats, "along with one of the passenger trucks". The train, drawn by horses, departed at 10 o'clock. There were about 150 children on board, and about 90 adults. On arriving at the Nettles a substantial lunch was had, followed by games and other amusements, with more refreshments at 4 o'clock. Before departing for the return trip the Rev. Mr Sinclair asked the scholars to give three cheers for Mr Martin, the superintendent of the railway. He had accompanied them during the day, and "gave every facility and accommodation required". To the delight of the children, on the return the train was hauled by the "working engine". This must refer to the makeshift engine which had been so ridiculed in the press nine months earlier.[61]

As to whether the makeshift locomotive was used on any other passenger trains, there is no firm evidence, but newspaper reports hint that it was used on at least two occasions. The *Border Watch* of 23 August 1876, reporting the Naracoorte Winter Steeplechase said "There were a great many visitors … and a great many took advantage of the services of the iron horse".

And the *Naracoorte Herald* of 24 October 1876, under the heading "Breaking the fourth commandment" reported that a special train has been put on the railway "last Sunday week for the conveyance of an eminent judicial functionary from Kingston". A separate item in the same paper reported the arrival of the Chief Justice of South Australia, and said "it might have been flattering to His Honor to see such a number of persons present on his arrival, I fancy more were anxious to see Puffing Billy than the Judge".

The first report of any form of passenger train on the line seems to have been in the Adelaide *Express and Telegraph* on 29 February 1876 when it was reported the Minister of Education arrived at Kingston the previous day and went to Naracoorte "by special truck on the railway, doing the whole distance in a little more than six hours". It was not stated whether this was hauled by the makeshift engine, but horses seem more probable – firstly because there are no other reports of the locomotive achieving such a sustained speed, and secondly because it was needed for the conveyance of track materials.

In June 1876 the members of the Local Road Board requested a special train with the passenger truck and the makeshift engine. This was declined because the engine could not be spared "without seriously impeding the work now in progress". However they were offered the use of the passenger truck with horses and driver, for their journey from Kingston to Naracoorte after their meeting - "this was all they can reasonably expect".[62]

Regulations for the provisional conveyance of traffic by horse traction

These were published in the Narracoorte Herald, *25 July 1876, page 4, and the most interesting of them are reprinted below.*

3. A tonnage rate of one penny halfpenny (1½d.) per ton per mile shall be chargeable on all goods conveyed over the railway. A truck load of wool shall be charged as five (5) tons. Any fractional part of a mile shall be charged as one (1) mile.
4. Trucks for the conveyance of goods may be hired from the Commissioner of Railways, at a rent of (30s.) thirty shillings per week, but the Commissioner does not bind himself to supply such trucks in the event of their being required for any other purpose, and the person hiring the same shall give up possession at any time on receiving (1) one week's notice to that effect.
5. All trucks … shall be kept in good order and repair at the expense of the freighter; the axles properly lubricated; and the load equally distributed over the wheels. No track shall be loaded or allowed to proceed with a greater weight than (5) five tons. Any damage done to the trucks beyond ordinary wear and tear, while in the possession of the freighter, to be repaired and made good by the Commissioner of Railways, who shall charge the whole cost of the same to such freighter.
6. The teamster in charge of every truck or train of trucks, shall deliver to such person as may be appointed by the Commissioner of Railways to receive the same, prior to the commencement and at the termination of every journey, a carriage-note, signed by the freighter, specifying the number of trucks in his charge, and the weight of the goods contained in each truck; …
7. The railway shall be open for up traffic, from Kingston to Narracoorte daily (Sundays and mail days excepted) between the hours of 12 midnight and noon; and for the down traffic between the hours of 12 noon and midnight.
8. Notwithstanding the above regulations, all down traffic shall be suspended, and the line be left clear for the conveyance of the mails from Kingston to Narracoorte, on every Wednesday, Friday, and Sunday, between the hours of 8 p.m, and 2.30 a.m., and all up traffic shall be suspended, and the line be left clear for the conveyance of the mails from Narracoorte to Kingston on every Tuesday, Thursday, and Saturday, between the hours of 5 a.m., and 11.30 a.m., and no truck or train of trucks shall leave either Kingston or Narracoorte within a period of two (2) hours before the starting of the mails from either place. And in the event of the mails being detained beyond their stipulated time, the traffic in the contrary direction shall not in any case be resumed until the mail has passed.
9. In the event of any track, or train of tracks, proceeding in the proper direction, as above described, meeting another truck or train of trucks going in the contrary direction, the latter shall be hauled back to the nearest siding to allow the former to pass.

CHEAP
EXCURSION
TO
KINGSTON & BACK
ON
NEW YEAR'S DAY.

I. O. O. F., M. U.

THE Members of the Mosquito Plains Lodge having engaged a SPECIAL TRAIN, respectfully invite the co-operation of kindred Societies for the purpose of a demonstration at Kingston. All members to appear in regalia. Friends are respectfully invited to avail themselves of this opportunity to visit Kingston.

BRASS BAND in attendance.

Train leaves Narracoorte at 6 o'clock a.m., returning from Kingston at 8 p.m.

Tickets—Adults, 8s.; Children under 14 years, 4s. each. Early application for tickets is requested, as there is only a limited number of carriages available.

Tickets to be obtained from the Committee :—Bros. Henry Smith, P.G.; S. Carne, P.G.; Wm. Marshall, P.G.; D. McLeod, N.G.

52 H. HOLMES, P.G. and Sec.

From the Naracoorte Herald*, 12 December 1876, p.3*

The period of horse operation was now drawing to a close. On 14 November the *Narracoorte Herald* reported that four locomotives for the Naracoorte railway were landed at Maclaren Wharf, Port Adelaide on 8 November from the ship *South Australia*, and that they were to be sent to Lacepede Bay on the schooner *Legal Tender*. A fortnight later the same paper reported that the *Legal Tender* had arrived at Lacepede Bay with the locomotives. Whether anything was done to the locomotives during the brief time they were in Adelaide is not known, but they needed to be assembled after arrival at Kingston.

This work proceeded quickly. A week later it was reported that one of the locomotives was upon its wheels. It made a trial trip to Naracoorte on Saturday 9 December – "she made the run in three hours".[63] Another trial trip was made the following Saturday.[64] It has been said that these locomotives were assembled at Kingston by Benjamin Franklin Rushton,[65] who later rose to be CME of South Australian Railways. However, Rushton was then a 17 year old apprentice, he was appointed fitter in charge at Kingston in 1882, when he was 22 years old.[66] In fact John Drinkwater was in charge of locomotives and rolling stock, and did not leave Kingston until October 1877.[67]

New Year's Day 1877 excursion

Those managing the railway at Kingston were so confident of the success of the locomotives that they had already agreed to the running of an excursion train from Naracoorte to Kingston on New Year's Day 1877. The *Narracoorte Herald* of 5 December carried the following item:

EXCURSION TO KINGSTON

Plains Lodge, I.O.O.F.M.U., have definitely arranged to run a special train from here to Kingston on New Year's Day. The fare is ridiculously cheap – only 8s there and back, and children half-price – and the chance of visiting the seaside at such an economic rate will not occur in a hurry again. The train leaves Narracoorte at six in the Morning, returning at 8 o'clock in the evening. All friendly societies are invited to co-operate.

The excursion on New Year's Day 1877 appears to be the first time paying passengers were carried behind a V class locomotive, and judging by reports of the event, the locomotive performed admirably. The day was also of such importance in Narracoorte that the local paper delayed publication for one day so that it could report the event. Reports indicate that about 500 passengers travelled on that day, the *Narracoorte Herald* reporting that some of the carriages were very crowded – with 51 people in one of the vehicles. They must have all been travelling in goods trucks with temporary seats, as the line's first passenger car had just arrived on board the *Legal Tender,* which was in port and yet to be unloaded.

The train left Naracoorte on time at 6.00am, and the trip took four hours, with short stops at all the stations "to refill the boilers, etc", and giving the opportunity for passengers to stretch their legs. At Kingston a regatta was held, with three races. On the return the train departed on time but took five hours for the journey, with several bushfires being started by the engine. To entertain the passengers the band was "playing the most inspiring airs throughout the homeward journey". The trip was judged a great success and raised £70 for the MU Benevolent Fund.

Four hours start to stop with about 500 passengers and a brand new light-weight engine on very light rails does not seem a bad performance, a 13 mph average start-to-stop speed. Considering stops were made at the intermediate stations to replenish the water supply, the top speed reached must have been considerably higher than 13 mph, and probably in excess of what the officials in Adelaide considered appropriate for the track and locomotive. But the locomotives were soon to do much better.

To be continued

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The site of the tramway landing on the old Black Spur Road (between the bank on the left and the tree just to its right), with Mount Dom Dom towering in the background. Being right on the narrow road, loading timber continually obstructed traffic but, being just outside the catchment, there was little the MMBW could do about it. The poor state of the road is readily apparent. Rose postcard 2267, Peter Evans collection

'Good historians need strong boots'

Narbethong sawmills and tramways, Victoria

by Peter S Evans

The British socialist historian R H Tawney pointed out that 'good historians need strong boots'. Sometimes research problems can seem insurmountable. Perhaps it is a tramway formation in the bush with no known operator and, if it is very old, perhaps very little chance of finding out. Most of the time it is a tramway known through archival research, but for which there is very little locational information. This article describes an eventual solution to a number of related instances of the latter problem using the 'strong boots' tool, albeit over a time period of a little more than a decade. It demonstrates just how much field research can add to the story of an industrial enterprise. It also reinforces the importance of accurate record keeping. The writer uses rag-paper notebooks which are rain-resistant and, when full, are carefully filed. He has a chain of such notebooks stretching back to the early 1990s. A similar approach to photographic prints is needed, with all being labelled on the back and similarly filed (digital photography has, of course, made such organisation very much easier). Without these resources, the following could not have been written.

History

As Henry 'Indiana' Jones Jnr stated in *Indiana Jones and the Last Crusade*, 'Seventy percent of archaeology is done in the library'. Or, in this case, the Public Record Office, Victoria's Lands and Forests files, the files of the Melbourne & Metropolitan Board of Works (MMBW), railway survey plans, and boiler registration records. To that can be added the newspaper copies held by the State Library of Victoria (now, thankfully, more readily accessible through the National Library of Australia's Trove). Unfortunately, all of the sawmills and tramways located in this particular study area proved to be outside living memory, otherwise oral history sources would have been consulted where available. Even so, there proved to be sufficient to outline quite a comprehensive history of an interlinked network of sawmills and tramways just north of Victoria's Great Dividing Range at Narbethong.

The question of a railway connection between Healesville and Narbethong had been contentious ever since the line to Healesville was completed in 1889. Shortly afterwards, the Watts River catchment north of Healesville was vested in the newly-created MMBW. That entity strove to keep its water supply as pristine as possible, and not only prevented the incursion of sawmillers into the catchment, but did its best to prevent the transport of Narbethong timber over the Black Spur Road, the only practical route across the catchment. The MMBW would sanction a government railway through the Watts catchment (which its officers knew was unlikely to be built because of the high cost), but would never agree to a privately-owned timber tramway (which would almost certainly pollute the catchment and increase the fire risk, especially should a steam locomotive be used).[1]

While debate raged over a line of rails across the Black Spur, the fledgling sawmilling industry at Narbethong struggled on as best it could using primitive methods of road transport. As a result, the first mills to be established north of the Watts watershed were near the top of the Black Spur, where the dispatch of sawn timber was made easier by the fact that the grade was mostly downhill, at least as far as Fernshaw. It was also no accident that most of them were built in the headwaters of Fishers Creek.

On 19 January 1920, log trucker Albert Chandler was killed in this accident on the logging tramway about 1½ miles from Timms' mill. It appeared that Chandler had applied the brakes too suddenly and the rear truck had skewed and left the line. Chandler was pinned by the log, and died before the rescue party could get him to the mill. The photograph shows just how insubstantial the tramway formation was, and how difficult it was to locate almost a century later. From PROV,VPRS 24/P0 unit 988 serial 146, reproduced courtesy of the Keeper of the Public Records

While the many trial railway surveys through the Watts Catchment took widely diverging routes, they all passed through Carters Gap (the lowest point in the range) and down the eastern side of Fishers Creek. If the railway was ever built, these mills would be perfectly placed to extract the most benefit.

In 1894 an area east of Mount Dom Dom was excised from the Victoria State Forest. Thomas Lawry and his sons selected part of this land, the three parcels adjoining each other and being worked as one. In 1902, a small sawmill was erected on allotment 93A. In 1906 Lawry shifted the mill down to Fishers Creek and constructed a 3 ft gauge tramway to send his timber to the Black Spur Road. From the new mill site, the tramway traversed the creek frontage before climbing parallel to the creek through Lawry's property, passing through a low saddle between Mount Dom Dom and the Black Spur, and then crossing through a patch of State Forest to reach the Black Spur Road. It terminated at a landing on a sharp bend in the road just outside the water catchment boundary. Once the tramway was completed, sawn timber was taken over the road to Healesville using a Foden steam truck towing a large wagon. This means of transport caused a great deal of damage to the road, and the MMBW canvassed several options to try and get this means of transport banned, but the great expense of sending timber to Healesville halted the enterprise in 1908. Following the 1939 bushfires, A & A Meyer established a small case-mill on the site of Lawry's original mill. In May 1940, the Meyers' mill was removed to Millgrove near Warburton.

In 1906 the Fitzpatrick Brothers shifted their mill from Mt Toole-be-wong near Healesville to a new site on the western slopes of Mt Dom Dom. A short tramway was constructed to link the mill with Lawry's tramway. From the end of the tramway, the Fitzpatricks used a nine-ton Fowler traction engine towing two large wagons weighing six or seven tons each to transport their timber to Healesville which, not unnaturally, caused a large amount of damage to the road and an equal amount of outrage to the MMBW officers responsible for repairing the damage. But those same officers refused permission to lay a tramway along the roadside to get around the problem. As a result of the stalemate and the high transport costs they endured, the Fitzpatricks went into voluntary liquidation in September 1907, and the mill was dismantled and removed in 1908.

James Marchbank and Isabella Jefferson traded as the Black Spur Saw-Mill Pty Ltd from a mill established on Fishers Creek in 1910. Refused permission to build a tramway through Carters Gap and down to Fernshaw, the partners had no alternative but to use Lawry's old tramway and the Black Spur Road to export their timber. There were several accidents at the mill, giving it a reputation as an unlucky enterprise. The financial state of the mill was in little better shape than its record as a safe workplace. From April 1913, the sawmill site licence was briefly in the name of Charles A Widdis, almost certainly from the sawmilling and contracting family of the same name who had mills in the area around Bairnsdale from the early 1900s. In March 1914, the Black Spur Saw-Mill was restructured by Melbourne timber broker, George Knott. Knott was well known in the timber industry, with interests in the Otway and Murrindindi Forests. In 1917 Knott installed a logging winch at the foot of Mount Dom Dom. Logs obtained

from the side of the mountain using this winch were loaded onto the tramway and the trucks were gravitated over the tram to the mill a mile away. The mill worked until at least late 1919 when it was dismantled and removed.

The last enterprise to be described was by far the most ambitious project to be undertaken in the upper Acheron Valley. Had it not failed, it would have made a major change to the history of timber utilisation in the watershed. In late 1917 South Australian sawmiller and contractor Joseph Timms installed a sawmill on Fishers Creek south of the Black Spur Hotel at Narbethong. The sawmill had been laboriously carted all the way from Penola, SA. Logs would be supplied via a tramway gradually extended from the mill and over the ridge to the east and into the Acheron Valley, where it was intended to eventually relocate the mill. Sawn timber would be dispatched over the Black Spur Road behind a traction engine pending the outcome of railway and tramway negotiations. In his choice of mill site, Timms may have been counting on the eventual construction of a railway or tramway through the Watts catchment, and had not anticipated that it might never be built. In the winter of 1918 the Country Roads Board closed the road between Narbethong and Dom Dom Saddle to timber cartage. Timms managed to evade the closure of the road by building a well-graded outlet tramway to link his mill with the tramway recently abandoned by Knott, providing all-weather access to the landing on the top of the Black Spur. The outlet tramway was completed by May 1920, but the financial pressure was already beginning to show. In April 1920, Timms made an emergency dash to Adelaide with the aim of re-financing the firm. As part of the reorganisation, the mill was re-erected close to the Acheron River in 1920, but probably never turned a saw. By now, Timms was embroiled in a 'grand plan' to bypass the Watts Catchment with a tramway via the Acheron Gap. It was to be his undoing, and he collapsed financially in 1925.[2]

Timms' abandoned mill on the Acheron Way circa 1930. The site was reused in 1934 by Feiglin for their No.1 mill. This photograph is the only substantial evidence that Timms' mill was ever moved to this location. Photo: Annie Creaton, Peter Evans collection

The great problem associated with translating this history into accurate mapping was the paucity of archival mapping available. For some of the tramways, there was simply no information available at all, and most had passed beyond living memory. At the time these mills were built, the best available mapping was usually a parish plan – generally accurate dimensionally, but devoid of topographic information. Apart from one hand drawn sketch on a parish plan showing a short section of Lawry's tramway, the best available mapping seemed to be a circa 1920 tourist map showing Timms' logging tramway to the Acheron River. How wrong this assumption turned out to be …

Field research

Timms' mill site was the first key location to be determined – the start of the logging tramway. The site was inspected on 24 October 1999 and is not heavily disturbed, being situated on a low embankment well above the flats abutting Fishers Creek. Surprisingly for what was slated to be a large and 'modern' enterprise, the mill is archaic, the earthworks showing it to have been a three-trench affair fitted with a vertical breaking-down saw. Although there is a small, well-rotted sawdust heap and a few metal fragments scattered about, no machinery remains at the mill site today. Feiglin's mill was the second key location – the site of Timms' second (failed) mill, and the end of the logging tramway from the first mill. Feiglin's had built a short outlet tramway from their mill to the Acheron Way and, not surprisingly, used Timms' old formation. So that left both end points of the tramway identified and, hopefully, the tourist map would enable the tramway in between to be filled in. However, when superimposed onto a topographic map, the route shown on the tourist map took the tramway through what appeared to be impossible terrain. Initial field research failed to find any traces of a tramway remotely resembling that shown on the tourist map. In the meantime, there were other tramways to be investigated.

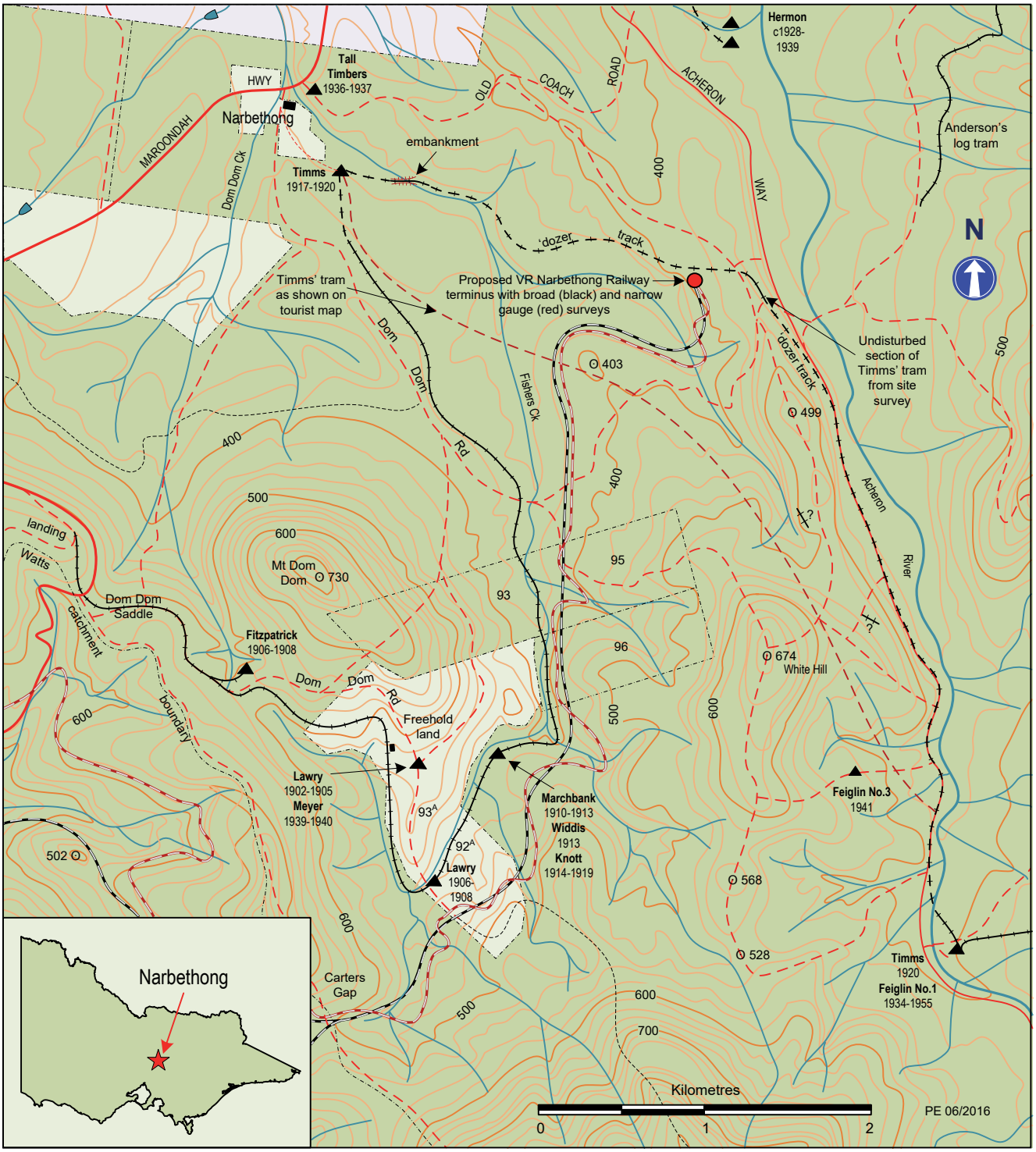
The outlet tramway running generally south from Timms' mill to link up with the Mt Dom Dom mills was surveyed on 25 April 2000. This tramway presented as a low mounded formation running through grassy woodland, with fairly regular cross-drains. Trees up to 900 mm diameter growing in the centre of the formation betrayed its great age. The formation became more defined as it headed into the headwaters of Fishers Creek on a gentle rising grade, crossing the creek thrice on low bridges (only a few old rotten timbers containing iron spikes remained), then crossing a side tributary of the main creek and turning more westerly in the direction of the Marchbank/Widdis/Knott's mill (1910-1919). The mill site itself was obliterated by recent logging, as was the tramway formation running south of this point. However, some historical file mapping served to define a practical route for this section.

On 23 August 1998 the site of Lawry's first mill (1902-1905) and Meyer's case mill (1939-40) was inspected. The site was very heavily disturbed by recent logging, with many glass fragments present (both old and new) and a scatter of bricks. Daffodils hinted at the remains of a garden. The site of Lawry's second mill (1906-1908) was identified by large amounts of scattered glass and metal fragments in a freshly-logged coupe (including a fairly complete 914 mm gauge wheelset, confirming the gauge of the tramway system). A week later, on 31 August 1998, the tram up to Dom Dom Saddle was followed north along a western tributary of Fishers Creek. Situated on a steep side-slope, the formation was eroded but very distinctive. Just before the tram turned sharply west was an excavation in the uphill bank, possibly the winch site used by Knott. Shortly afterwards, the tramway emerged onto Dom Dom Road just above Fitzpatrick's mill.

Fitzpatrick's mill (1906-1908) was inspected on 20 September 1999. This was easier than anticipated – I walked straight to it and almost fell into the sawdust trench. The mill was short-lived and there was no sign of a logging tramway in use, but a number of old and very large stumps above the mill site attest to the size and age of the timber felled close to the mill itself. It would seem that animal haulage was probably used to bring logs to the mill. A short outlet tramway formation connected the mill to Dom Dom Road, which has been built on the combined outlet tramway formation as far as the picnic ground at Dom Dom Saddle. Above today's Maroondah Highway, about 100 m of tramway formation connects the picnic ground with the original Black Spur Road above.

Further attempts were made to define the route of Timms' logging tramway to the Acheron River on 17 and 18 May 2000. Apart from an embankment close to the mill and leading east to Fishers Creek (and what appeared to be bridge abutments), nothing definite was found. I then headed further south along Fishers Creek, still trusting to what had appeared on the tourist map. Apart from an abandoned marijuana plantation and two frustratingly isolated sections of what could possibly be tramway formations (marked on the adjacent map with question marks), nothing was found. After a cold night sleeping in the car in an old quarry beside the Acheron Way, a further search was made in the bush around Whites Hill. Nothing again. At last, I accepted that the tourist map was largely a fantasy. So it was back to the embankment close to the mill – at least this was something tangible. On the east side of Fishers Creek the formation continued as a bulldozer track. However, a pile of eleven 4.5 m lengths of about 20 lb/yd rail not far off the track indicated that I may at last be on or close to the tramway route. At the very least, the bulldozer track was acting in the way a tramway should have. A shallow gully similar in appearance to the site of an accident in January 1920 (see photo, page 16) deepened this conviction. However, the bulldozer track stopped dead at an old track, and the bush on the far side was too dense and the ground too flat to be sure that anything continued. So this left me with a tourist map which was apparently very wide of the mark, two isolated sections of what was almost certainly tramway at each extreme end of the route, and a bulldozer track in the middle which behaved like a tramway. Stalemate.

From top left: *Artefacts at a freshly-bulldozed Lawry's mill (second, 1906-1908) on 23 August 1998. • Tramway wheelset (914mm gauge) at Lawry's second mill on 23 August 1998. Every sawmiller after Lawry had wisely chosen the same gauge for their tramways, so the disparate sections could finally be linked in May 1920 to complete a line all the way from Narbethong to Dom Dom Saddle. • The sole totally undisturbed section of Timms' logging tramway on 16 July 2009. It linked sections of bulldozer track behaving in a tramway-like manner, and enabled the final plotting of the route. • A large horseshoe on Timms' tramway formation on 16 July 2009 – evidence of the motive power on the tramway. Photos: Peter Evans*



The tragic fire of 7 February 2009 at last promised to solve the puzzle. I returned to the bush on 16 July 2009. Where I had abandoned the search at the end of the bulldozer track nine years earlier was now revealed a section of undisturbed tramway formation curving south-east, complete with the odd nail or two and an old horseshoe. Although the undisturbed formation was only one hundred metres or so long, it lead directly to a further section of bulldozer track, again behaving just like a tramway should. This led directly down on a very gentle grade to the Acheron Way. When the tramway was built, the Acheron Way was simply a rough and narrow track used by paling splitters, so it would appear that the tramway simply followed the track. With both ends and the all-important middle now known, the sections of bulldozer track and Acheron Way could be joined to indicate the actual route of Timms' tramway, confirming that the tourist map was deeply in error.

So the lesson is, *everything* needs to be checked in the field. And without the fieldwork, there could not have been the map that accompanies this article. And what should not have been a surprise? Timms' tramway was aimed squarely at the proposed Victorian Railways Narbethong terminus!

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Tom Driver and fireman Alan Elliott with a classic SMR train, waiting the road at Weston Up Starting signal in 1968. Photo: Robert Driver

South Maitland Railways – A career remembered

by Robert Driver

The recent passing of veteran SMR engineman Thomas Driver has marked the closure of several chapters in the history of one of Australia's oldest continuously operated private railways. He was the last of the company's pre-war employees, the last engineman to have worked trains over the original Stanford Merthyr (Kurri Kurri) line, and also the last survivor of the small band of drivers regularly employed on the SMR diesel railcar service that once operated between Maitland and Cessnock.

He joined the South Maitland Railways at the age of 16 in December 1934, at the tail end of the Great Depression, as a temporary Call-Boy and Junior Cleaner, but as SMR men were fond of saying, "they never told you when you were permanent." He noted there were then 24 drivers on the roster, including the four shed chargemen. At that stage the three Avonside 0-8-2Ts Nos.1, 13, and 14 were still in constant use on the shorter runs, handling over 100 trains a month, but after the modern appointments of the new 10 Class engines, those Spartan machines had outlived their welcome, and when the young call-boy headed off on his bicycle in the wee hours, he knew what the first question would be: "I haven't got an Avonside have I?" He was intrigued to discover that the most senior drivers were never on call, no night work for them. That was a temporary and increasingly unpopular hangover from the pre 1930 era when the six senior drivers worked the passenger roster, which was essentially day work. When the government took over the Cessnock passenger service, the "big six", as they were known, won a reprieve to work only the more civilised day time shifts on the coal roster, where the whistle out times ranged from 1.00 am to 11.00 pm.

Engine cleaning in those days was hard work, including manual sweeping of tubes until compressed air cleaning was introduced in 1938. In October 1935, he was put on wash out duties, and almost immediately had an interesting lesson in the vagaries of water supplies. The region was in drought, and when the company's water supply dam dried up, a switch was made to mains water from the Chichester dam. Due to the higher mineral content, wash out crews suddenly had large quantities of scale to deal with, but firemen were not unhappy as dam water was more prone to engine priming, and in fact was never used again.

By some oversight, his promotion to Acting Fireman was never recorded, but most likely occurred in 1936. One thing was certain: when he passed his exam he had never been out on the road. Accordingly, he decided there was nothing for it but to purchase a ticket out of his own pocket for an inspection of the line by passenger train. Not that it did him much good. He was sent out on his first shift at night, after a fireman called in sick. In his own words: "I didn't know where I was, the driver told me what to do".

His elevation to regular fireman also went unrecorded, but it followed another year or two as a shed and relief fireman, and during this period he worked trips to Kurri Kurri goods depot and to Ayrfield No.1 colliery on the branch from Aberdare Junction, just prior to its closure. It seems his diligence as a shed fireman went a little beyond what was expected. Like many locomotives of that vintage, the 10 Class was fitted with only a single water gauge and he was in the habit of blowing down the gauge columns on his charges to check for any irregularities. One day in late 1938, he observed anomalous behaviour in the gauge column of engine No.19, and was in no doubt that the reading was false. On reporting this to the shed chargeman, all he got was an admonishment: "you should not be touching those". Shortly afterwards, No.19 suffered a catastrophic failure due to fusion of the lead safety plugs. The crew were duly held responsible for failing to test the gauge column, and were severely punished. This would prove to be the only failure of its type in the life of the 10 Class engines. Possibly as a result of this accident, the Department of Labour and Industry and Human Welfare (DLI) decreed that private boilers, which came under its jurisdiction, must be fitted with two water gauges.

Qualifying as a driver on the SMR was not as simple as on the government railways, where the Commissioner had absolute autonomy in matters of certification. First came the SMR examination for Acting Driver, which he passed on 14 July 1945, with the addendum "you will be given a

practical test when the opportunity allows." Not much had changed since his fireman exam! He was thus deemed fit to be examined by a government staff officer, which he passed and was confirmed as an Acting Driver (govt) on 13 November 1945. This was a necessary step for SMR drivers, because they were running among government operated passenger trains, and sometimes had to cross over the government line to West Maitland, for example when working the Wirth Bros. circus train. At that stage, he would have been fully qualified to take charge of a locomotive on the government railways, but not on the SMR, a private line. To be in charge of a privately owned steam appliance it was necessary to have the blessing of the abovementioned DLI, which administered the Factories and Shops Act, and on 14 December 1945 he was duly issued with a Certificate of Competency as Boiler Attendant No.1777. It seems this was dispensed automatically, in recognition of his nine years or so as a fireman, truly a case of putting the cart before the horse. It also explains why, strictly speaking, he should not have been testing that gauge column back in 1938 without the supervision of a qualified driver. Subsequent amendments to the Factories and Shops Act introduced Regulations for particular locomotive types and in 1960, in recognition of his experience and without further examination, he was issued with an updated qualification by the DLI, viz. "Certificate of Service as Engine Driver", by which he was deemed competent to act as Engine Driver of "Any steam locomotive to which these Regulations apply."

As a rostered driver, he was a recognised authority on the Westinghouse brake, and firemen studying for promotion were usually rostered with him for tuition - the SMR did not have a designated driver trainer. As odd as it may sound, SMR drivers in the early days were never too happy to have government (air) wagons in their train as the overworked compressor was liable to stop at anytime, a signal that the cup lubricator needed a refill. That problem disappeared with the belated fitting of hydrostatic lubricators from the late 1940s, easily the most cost effective improvement ever applied to the 10 Class locomotives.

On the eve of the great flood of June 1949, all coal trains were cancelled, but he was the rostered driver on the daily goods train, which it was hoped could deliver essential supplies to Cessnock and return to the depot before the line became impassable. After arrival at Cessnock in torrential rain, a wash away at Aberdare removed all hope of getting home and his engine was marooned there, along with government 4-6-4T No.3045 (S Class) on a passenger train. A couple of days later, with the remaining 10 Class engines standing in two feet of water at East Greta Junction, he and his mate were sent back to Cessnock by road and ordered to light up 3045, which had been placed at the company's disposal, and proceed on a rescue mission to the Bellbird Colliery where extra wagons were needed to permit the loading out of a large fall of coal which had caught fire and was threatening a large section of the mine. Raising steam in an S Class required a certain skill, and after a false start, he ran light engine to collect the required empties from Weston, where he found fellow crewmen raising steam in another marooned government engine, No.3057. At Bellbird, his task was to free up the screen roads by shunting loaded hoppers, 25 at a time, against the grade to the top end of the yard. This was heavy work for an engine of limited adhesion - "too many wheels" as some would say - and the sand was not flowing well either, hardly surprising as the engine had been thoroughly drenched and the weather was freezing. Water was soon needed, requiring a run back to Cessnock. He had one good word for 3045 - the brakes were excellent, not always the case on an S Class as the brake cylinder was very close to the firebox, causing accelerated drying of the leather seals. Due to heroic efforts underground, the Bellbird mission was successful and the fire was extinguished in time to avert disaster.

During the protracted flood emergency of June - August 1950, he again found himself in charge of a government engine, this time by design rather than accident. SMR coal traffic was re routed via the Richmond Vale Railway (RVR) in lieu of East Greta Junction and he and some of his mates were placed on the RVR pay roll to work hired government 50 Class 2-8-0s between Pelaw Main and Hexham. RVR men were not permitted on these engines as they were not Westinghouse qualified. His engine was No.5201, and if it was unavailable, a RVR 2-8-0 (ROD) or a hired SMR 10 Class was substituted. On one occasion, a RVR driver came on board his 10 Class engine, for no apparent reason other than curiosity, and without saying a word he frightened the wits out of his passenger by ignoring his call to stop and pin down brakes at No.2 tunnel - he had enough "governments" behind his engine to provide continuous braking on the steep descent to Dog Hole junction.

When SMR decided to resume responsibility for the Cessnock passenger service by purchasing three diesel railcars, he was one of three senior drivers - only a whisker separated them - who were offered first refusal to serve on the new seven day passenger roster comprising 3 shifts, morning, afternoon, and relief. His steam certificate counted for little in this new role. He would now have to satisfy the DLI Engine Drivers and Boiler Attendants Examination Board for the granting of a "Locomotive Engine Drivers Certificate of Competency (Internal Combustion Engined Locomotives, second class – compression ignition engines)". It was back to school, and attendance at 17 comprehensive "theory" lectures prepared and delivered by the SMR engineer, the last one titled "Typical Questions" in preparation for the DLI exam. The Regulations pertaining to Internal Combustion Engine Locomotives were only introduced on 30 June 1959, and his Certificate of Competency was No.189, a reflection of the small number of privately owned diesel "locomotives" then in service in NSW. Armed with his new Certificate, all that remained was some informal tuition on the Maitland station signalling arrangements by a friendly government Locomotive Inspector (in contrast, the introduction of the SMR service was not well received in higher NSWR echelons). Actually, he was not a participant in the inauguration of the new passenger service on 1 October 1961 – he began with a rostered day off. Fine tuning of the passenger roster required him to work one day on the "coal road" every six weeks to make up the hours, but in practice this involved assisting the Shed Chargeman. On only one occasion in his five years as a passenger driver did he take an engine out on the road.

When the Cessnock passenger service was discontinued in 1967 due to lack of patronage, he returned to a changed landscape on the coal road. In the face of plummeting traffic, the locomotive fleet had been allowed to run down and with only five 10 Class engines in trafficable condition at one stage, he again found himself working on the ROD locomotives of Pelaw Main acquaintance, two of which were hired temporarily when the Japanese export trade revived the SMR fortunes.

In 1968 he was offered a Staff transfer to the position of Locomotive Foreman, but was more content in the role of Shed Chargeman, a position he was now often filling in a relief capacity. He was made a permanent Shed Chargeman in 1974, which meant he could never again work on the road, and would have to retire at age 60, five years earlier than a rostered engineman. His retirement in 1978 coincided almost exactly with the cessation of SMR coal haulage in non air hoppers, the institution that largely defined his career.

Yallourn – the early years

The approaching centenary of the creation of the now-defunct State Electricity Commission (SEC) of Victoria, and the availability of many excellent photographs of the SEC's activities at Yallourn, makes this an opportune time to start an occasional pictorial series featuring that vast enterprise. In this first instalment we look at the earliest years – before the SEC was created or the place was even named Yallourn, when the area was covered in forest, scrub and swamp.

The existence of brown coal (lignite) in Victoria was known by the late 1850s. In 1876, one Harry Godridge, whilst prospecting for gold along the La Trobe River, discovered brown coal on its northern bank. Whilst ample supplies of NSW black coal were available nothing was done to exploit these resources, however, in the late 1880s events changed when NSW supplies became increasingly erratic. From 1889 to 1891 a wide-ranging Royal Commission into coal was conducted by the Victorian government; key findings being that Victoria should take steps to protect itself from NSW coal supply vagaries and that local resources be developed. This saw renewed development into the rather average local black coalfields together with the Gippsland brown coal deposits.

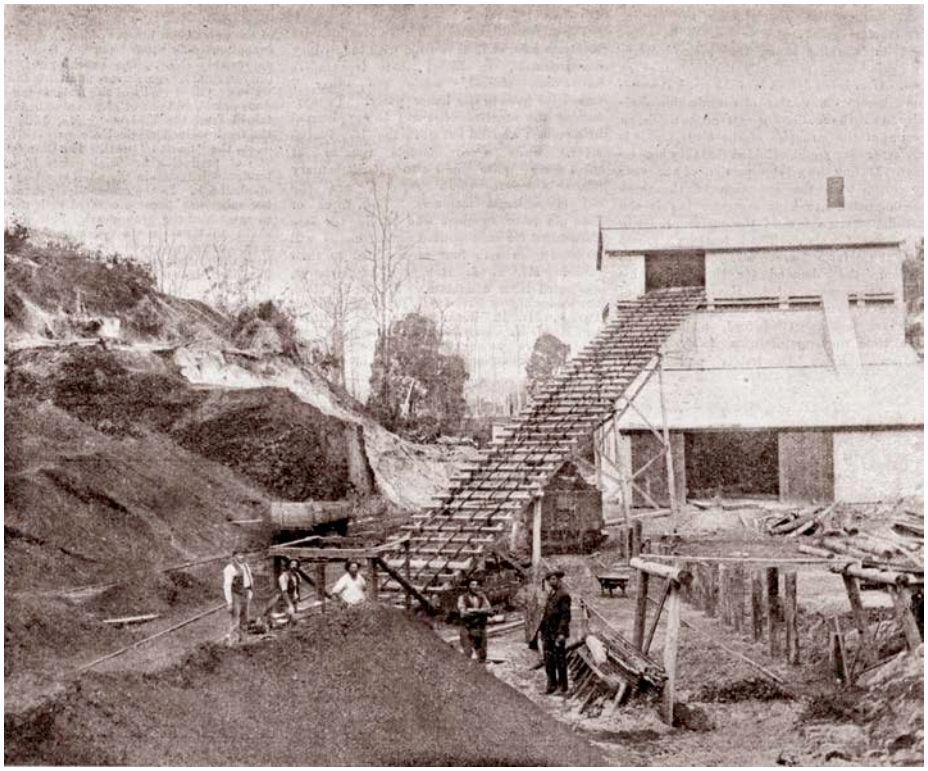
Extensive examination indicated that the brown coal beds were vast – they were eventually shown to be the largest in the world. Provable reserves are immense – maybe as much as 65 billion tonnes, sometimes in beds up to 200m thick; and that is just in the central La Trobe Valley. The entire Gippsland basin could contain around 340 billion tonnes, around 80 per cent of all Victorian brown coal.

The first extensive commercial exploitation of these coals was made near Godridge's discovery on the north bank of the river, between the existing towns of Moe and Morwell in 1890.

The Great Morwell Coal Mining Company NL, which had been in existence for several years supplying brown coal locally in Gippsland, raised sufficient capital to build a 3½-mile-long railway from the Victorian Railways (VR) main Gippsland line, to the mine. Constructed by Pearce Bros, using rented VR rails, fastenings and sleepers, the line was finished by late 1890, together with a bridge over the La Trobe River. The earliest mining at the site was done via adits into the steep hillside but with the arrival of the railway, an open cut was made into the hill. Both raw brown coal and briquettes were taken to Melbourne by train at various times. *Phil Rickard*

The Great Morwell Company's railway was subject to a complex deal with the government whereby the VR would purchase the line when traffic reached a pre-determined level. In the interim, it seems the company may have used a contractor to shunt the railway trucks with that contractor hiring a steam locomotive that appears to be one of the pair of 2-4-0 tender engines built by William Fairbairn & Sons, of Manchester and imported in 1860 by the contractors for the Geelong to Ballarat railway. Its use at the Great Morwell mine seems to have been of short duration and possibly only in the winter when traffic was heaviest or maybe until mid-1893 when the VR took over the running of the Great Morwell company's railway line. In our (badly damaged) photo we can assume the locomotive is being fired on raw brown coal or briquettes. The VR also undertook a number of locomotive trials with various brown coal mixtures but despite some initial success it was not adopted. In the background, at centre left, are four small overburden trucks – removal of overburden was done by contractors along a gently descending tramway to the bottom of the hill. The lighter soil above the bench was progressively removed to expose the lower, darker seam of brown coal. The photograph is attributed to James Stirling, the Victorian government's Assistant Geologist.

Photo: State Library of Victoria (SLV) H84.458/117)



On 7 July 1894, the Leader *(Melbourne) included some photos showing the workings at the Great Morwell mine. This image, taken from a position possibly on the overburden bench (as shown in the photo opposite) but further to the left, shows the newly-built briquette plant. Powered by a 25hp steam engine, it was undergoing trials at this time, producing briquettes weighing one pound each, stamped "GREAT MORWELL". A number of narrow-gauge tubs, were used on the ropeway incline into the press house. A VR truck is positioned in the briquette siding. The pictures later appeared in the* Leader's *monthly stablemate, the* Illustrated Australian News, *whence these copies come.*

Photo: SLV IAN01-08-94-7-8c

As if to make up for some of the less-than-ideal photos of the Great Morwell mine, we have this fine image, part of a much larger photo, taken by W H Ferguson. Four of the VR's standard 'I' trucks (each capable of holding about 6¾ tons of brown coal) are seen in various sidings. At the bottom of the incline to the briquette plant are a couple of round-bottom mine tubs on narrow gauge tracks. Each tub held 500 lbs of coal and emptied into hoppers over the No.1 large course crushing rollers. Lack of activity may be due to the Sabbath or possibly an earth slippage due to rain.

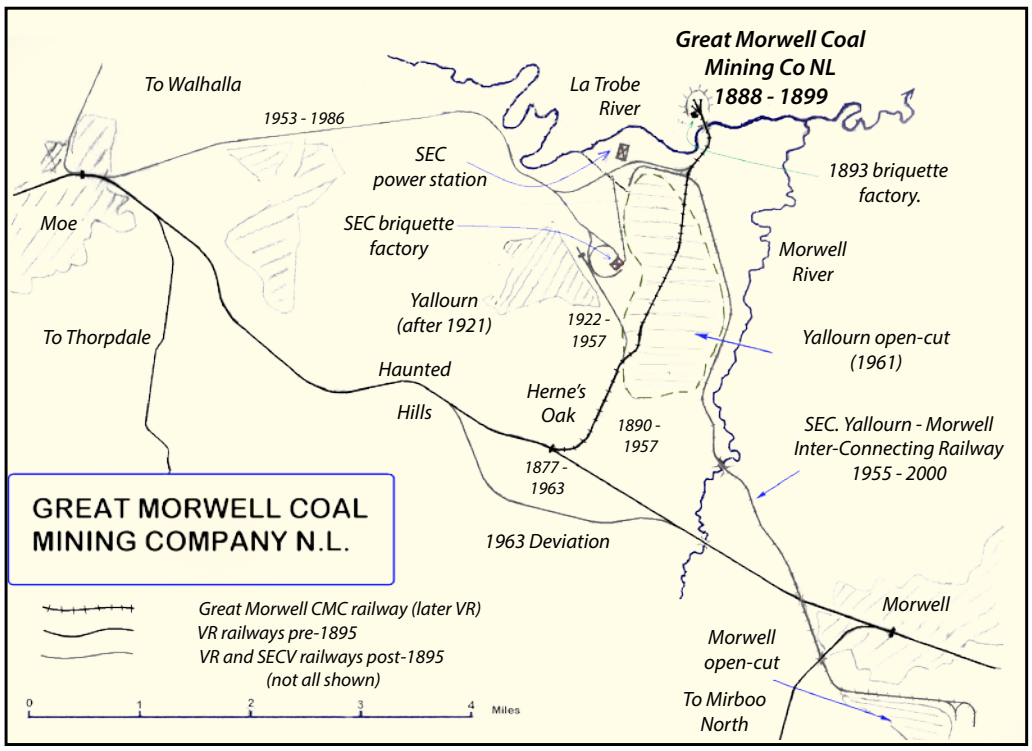
Photo: SLV H85-162-9)

Another view from the Illustrated Australian News. *The photograph is looking south, over the La Trobe River, towards the main Gippsland railway. Output was often quoted in the Mining Notes in the newspapers. For example, between 10 September and 31 December 1891 some 8776 tons of coal was despatched from the mine – no mean feat for men with shovels and wheelbarrows – and probably the company's high point. The yearly average from 1890 to 1897 was about six-and-a-half thousand tons. The use of horse power on the railway trucks may indicate either that the bridge over the river was no longer safe for locomotives, or that the pre-winter output was within the capabilities of a horse, at least to the sidings on the south bank of the river where a VR locomotive could take over. The company's 3½-mile railway was finally purchased by the VR for £5173, in two instalments – half (an advance) in 1893 and the rest in 1897. Some of the funds were directed to the Austral Otis Engineering Co Limited, Melbourne, to manufacture and erect the briquetting plant, designed to turn out 30 tons daily. Construction took 2½ years instead of 6 months! On 2 March 1895, while still undergoing protracted trials, a bushfire destroyed the plant. It was rebuilt, using German equipment, and eventually produced briquettes for the Melbourne market for a couple of years. Lasting success, however, eluded the company and the mine closed in mid-March 1899; the assets being auctioned in May of that year. Since 1893 the mine had faced increasing competition from newly-opened black coal mines in the Korumburra and Jumbunna areas.*

Photo: SLV IAN01-08-94-7-8a

Further reading:

"*Yallourn Was . . .*" Prue McGoldrick (Gippsland Printers, Morwell, 1984)
Brown Coal – H Herman (SECV, 1952)
Train Systems – Yallourn and Morwell; J A Vines (Generation Vict, Morwell, 1994)
Yallourn Power Station – a history; Colin Harvey (SECV, 1994)
Coal Mining Heritage Study in Victoria – Jack Vines (Heritage Victoria, 2008)
SEC Railways, Yallourn, in *Light Railways* No.82; J L Buckland (LRRSA, Oct 1983)
TROVE – National Library newspapers
The Great Morwell Coal Mining Company: From Confident Beginnings to Failure in Ten Years, W J Morley Gippsland Heritage Journal, No.8, 1990



Industrial Railway NEWS

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Special thanks to contributors to the *Sugar Cane Trains/Navvy Pics 2ft* Facebook page.

QUEENSLAND

CURTAIN BROTHERS (QLD) PTY LTD, Townsville

(see LR 246 p.22)
1067 mm gauge
A 20 tonne Plymouth 4wDH locomotive of unknown builder's number and owned by Curtain Brothers has been donated to Loco Shed NQ at The Bohle in Townsville and was delivered there on 30 September. This locomotive originally worked on the Snowy Mountains Scheme then subsequently the Melbourne Underground Rail construction, the Cardstone Tunnel and in New Guinea. It had been in storage in Townsville since at least 2008.
Loco Shed NQ 10/16; John Browning 10/16

ISIS CENTRAL SUGAR MILL CO LTD

(see LR 250 p.36)
610 mm gauge
EM Baldwin B-B DH 11 (10130.1 6.82 of 1982) was out of service with a final drive problem for a period up until 29 September and was replaced by spare locomotive Walkers B-B DH 6 (610 of 1969 rebuilt Isis 2002). During this time, 6 was paired up with EM Baldwin 6 wheeled brakewagon 11 (7937.1 7.78 of 1978). Walkers B-B DH 2 (598 of 1968 rebuilt Walkers 1994) has been fitted with a one piece sliding glass door at the rear of the cab.
Brian Bouchardt 9/16

MACKAY SUGAR LTD, Mackay mills

(see LR 251 p.24)
610 mm gauge
Sweetadz billboards have proliferated and are now being seen on bins at Farleigh and Marian Mills as well as Racecourse Mill. One of the ex SRA of NSW Walkers B-B DH locomotives, 7304 (663 of 1970), in storage at the North Eton Mill site had its bogies removed in October for conversion to 610 mm gauge. When needed, they will be used as a swap-in set for one of Mackay Sugar's fleet of these locos.
Mitch Zunker 9/16, 10/16; Sweetadz 9/16, 10/16; Scott Jesser 10/16

MACKAY SUGAR LTD, Mossman Mill

(see LR 244 p.24)
610 mm gauge
Clyde 0-6-0DH *Habana* (60-215 of 1960) was seen working the poison spraying train on 15 September. Its multi-unit calf mate, Clyde 0-6-0DH *Marian* 11 (56-104 of 1956), was broken down at the time. Com-Eng 0-6-0DH *Mossman* (B1719 of 1957), normally on navvy duties, was seen hauling cane on 1 October. It was hauling the poison train on 14 September.
Luke Horniblow 9/16; James Chuang 10/16

MSF SUGAR LTD, Mulgrave Mill

(see LR 251 p.24)
610 mm gauge
Com-Eng 0-6-0DH 8 *Charringa* (A1926 of 1958) was rebuilt during the slack season and was seen on 25 September with its new Mulgrave style hood and cab which extends to the rear of the locomotive. It was also fitted with a Scania motor and Allison transmission during the slack season. Examination of photos taken by John Browning and Scott Jesser has revealed that this locomotive's name was changed from Charinga to Charringa sometime between June 2012 and September 2013. Com-Eng 0-6-0DH 17 *Deeral* (AD1453 of 1962) has also returned to service following a similar slack season rebuild. The old Mulgrave style cab and hood from 17 *Deeral* have been fitted to Clyde 0-6-0DH 16 *Kamma* (56-96 of 1956) this year, replacing its previous Mulgrave style hood and its cab which was probably built by Hockey Engineering. It has also been fitted with coil springs in place of the original leaf springs. Clyde 0-6-0DH 18 *Barron*

Mossman Mill's EM Baldwin B-B DH Daintree (7303.1 7.77 of 1977) is seen approaching Miallo Junction on 1 October. Photo: James Chuang

(64-379 of 1964) was having frame extensions welded in at the front and rear during October. Walkers B-B DH 21 *Gordonvale* (595 of 1968 rebuilt Bundaberg Foundry 1995) is expected to be the next locomotive here to receive a Mulgrave style rebuild.
Com-Eng 0-6-0DM 5 (A1005 of 1955) was working ballast trains for South Johnstone Mill during September. Com-Eng 0-6-0DH 6 (A1006 of 1955), one of this mill's few working locos with its original open sided cab was seen in service on 16 and 26 September.
Scott Jesser 9/16; Bill Horton 9/16; Luke Horniblow 9/16; John Charleton 9/16, 10/16; John Browning 10/16

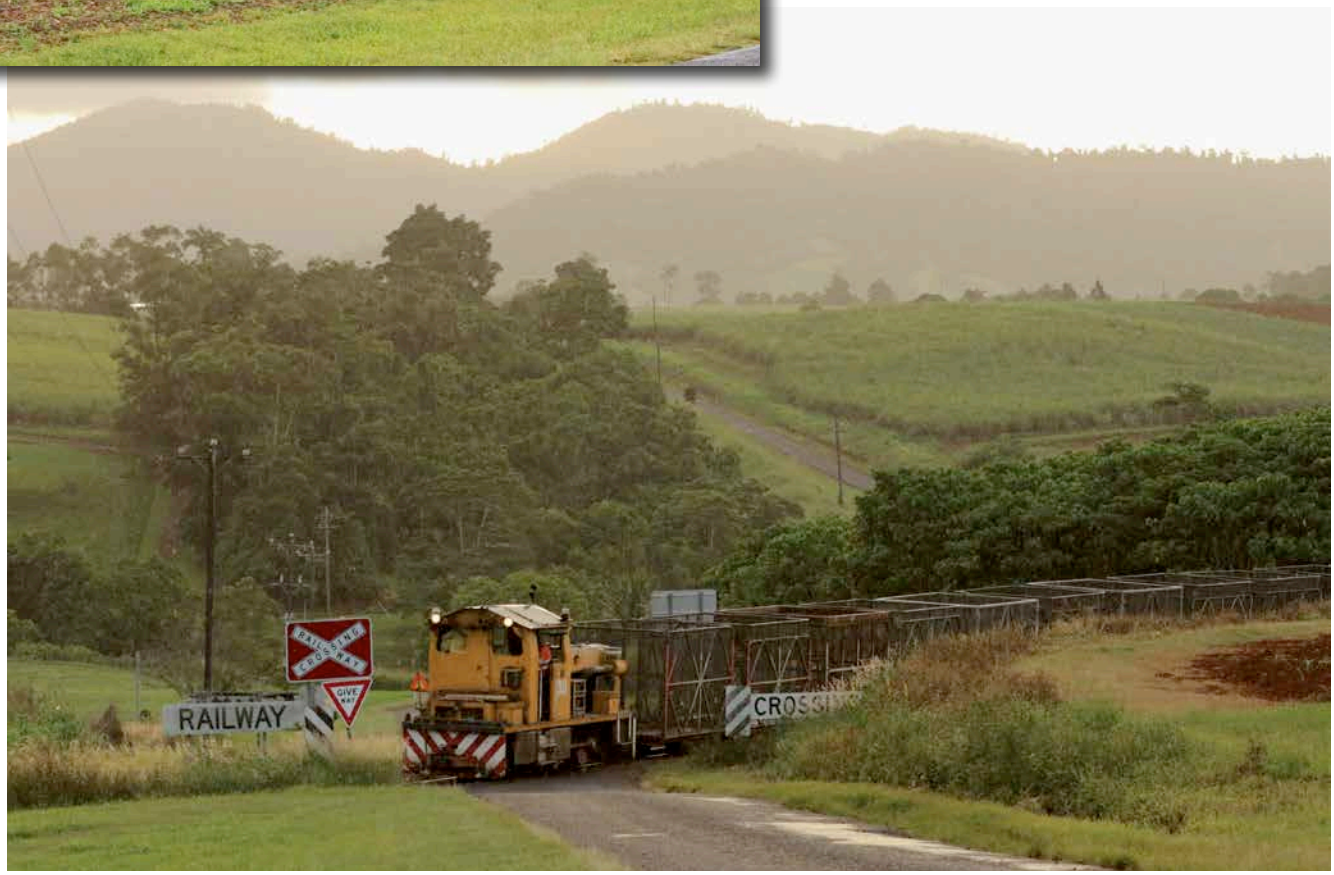
MSF SUGAR LTD, South Johnstone Mill
(see LR 251 p.24)
610 mm gauge
Clyde 0-6-0DH multi-unit locomotives 2 (55-56 of 1955) and 3 (56-90 of 1956) had returned to service following their rebuild by early September. Unfortunately, 2 was out of service with mechanical problems from 4 September. 3 was seen in service alone on 3 October with 2 being out of action at this time. Com-Eng 0-6-0DH 38 (AH4695 of 1965) was seen working the areas along the line south of the 'silver bridge' in October. This was the former main line to Silkwood over the 8 Mile Range which was replaced by the coastal route to the mill some years ago. Cane from Silkwood and Japoon still takes this route when the coastal route is blocked with one such instance occurring in October. Mulgrave Mill's Com-Eng 0-6-0DM 5 (A1005 of 1955) was working ballast trains for South Johnstone Mill during September. Com-Eng 0-6-0DM 27 (AI57111 of 1975) was being partially dismantled for cosmetic restoration in October.
Jason Sou 9/16; Bill Horton 9/16, 10/16; Luke Horniblow 10/16; Peter Smart 10/16; James Chuang 10/16

SUGAR TERMINALS LTD, Townsville
1067 mm gauge
Clyde Co-Co DE ST5 (81-999 of 1981), sold to Queensland Railways in 1988, is now numbered 2501D and used by the shunting school at Redbank Workshops, being seen there on 1 October.
Joel Turner 10/16

TULLY SUGAR LTD
(see LR 251 p.25)
610 mm gauge
The ex Mulgrave Mill NQEA bogie brakewagon of 1995 was being worked on in the locoshed on 19 September. Its disc brakes are going to be removed and it will replace the Tully Sugar 6 wheeled brakewagon of 1989 which was built using the frame of Clyde DHI.4 of 1954. This unit has not been used for about two seasons and is considered to be too light for the range section. Its electronics will be transferred to the NQEA unit. The Tully Sugar bogie brakewagon of 1993, nothing of which has been heard for many years, is reported to have suffered collision damage then been stripped down with its subsequent

Top: *Com-Eng 0-6-0DH* Mossman *(B1719 of 1957) on the way to the mill with a rake of fulls on 1 October. Photo: James Chuang* ***Centre:*** *Mulgrave Mill's Com-Eng 0-6-0DH 6 (A1006 of 1955) delivers empties to the Peets Bridge siding on 26 September. Photo: Scott Jesser* ***Above:*** *Prof B-B DH 22* Aloomba *(P.S.L.25.01 of 1990 rebuilt South Johnstone Mill 1993) on Mulgrave Mill's Barbagallos line on 25 September. Photo: Scott Jesser*

Above: *Clyde 0-6-0DH 3 (56-90 of 1956) crosses Com-Eng 0-6-0DH multi-unit locos 6 (C2234 of 1959) and 7* Morrison *(AD1239 of 1960) at Hunts Loop on the South Johnstone Mill system on 3 October. Photo: Luke Horniblow*
Left: *Clyde 0-6-0DH 16* Kamma *(56-96 of 1956) heads east from Mulgrave Mill on 12 September. Photo: Luke Horniblow*
Below: *Duis South Johnstone Mill's Com-Eng 0-6-0DH 38 (AH4695 of 1965) at Camp Creek Road on its way up to the 'Little Tableland' and Mena Creek areas on 1 October. Photo: James Chuang*



fate being unknown. Com-Eng 0-6-0DH *Tully-17* (AH52100 of 1966) has been dedicated to navvy duties for the past few years and was seen stabled with the poison train at Davidson Road on 17 September.
Luke Horniblow 9/16; Nicholas Taifalos 9/16

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills
(see LR 251 p.25)
610 mm gauge
The bogie brakewagon built in China for Victoria Mill in 2015 was supplied by Shanghai Technology Services. It was fitted up and modified at the mill during 2015 and the 2016 slack season. The Plasser KMX-12T tamping machine (445 of 1998) has returned to service following refurbishment and was first seen in use on 15 September. Following a protracted refurbishment, Macknade Mill's EM Baldwin 0-6-0DH 14 (6/2490.1 7.68 of 1968) returned to service from 30 September. It has been fitted with a new and larger Mercedes Benz motor and an Allison transmission. Locomotive exchanges between the two mills have continued. Clyde 0-6-0DH *Ingham* (64-382 of 1964) returned to Victoria Mill from Macknade Mill on 1 September then did a brief stint at Macknade from 20 to 22 September. Except for a couple of brief returns to Victoria Mill from 6 to 7 or 8 October and 8 or 9 to 10 October, Clyde 0-6-0DH *Lucinda* (65-436 of 1965) has remained at Macknade. EM Baldwin B-B DH *Darwin* (6171.1 9.75 of 1975) and Clyde 4 wheeled brakewagon BVAN 4 (CQ3426 of 1975), normally based at Macknade, were at Victoria Mill from 10 to 12 October. On the latter date, Macknade's EM Baldwin B-B DH 19 (7070.3 4.77 of 1977) and EM Baldwin 6 wheeled brakewagon BVAN 2 (7065.5 6.77 of 1977) went to Victoria Mill. During the period 15 to 17 October, a flurry of exchanges took place with 19 and BVAN 2 returning to Macknade in a swap for Macknade's EM Baldwin B-B DH 20 (7070.4 4.77 of 1977) and EM Baldwin 6 wheeled brakewagon BVAN 1 (7065.3 6.77 of 1977) which in their turn were swapped for the Darwin and BVAN 4. The situation then stabilised with 19 and 20 remaining at Macknade and the Darwin at Victoria Mill. Com-Eng 0-6-0DH *Oakenden* (FB3169 of 1963), on loan to Victoria Mill from Invicta Mill, was sent to Proserpine Mill on 6 October to alleviate a locomotive shortage there.
On 15 October, Victoria Mill's Hudswell Clarke 0-6-0 *Homebush* (1067 of 1914) hauled passenger trains on the Nyanza line for the annual Maraka Festival.
A stolen car was abandoned on the Bambaroo line near the Warrens Hill Road level crossing on 27 August. The next train along, hauled by Walkers B-B DH *Jourama* (680 of 1972 rebuilt Bundaberg Foundry 1996), had to brake heavily to avoid collision with the car and three full bins were derailed.
Editor 8/16, 9/16, 10/16; Lino Santarossa via Rod Taylor 9/16; Tom Badger 10/16; Kevin Mamo 10/16; *Herbert River Express* 31/8/2016

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru
(see LR 251 p.25)
610 mm gauge
All of the locomotives at Invicta mill are expected to be driver only by 2018. Use of this mill's rail mounted bridge crane to remove several spans of the Haughton River bridge each year since at least the nineteen eighties has ceased from this year with workplace health and safety concerns being cited as the reason. A conventional crane was used this year. In the past, the bridge crane has been loaned out to Goondi, Victoria and Macknade Mills.
ABC Landline 18/9/2016; Luke Horniblow 10/16; Nigel Dibnah 10/16; Editor 10/16

WILMAR SUGAR (PLANE CREEK) PTY LTD, Plane Creek Mill, Sarina
(see LR 251 p.26)
610 mm gauge
An additional two locomotives are expected to be fitted with RSU remote control gear in 2019 and 2020.

Top: *A East of Feluga on the Tully Mill system, Walkers B-B DH* Tully-5 *(650 of 1969 rebuilt Walkers 1993) is ready to exchange loads with Com-Eng 0-6-0DH multi-unit locos* Tully-11 *(AD1347 of 1960) and* Tully-16 *(AH4484 of 1964) on 19 September. Photo: Luke Horniblow* ***Above:*** *Tully Mill's Walkers B-B DH* Tully-3 *(643 of 1970 rebuilt Tully Mill 2013) at Euramo on 24 September. Photo: Scott Jesser*

A fault with one of the mill's brakewagons managed to cause a significant mill stop on 29 September.
Daily Mercury 2/10/2016, 5/10/2016

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill
(see LR 251 p.26)
610 mm gauge
Five locomotives here are expected to be fitted with RSU remote control gear in 2017 and 2018. With a number of locomotives out of action, Com-Eng 0-6-0DH *Oakenden* (FB3169 of 1963) was sent here from Victoria Mill on 6 October. It is running with the call sign of 5 here.
Tom Badger 10/16; Kevin Mamo 10/16; Ray Hall 10/16; *Daily Mercury* 2/10/2016

NEW SOUTH WALES

JUNEE RAILWAY WORKSHOPS
(see LR 249 p.24)
1435 mm gauge
Goninan Bo-Bo DE *Folly* (051 of 1977) was seen shunting here on 30 August.
Scott Mitchell 8/16

K&A AINSWORTH ENGINEERING PTY LTD, Goulburn
1435 mm gauge
This firm has an enlarged contract with Sydney Trains for the ongoing servicing and maintenance of its work trains and has acquired Walkers B-B DH locos 7319 (678 of 1972), 7322 (684 of 1972) and 7333 (695 of 1972) from Manildra, Shoalhaven Starches at Bomaderry. These will be used as shunting locomotives, and were not to be seen at Goulburn in early October so may still be awaiting transport from Bomaderry.
Peter Neve 10/16

MANILDRA, SHOALHAVEN STARCHES PTY LTD, Bomaderry
(see LR 251 p.26)
1435 mm gauge
Walkers B-B DH locomotives 7319 (678 of 1972), 7322 (684 of 1972) and 7333 (695 of 1972) have actually been acquired by K & A Ainsworth Engineering Pty Ltd of Goulburn. They were not to be seen at Goulburn in early October so may still be at Bomaderry awaiting transport.
Peter Neve 10/16

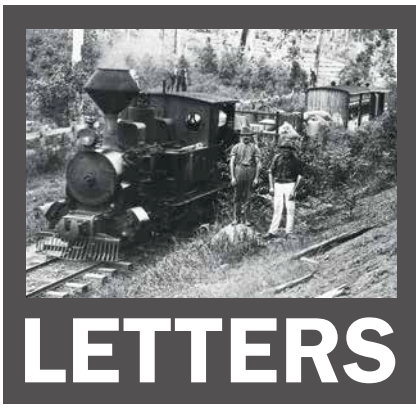
WESTERN AUSTRALIA

BHP BILLITON NICKEL WEST, Kalgoorlie Nickel Smelter, Hampton
(see LR 248 p.24)
1435 mm gauge
Trackmobile 'Magnum' road/rail shunt locomotive K165 *Priscilla* was seen working here in late September.
Walter Rowe 9/16

OVERSEAS

FIJI SUGAR CORPORATION
(see LR 251 p.28)
610 mm gauge
Lautoka Mill has been fiddling with its locomotive liveries and changes noted from the usual yellow and gray are as follows. EM Baldwin 0-6-0DH 16 (6/1257.1 7.65 of 1965), seen in July or August, has lost its Bundaberg Sugar yellow livery and is now in yellow uppers and gray lowers with red and black striped headstocks. Clyde 0-6-0DH 11 (65-432 of 1965) seen on 5 October, now has red and black striped headstocks but no other changes. Clyde 0-6-0DH 12 (65-431 of 1965), seen on 16 October, now has gray uppers and for lowers, a rather pleasant shade of blue, while the headstocks now have red and white stripes. All carry the seemingly obligatory fluro orange trim. 11 and 12 have both had most of their original slatted engine compartment doors replaced by larger expanded mesh doors. EM Baldwin 0-6-0DH 20 (3406.1 7.70 of 1970) was seen at Navo Depot on 5 October and was still in its Bundaberg Sugar livery.
Penang Mill Clyde 0-6-0DH 21 (58-191 of 1958) has been transferred to Labasa Mill where it has been numbered 18 but was still carrying its Penang identity in October. It had been inoperable at Penang since 2014 but is now in service at Labasa.
The Fiji Sugar Corporation Chief Executive Officer stated in September that plans to increase the size of the rail system had stagnated. However, it is intended to keep the existing system and it may be expanded in the future. It is hoped that crop size will increase to 3 million tonnes by the start of the next decade and this will mean increased road congestion.
sailingsouthpacific.com accessed 9/16; Fiji Broadcasting Corporation 5/9/2016; John Browning 10/16; Chris Stratton 10/16

The two oldest Clydes in the Fijian sugar industry are both on roster at Labasa Mill and one of these, Clyde 0-6-0DH 17 (DHI.6 of 1955), is seen here on 17 October. Photo: John Browning



LETTERS

John Heine and Son Ltd (LR 251)

In Jim Longworth's article on John Heine and Son Ltd the huts shown on the plan on p.22 are not 'Nissan' huts, but 'Nissen'. Nissan is a Japanese car maker, and to the best of my knowledge has never had anything to do with huts.

The semi-circular Nissen hut, basically made with curved corrugated iron sheets was invented in 1916 by Major Peter Norman Nissen RE, and was widely used during the 1914-18 war by the British and other armies, and even more so during the second world war. These huts also saw considerable civilian use in many parts of the world after the war.

In the United States a hut of similar semi-circular design was built, this was the Quonset hut. Nissen huts have their corrugations running circumferentially; in Quonsets the corrugations run axially, parallel to the ground. In Australia, the Nissen hut was much more frequently seen than the Quonset.

As an aside Heine had a works here in Victoria, near Spotswood on the Williamstown line, and during the war was engaged in the production of munitions, mainly artillery shell fuses.

Bill Pearce
Via email

John Heine & Son Ltd (LR 251)

I found the article by Jim Longworth about human powered light railways very interesting and reminded me of an encounter I had with this sort of arrangement in relatively recent times.

In early 2008 I spent a few weeks working as a temporary Fork Lift Driver for a company in Cheltenham Victoria. This company specialised in die cast and plastic injection moulding mainly making parts for the automotive industry. In part of the factory they used a section of track to move parts of machinery from one side of the factory to another. I have photos that show the length of the line and the wagons used for this purpose. I wasn't working there long and didn't get the opportunity to get any more pictures or measure the gauge of track.

Also included on the topic is a picture taken at the Geelong Agricultural and Pastoral Society Inc's Machinery Section of the Geelong Showgrounds showing a human powered line to move wood from the wood stack to feed one of the boilers used to generate steam for the collection of stationary steam engines on display. As you can see from the photos the line is only a few metres long though it is a good example of what may have been found in the past on a larger scale.

I hope this has been of interest to the readers.

Sam Daly
Via email

Tramways of the Moreton Bay Islands (LR 251)

I would like to correct the reference to Jumpinpin in the preamble to Rod Milne's above article on page 16 where he refers to Stradbroke Island being split in two around the Second World War.

The area known as the Jumpinpin Bar was part of a narrow isthmus of land on Stradbroke Island at a location known as Tulleen. Following the shipwreck of the barque *Cambus Wallace* on 3 September 1894 attempts were made to salvage its cargo of whiskey, beer and explosives. The explosives were piled up in one place and detonated on the sand dunes at Tulleen. (Probably too dangerous to attempt to transport them too far!) This caused damage and subsequent erosion which eventually led to the sea breaking through during May 1898 caused by storms and tidal action. The graves of the five crew who drowned were also washed away as well at this time. This and further erosion split Stradbroke Island into two islands leading to them now being referred to as North Stradbroke Island and South Stradbroke Island.

This information was taken from a google search; "Jumpinpin Bar History".

The area is still a favourite fishing area in southern Moreton Bay, my late wife and I always enjoyed our fishing trips to the sheltered waters inside the Jumpinpin bar.

Thank you and keep up the good work, *Light Railways* is always an enjoyable and informative publication.

Ian Childs
Via email

East Bay Neck and its light railways (LR249)

Further to my letter in the last edition of *Light Railways,* also of interest is the attached image from the *Tasmanian Mail,* Hobart, 21 Oct 1905. As mentioned in our article, a Ruston, Proctor & Co Ltd 'steam navvy' was acquired in late 1902 to expedite the digging of the canal. After the 'cut' was flooded, Henrickson and Knutson affixed the steam shovel on to a barge to enable below-water excavating. As-built, such steam navvies often had just a basic roof under which sat a vertical boiler and the machinery. One presumes the wintry conditions often encounted around Dunalley necessitated a more substantial shelter as depicted. Ruston Proctor started making these steam navvies in 1874 after they acquired the patent rights from James Dunbar. When fully erected on the required wide-gauge (10 ft 9 in) railway track, each excavator weighed about 36 tons in working order. Ruston Proctor claimed that 58 of these steam navvies were used on the Manchester Ship Canal excavation. A description of the operation of a navvy may be found in 'The Steam Navvy in Ceylon' by T.Stewart AMI, CE. in *Transactions of the Ceylon Engineering Association*, 1908, available online. Its role in an irrigation project is discussed, together with details of the associated 2ft 6in gauge railway and two Bagnall locomotives.

Phil Rickard
Via email

Geelong Agricultural and Pastoral Society Inc's Machinery Section at the Geelong Showgrounds showing a human powered line to move wood from the wood stack to feed one of the boilers used to generate steam for the collection of stationary steam engines on display. As you can see from the photos the line is only a few metres long though it is a good example of what may have been found in the past on a larger scale. Photo: Sam Daly

Port Arthur Tramways

After reading the article from Jim Longworth and Phil Rickard in LR 249, I looked back on earlier research I had done concerning the other convict tramways associated with the Model Prison at Port Arthur. These included the Port Arthur tramroad itself, those at the notorious Coal Mines, a short one at Eaglehawk Neck, and the one at Ralphs Bay mentioned in the article. The portage tramroad across the East Bay isthmus adds to that story.

Charles O'Hara Booth's concept for the Port Arthur railroad, and its early success, must have been personally satisfying, as on 9 February 1838, two years after its opening, he wrote to Colonial Secretary John Montague, seeking permission to build two other similar lines, one linking the coal mines on Norfolk Bay with a jetty at Coal Point (1 mile 200 yards)[1], as well as with Slopen Main on Frederick Henry Bay (1 mile 5½ furlongs)[2], and the other across the isthmus at Eaglehawk Neck (210 yards). The request was accompanied by quite detailed schedules of the materials required, cross-sections of both single and double track design, and a map showing the Eaglehawk Neck route and a jetty.[3] He was to meet with success quickly, for on 15 February 1838, Secretary Montague endorsed the letter with the statement 'The Lieutenant Governor approved of these works being performed'.[4]

This further success prompted Booth to almost immediately propose yet another rail road, on 2 March 1838, this time not on the Tasman Peninsula, but much closer to Hobart Town – for three-quarters of a mile across the Ralphs Bay isthmus. This would enable the overland transfer of boats and supplies etc. between Ralphs Bay in the Derwent Estuary and Frederick Henry Bay, thus avoiding the need to go out into the open sea. This line was commenced on 23 May 1839 and Booth was able to report on 2 March 1840 that it was complete, being 1½ miles water to water.[5]

It is evident that these proposals were modelled on the original Port Arthur rail road, and the detail that accompanied them gives a good insight into the construction generally used. The rails each consisted of 'two pieces of quartering, nailed together', in opposing 'L'-shapes, so that un-flanged cart wheels were guided by being located outside the vertical timbers of the 'L's ('the top rails'). In short, the rails themselves formed longitudinal flanges - effectively a wooden-railed plateway.

The gauge was 2 ft 6 in, measured between the outer faces of these top rails. The rails were laid on stringybark split timber sleepers placed at 18 inch centres. In double track sections (specifically on at least part of the line from the coal mines to the jetty) the sleepers were 10 feet long, with a 3 ft spacing between the tracks, while for single track sections, 6 ft sleepers were used. Rails were fixed to the sleepers with 5 inch nails, forged at Port Arthur from ⅜ inch square 'nail rod iron', while 3 inch nails were used to join the top rail to the bottom rail in the 'L'.

The materials estimate for the Ralph's Bay proposal also included for the construction of two wagons.

Whether or not these general details were followed with the East Bay Neck portage tramroad is not yet clear, but the article notes that, as at Ralphs Bay, '… it would have [been] … set to a wide gauge, extending into the sea at either end. …' This implies a gauge wider than 2 ft-6in, and that, and the mention of flanged wheels, is interesting.

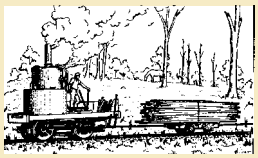
That the rails at Ralphs Bay extended into the sea was confirmed by Lieut. Governor Denison, who rode on the Ralphs Bay tram in 1847, en-route to an official visit to Port Arthur. His recorded account gives an insight into the growing antipathy towards the convict system:

I must say that my feelings at seeing myself seated, and pushed along by these miserable convicts, were not very pleasant. It was painful to see them in the condition of slaves, which, in fact, they are, waiting for me up to their knees in water.[6]

I can offer no comment as to the use of '… animal power…', but it seems that convict-power was still in vogue!

Scott Clennett
Bellerive, Tas

1. Imperial measurements have been used in keeping with the period covered, and with the references quoted.
2. Archives Office of Tasmania ref CSO5/1/103, file 2329, pages 108, 119/120, 122-126, and associated documents.
3. The *Hobart Town Courier* reported on 15 April 1836 that '… there was a wooden pier with a railway of 300 yards in length at the establishment at Eagle-hawk-neck at which the government vessels are unloaded with much facility of the of the stores of the settlement (of Port Arthur) …', but it is clear from reading the source article that the reference was to the pier at Little Norfolk Bay, (ie the northern terminus of the Port Arthur rail road), and the mention of Eaglehawk Neck was a geographical error on the part of the newspaper, or its reporter.
4. Although approved by the Lieut. Governor (Sir John Franklin) it is unclear whether the link to Slopen Main was ever built.
5. Port Arthur Railway Across Tasman Peninsula, Bayley WA, Austrail Publications 1971. See also: *The Convict Tramway at Port Arthur, Tasmania*, Gifford Eardley, *ARHS Bulletin* No 198, April 1954.
6. *Varieties of Vice Regal Life*, William Denison, Longmans, Green and Co., London 1870



LRRSA NEWS

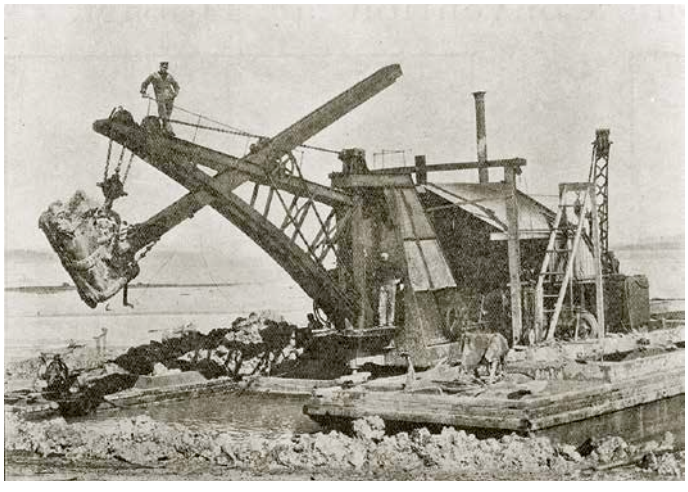
MEETINGS

ADELAIDE: "Christmas meeting"
As usual with our Christmas meeting, business will be reduced to a minimum, and no topic has been set down. We will possibly view a video of some sort, but that is not settled at the time of writing. Intending participants would be well advised to contact Les Howard on 8278 3082 or by email lfhoward@tpg.com.au, since accommodation is limited.
Location: 9 Craiglee Drive, Coromandel Valley
Date: Thursday 1 December 2016 at 7.30 pm

BRISBANE: "Mike Loveday photo competition"
The meeting will feature the late Mike Loveday Photo & Slide Competition that is open to all members.
Location: BCC Library, 107 Orange Grove Road, Coopers Plains.
Date: Friday 16 December 2016 at 7:30pm

MELBOURNE: "Maine 2 foot gauge - USA"
Society President Bill Hanks will provide an overview of the Maine 2 foot narrow gauge railways based on his recent trip there. There will be an emphasis on the places visited during the Narrow gauge Convention that Bill attended..
Location: Ashburton Uniting Church Hall, Ashburn Grove, Ashburton.
Date: Thursday 8 December 2016 at 8:00pm

SYDNEY: No meeting in December
The next meeting of the NSW Division will be in February 2017 and details will be provided in the next *Light Railways.*



LRRSA NSW Division 40 years' celebration

On Wednesday evening, 26 October members gathered at Burwood for a celebration of the fortieth year since the inauguration of the NSW Division.

Member Michael Thomas kindly arranged for a suitable chocolate birthday cake to be baked. The icing was adorned with an 0-4-0 Krauss locomotive named *Jack* which once worked on the Burrinjuck Tramway in southern NSW.

Coffee and cake was complemented by an entertaining evening of scenes of South African Railways 2 ft gauge Garratt locomotives at work both in their native homeland and on the present Welsh Highland Railway in Wales, UK.

Ross Mainwaring

Book Review

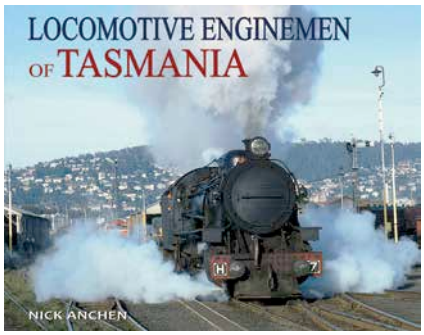
LOCOMOTIVE ENGINEMEN OF TASMANIA

by Nick Anchen

Published by Sierra Publishing
184 pages, landscape format 265mm x 205mm, hard cover, with 139 coloured photos and 5 maps. Available from the LRRSA online bookshop - $49.95 plus postage ($44.95 plus postage for LRRSA members)

Nick Anchen's latest book is titled *Locomotive Enginemen of Tasmania* and is essentially a photographic biography featuring stories from nine Tasmanian enginemen who worked all manner of trains throughout the State from the 1940s to the 1980s. The stories cover Hobart suburbans, Fingal coal trains, the *Tasman Limited*, the Garratts of the Emu Bay Railway and the Mount Lyell rack railway. Most of the excellent photographs have not been previously published, and although more than half of the book covers the Tasmanian Government Railways, the 3 ft 6 in gauge state carrier, the quirkiness of the TGR will be of interest to LR readers and of course the Emu Bay and the Mt Lyell are very much our core interest.

The highlight of this book to this reviewer is the range, quantity and quality of the photographs depicting the various railways in Tasmania. The photos have all been produced to a very high standard and much detail can be gleaned from them. The text provides a fascinating insight to the everyday issues facing the enginemen



and it is written in such a way that it is not too technical yet is very descriptive. The text is rich in detail and anecdotes about the minutiae of operating a railway. For example, the driver of the Mount Lyell trains tells of how he was required to drive a whole range of locomotives from the Abt to the 2 foot gauge Krauss to the rail car, sometimes all in the one day. There are also many stories about mishaps and the day-to-day problems.

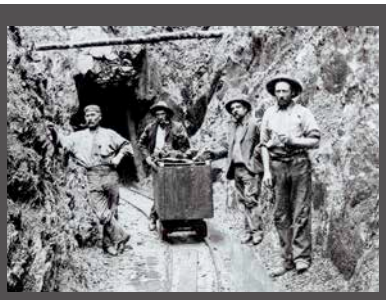
In his previous books, Nick has only included very basic maps, but in this book there are several more detailed ones showing the locations of places referred to in the text – something that many books and articles in rail based magazines fail to do.

For the light railway enthusiast there is much of interest. The Emu Bay Railway is covered in some detail with the experiences of three drivers discussing a wide range of issues that they had to deal with on a daily basis. The Mount Lyell Railway is also covered well with the experiences of one driver who worked on the line from 1947 until its closure in 1963. Also of interest is a description of the Marrawah Tram in the north west of the island. Of interest is reference to the operation of the Cornwall Colliery

The book is written in an easy to read and interesting style and has been produced to a very high standard with many high quality coloured photographs.

This book is highly recommended to those interested in the railways of Tasmania.

Richard Warwick



Field Reports

Please send any contributions, large or small, to fieldreports@lrrsa.org.au or to P.O. Box 21, Surrey Hills, Vic 3127.

Illawarra Coke Company, Coal Cliff, NSW.
Gauge 1067mm.

Sixty kilometres south of Sydney and hemmed in between the Illawarra escarpment and the Pacific Ocean is the village of Coal Cliff. This idyllic location was once the scene of a busy industrial complex, that of Coal Cliff Colliery and the adjacent Coal Cliff coke works, bisected by the NSW Government Railways (NSWGR) main line from Sydney to Wollongong.

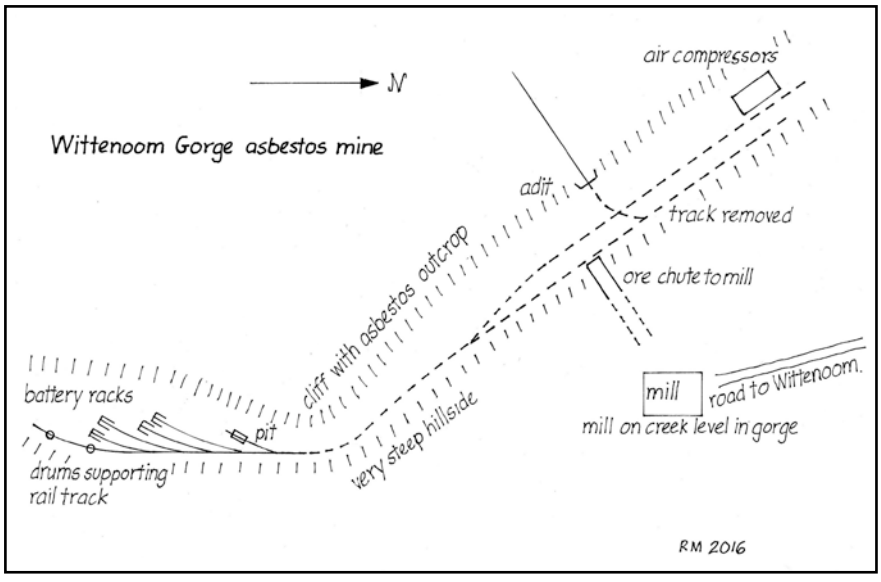
In January 1878 a new colliery known as Coal Cliff Colliery was officially opened. The coal was accessed by a tunnel into the Bulli Seam at sea level. Ships called at a jetty to carry the coal away to market. Since the jetty was fully exposed to the vagaries of the sea, it was closed in 1912 and replaced by a new vertical shaft close by the railway line (which had opened through to Sydney in 1888). This shaft intersected the Bulli Seam at 343 feet; in future all coal brought to the surface would go out by the railway to either Sydney or Wollongong. In 1913 construction of 50 improved patent Beehive-type coke ovens began on the opposite side of the railway to the colliery. These were operated by a separate company known as the Illawarra Coke Company Limited. An overhead conveyor ran above the railway to bring small coal across from the adjacent colliery. In December 1914 the first metallurgical coke was pushed out of the ovens. The coke had a fixed carbon content of 82% with 15% ash. A 16 ton charge was coked in about 72 hours and weekly output was 1250 tons. The coke works had its own railway platform for employees (later known as Coal Cliff South) and rail sidings connected to the NSWGR mainline; most of the coke production at that time was railed all the way to the Mt. Morgan smelters in Queensland.

In 1954 Kembla Coal and Coke Pty Ltd, a subsidiary of The Broken Hill Associated Smelters Pty Ltd purchased the Illawarra Coke Company. In 1960, eight more ovens were built. At this time coke was supplied to the BHAS Port Pirie lead smelter in South Australia and the Illawarra coke works was the largest producer of metallurgical coke in Australia outside the steel industry. Throughout the period 1970–1980 improvements were made to the infrastructure, and the new quench tower received the Prince Phillip Award for industrial design. In 1991 Coal Cliff Colliery closed after a life of 114 years; during the prior decade it had been recognised as the largest underground coal mine in Australia. Coal for the coke works now came in by road trucks from another colliery. In 1996 ICC Holdings Pty Ltd purchased the Illawarra Coke Company. During the year 2000, two new prototype 'Thyssen' type ovens replaced the original '1' and '2' ovens. In 2007 the first of two new coal-charge cars for charging the coke ovens entered service. Friday 21 June 2013 was the final day of production at Coal Cliff, one year shy of its hundredth year of operation. The high Australian dollar, world over-supply of coke, and the fall in demand for steel were the reasons given for the closure.

Today the coke works is basically intact but derelict; the 1067mm gauge industrial railway along the top of the oven structure (used by the electrically-powered charge cars for loading the coal into the charge holes) is overgrown with weeds, and the steel stanchions have been stripped of the copper contact wires that supplied current to electric motors that drove the two cars.

Looking north along the Coal Cliff coke oven battery. Along this side ran the ram car which pushed the hot coke out through the oven to the other side and into the 'hot car.' The coke was then quenched with water beneath the award-winning quenching tower in the distance. The stanchions on top of the battery once supported the overhead contact wires either side for the coal charge cars. At night, train commuters could see pin pricks of bright light emanating from the peep holes in the oven doors. *Photo: Ross Mainwaring, 25 November 2015*

Looking south along the top of the Coal Cliff coke oven battery. The electrically-powered charge car ran along these 1067mm gauge rails delivering fine coal to the four charge ports, seen beneath the rusty lids atop each oven. Steel sleepers and Pandrol clips kept the gauge true. The coal loading structure is in the far distance. On the left is metal ducting (built in 1971) to carry the hot gases produced during the coking process away from the ovens. Photo: Ross Mainwaring, 25 November 2015



Altogether, from the inception of the southern coke industry in 1874, there were once in excess of 580 coke ovens, operated by ten or so private companies in the Illawarra District, not counting the AIS Port Kembla Steelworks (now Bluescope Steel) ovens but, today, the latter are the only ones still in use to supply the steel making industry both in Australia and overseas.
Ross Mainwaring 11/2015.

Wittenoom Gorge, Western Australia.
Gauge 610mm

This year marks the 50th anniversary of the 1966 closure of the Wittenoom Gorge blue asbestos mine in Western Australia. Of interest to LR readers is that the underground mine was served by a 610mm gauge railway system upon which ran American, English and Australian-built storage battery locomotives, and a locally built diesel locomotive.

Wittenoom Gorge is 1106km NNE of Perth and adjoins the Karijini National Park situated in the Hamersley Range of the Pilbara region of the state. The township of Wittenoom, situated outside the gorge on a spinifex plain 10km north of the mine, was, in the 1950s, the Pilbara's largest town, equipped with its own electrical generating plant and airport. Multiple veins of blue asbestos (Crocidolite) outcrop in the ironstone cliff face of the gorge. This mineral was prospected by Lang Hancock in the early 1930s. Full scale mining began in 1943 with the Colonial Sugar Refining Company Ltd, working through its subsidiary, Australian Blue Asbestos Ltd, developing the mine and mill. With the Second World War in progress there was a great demand for asbestos for military purposes such as insulation material in warships, tanks and aircraft.

The main activity site is about half way up the NW side of the gorge, once accessible by a very steep paved roadway. There are two separate localities where the railway system came out into daylight. The first adit was the main transport location where the railway on the surface ran out to a metal chute where the ore was dumped from the four-wheel side-discharging trucks. From here the asbestos-impregnated material gravitated its way down to the processing mill, which was situated far below on the valley floor. The ore was finely crushed and the asbestos fibres removed by a vacuum process; it was further cleaned then bagged for shipment by truck.

Working conditions in the mill were poor, as little personal protection was provided for employees against asbestos-laden dust. The mill and mine were equipped with an electrical generating plant (oil-engine powered) and an air compressor. The other mine locality, slightly further to the west at the beginning of the gorge, had numerous adits served by rail. This is a most scenic location as, during the wet season, a waterfall cascades over the cliff beside an adit.

Two 2 ft gauge 40 hp Mancha Hercules X storage battery locomotives from the USA were supplied in 1949 (BN. 3043 & 3044) and a third in 1957 (BN. 4079). A Gemco Hauler storage battery loco (built by George Moss Pty Ltd of Leederville,

WA, (BN.12304-05/10/65), an English Electric storage battery locomotive (ex Wiluna Gold Mines but drastically rebuilt to suit Wittenoom specifications), and a diesel locomotive also worked the system. One of the Mancha locomotives is preserved at a railway museum in Dampier, Western Australia. A few remnants of the railway still remain in place having escaped a general cleanup of ten or so years ago.

The four battery charging sidings (once housed under a roof but now exposed to the weather) sit on a narrow shelf beneath the cliff face. Each track is flanked by a stand built of rail, tapered at the leading end to detach the loco battery box from the chassis for replacement or recharging.

A concrete lined inspection pit on another siding is adjacent to the cliff. The steel rail (estimated to be 45lb/yd) is dogged to wooden sleepers. One length of rail has Barrow 1907 rolled into the web, the rest is marked BHP. Numerous prefabricated points are stacked up around the site as if awaiting further service.

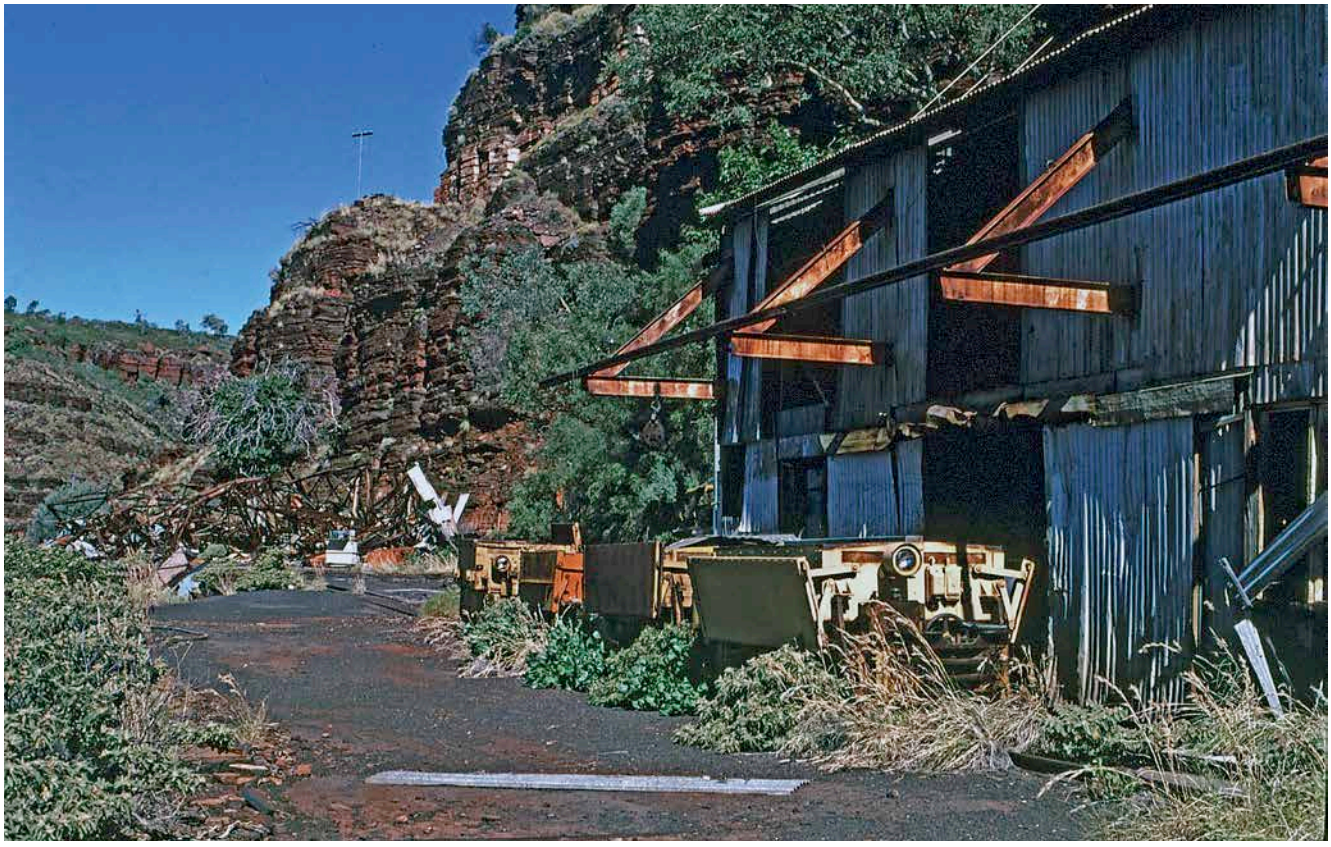
Large warning signs are posted around Wittenoom to remind visitors of the possible danger of blue asbestos fibres, which are still plentiful, but these notices do not deter the many campers and tourists who frequent the road into the gorge on a daily basis. The town was de-gazetted in 2007, the State Government demolishing many dwellings to discourage habitation, but a handful of defiant residents remain, relying on solar energy or generators for their power supply.

Ross Mainwaring 09/2016

Above left: *Sets of points stacked up at the second mine site near the waterfall. This whole mining shelf was built up with discarded mine tailings. Photo: Ross Mainwaring, 3 August 2016.*

Above right: *Another view of the battery transfer racks. The tailings dump in the far distance is at the second mine site, with railway facilities beside the waterfall leading into Wittenoom Gorge. Photo: Ross Mainwaring, 31 July 2016*

Below: *Photographed in 2003 is a line up of 610mm gauge battery electric locomotives standing beside the air compressor building at the Wittenoom Gorge asbestos mine. The first two units are Mancha-type Hercules X, then a Gemco Hauler, followed lastly by an English Electric loco. The track continues to the battery charging building out of sight around the far bluff. No railway track or intact structures now remain in this area. Photo: Ray Graf, 2003*



Heritage & Tourist NEWS

News items should be sent to heritagetourist@lrrsa.org.au Digital photographs for possible inclusion should be sent direct to Richard Warwick at editor@lrrsa.org.au including the name of the location, the name of the photographer and the date of the photograph.

QUEENSLAND

The IPSWICH RAILWAY WORKSHOPS, Ipswich

610 and 1067 mm gauge

Work on the Hunslet (1239 of 1916, 4-6-0T ex-North Eton Mill) has been done mainly by volunteers, and at most only two days a week. So it follows that it will be a long project. At present, volunteer workers have both tanks on the frame, together with the cab. However, the cab fitting is temporary and will need to be removed later to fit the boiler. The boiler barrel itself has been clad, and cladding around the firebox has been fitted, but is now removed to the paint shop for painting. Various fittings on the back head have been acquired, cleaned and will be attached, including look-alike back head lifting injectors.

There are a few other jobs to complete, including the smokebox door which needs to be restored to its original profile with centre 'dart' type closer. It is planned to have the locomotive in the Museum on display by early November although some small items may still need work in its display location.

Astute readers will note that a group from the War Office Locomotive Trust (WOLT) in the U.K., is currently restoring Hunslet (b/n 1215) to working condition. That locomotive, sister to 1239, spent more than 40 years in Australia working for Gibson & Howes Bingera sugar mill in Bundaberg and later at Invicta mill at Giru, NQ. 1215 went to England in 2005 and the restoration process has been regularly reported in the pages of this publication. The appearance of progress on both locomotives appears similar with the important difference that the UK restoration is intended to be fired up and run.

QR Heritage Volunteers Newsletter Volume 9, Issue 2 August 2016

DURUNDUR RAILWAY, Woodford

610 mm gauge

Work on *Melbourne* (Hudswell Clarke 0-6-0 1701 of1938) is progressing well, concentrating on the tender so it can be moved once the new locomotive shed is ready. New springs have been delivered for the tender bogies, and most of the new tender castings have been machined, with some already fitted.

Work has commenced again on the repairs to the railmotor trailer. Recent wet weather has highlighted the need for an enclosed passenger car to maintain the required levels of patronage. This vehicle is vital, along with the return of operational steam locos, if the railway is to chase successfully the wedding market which can be an important income earner. Having an enclosed vehicle will also help chase the charter market. Operations outside the regular clientele of a tourist railway are clearly part of the future.

Recently the railway needed to purchase some concrete sleepers for spot replacements on the mainline. It is not always possible to use the sleepers obtained from Ingham in this situation due to their need for a different sleeper spacing. The new sleepers are an excellent example of how ANGRMS can save considerable money by making the effort to obtain discounts and donations, while still getting what is necessary and still meeting safety and other requirements.

On 6 September, Queensland Transport conducted a desk top audit on ANGRMS' internal auditing processes and compliance of the Railway's Safety Management Plan to the requirements of the Rail Safety Act 2010 Queensland. While no actions were found as a result of the audit, there is always room for improvement.

Durundur Railway Bulletin Volume 37 Number 341 September/October 2016 and Volume 37 Number 342 November/December 2016

FRIENDS OF ARCHER PARK STATION AND STEAM TRAM MUSEUM, Rockhampton

1067 mm gauge

NEATO has renewed its contract with Archer Park and for the next six months the railway will have the group for four days a week. The group has now completed the rock block retainer wall around the coke and coal piles, a major improvement. They are again working on CWM21 coach; with all windows and catches installed they are now working on the roof as well as on general maintenance and gardens. This work is a major contribution to the operational needs of the station. The railway has had a busy two months with several school and seniors groups visiting for tours, as well as venue hire which is becoming quite popular for weddings, parties and even training groups. Again, the move to operations outside the regular appears to be the way to go for heritage and tourist railways.

The Purrey steam tram has been operating well but still has to have the new steam pressure gauge installed. The tram crew is keeping a watchful eye on the refractory cement in the fire box as some of the cement has broken away. This will be replaced during the end of year shut down.

The Billard loco tractor has had some problems with air leaks and the foot brake not working. RRC fitters have adjusted the brakes and disconnected the hose bag where a leak was found. The hose bag is not required on the loco as it is never used. A couple more air leaks have still to be repaired but at present these do not stop the loco from working. The railway is also still having some problems with the float and the fitters continue to try to get to the bottom of the problem.

Tram Tracks Volume 10 Number 5, October 2016

NEW SOUTH WALES

ZIG ZAG RAILWAY, Clarence

1067 mm gauge

The first train in more than four years has recently run on the railway. On Sunday 18 September, 1004 (former Emu Bay Railway B-B DH) returned to service and travelled from the Bottom Points workshop to the yard limit board at Top Points and return. The trip allowed volunteers to test their Safety Management System in a controlled way and to recertify a number of diesel locomotive drivers to allow them to proceed with the next part of the job, cleaning up the pile of scrap in front of the workshop.

To return 1004 to service the works needed included:

- removal, refurbishment and replacement of the four brake cylinders
- restoration of the brake valve and all associated components
- removal of leaks from the train pipe, brake pipes and main reservoir
- work on the fuel and cooling systems
- installation of a set of reconditioned batteries

Work onsite is being conducted on a regular basis with maintenance days happening most weekends.

Publicity release to all members 2/10/2016

VICTORIA

THE WAHGUNYAH AND RUTHERGLEN TOURIST RAILWAY, Wahgunyah

1610 mm gauge

The Wahgunyah line opened in January 1879. It was the last branch line in Victoria to have a carriage attached to its good trains, and that working lasted until April 1962. The regular four days a week timetabled goods trains ceased in April 1978 with the coming of the Freight Centre network and road delivery of less than wagon load consignments. Services afterwards became as required.

The line was booked out of use from 21 September 1992 on account of the track condition but a number of trains were authorised to run afterwards at a maximum speed of 20 km/h during 1993. The line was formally closed in early 1996. Recently, the Walhalla Goldfields Railway track gang has been collecting track from the area for the WGR's restoration to Erica.

A tourist railway was established between Wahgunyah and Rutherglen after the line closed. As is always the case, expectations and goals were high but reality and resources were such

On Sunday 18 September 2016, Zig Zag Railway B-B DH 1004 Emu Bay *poses on the middle road below number one viaduct, during the first mainline run on the railway for over four years.* *Photo: Zig Zag Railway*

that only a modest operation was achievable and only for a period of time. The rolling stock used was certainly different from that used on tourist railways elsewhere. The railway wasn't a spectacular one but it was interesting. It is sad that the tourist railway operation was unable to be sustainable.

Report from Bob Wilson via Phil Rickard 28/9/2016

WALHALLA GOLDFIELDS RAILWAY, Walhalla

762 mm gauge

A group of delegates to the RACV DGI Gippsland Tourism Conference recently travelled by special train from Walhalla to Thomson. The theme of the conference titled "Collaboration- Shaping the future of Gippsland Tourism" saw abput 100 delegates travel to Walhalla for the second and final day of the two day conference. The venue, the up-dated and up-market goods shed at Walhalla, was much better than what was expected by the visitors, the food was great, and the coffee and tea ended up being a novelty as it was served in specially made enamel mugs with the WGR logo on them. This is another example of tourist railways going outside their usual limit of operations to raise their profile in the community.

All three locos are currently serviceable and available and generally in as good a condition as locomotives of their age can be. 10 Class 1001 was assessed by loco specialist, Darren Bell, a diesel engine expert, who carried out tests including a compression and tests on the Injectors, injector pump, pump timing and fuel delivery. The outcome was generally good with compression and injectors being declared acceptable. However an auxiliary fuel pump is considered to be faulty and will be replaced. A faulty fuel line was removed and a new one ordered. The Fowler's minor problems were ironed out in time for the loco to do the majority of the work over the busy school holiday period.

Of the trolleys, the hard working and usually reliable NKS 26, had a major engine shutdown. The engine suffered a terminal failure but fortunately the owner had suitable spares and the crew managed to rebuild it and return it to service.

The transfer of DH72 from Loy Yang to our Yallourn workshops facility will occur after 1000 litres of fuel is decanted from the fuel tank and various items of equipment are removed. Temporary trolley/bogies have been made up at Thomson for placement of the locomotive in the Yallourn facility. Prior to work commencing on these projects, the railway is required to make application to Transport Safety Victoria for variation of accreditation from Owner/Operator/Maintainer to include Modification of Rolling Stock. This application is in progress. In the meantime, the Traralgon firm, Engineering Design Resources, has commenced upgrading and digitising the Loco and Tram drawings in preparation for providing the necessary design changes. It is intended that as much work as possible will be carried out by businesses in the Latrobe Valley.

Carriage 1NQRW has had the new Laserlite roof fitted to replace the old canvas roof. Unfortunately the Laserlite is opaque which still does not allow passengers to view the surrounding mountains, most of which are above the roofline.

In Way and Works the trial of plastic sleepers continues.

Dogspike and Diesel, September 2016

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge

Puffing Billy recently decided to move the regular Day Out with Thomas events from Emerald to Gembrook, arguing that there was much more space at Gembrook and that the event would be safer at Gembrook as the scheduled trains for the day would not be going through the event site. The Gembrook train is terminated at Lakeside on Thomas days, being designated unofficially as the 'half-Gemmy'.

After two weekends of Thomas at Gembrook, the move appears to have been justified. All tickets have been sold out well in advance (some suggest that it could be held in Darwin and it would still be a sell-out) and even though the event has suffered from some extreme weather such as high winds and heavy rainfall, it appears to have been the success the planners had thought it would be. Despite the sell-out of the season, customers still turn up without tickets to the closed event site, hoping, unsuccessfully, to be able to sneak into the site and board the train.

On the Puffing Billy Railway, Climax 1694 of 1928 crosses Monbulk Creek trestle with a 'Commissioner's Train' on 16 April 2016. Photo: Michael Greenhill

Edward (Ted) A Downs' book *Speed Limit 20* was published by the ARHS in 1963 and is a book valued by all interested in narrow gauge railways. It provides the story of the five narrow gauge branch lines of the Victorian Railways. The PBPS Publications Committee is keen to reprint this book, with updated details, additional photographs and index, with a plan to have it available for sale in late 2017. Details of the book and price and publication information will be sent to all tourist and heritage railways, museums etc. in Australia.
Monthly News, October 2106

SOUTH AUSTRALIA

APPILA-YARROWIE RAILWAY, Appila

610 mm gauge
Recently expressions of interest were called for 'a unique collection of two foot (610 mm) gauge mining railway history'. The collection included:

- A loop track of 14 lb/yard rail measuring almost 200 m (400 m of rail)
- Points – 1 x 20 lb/yard YU shaped turnout, plus 1 x 14 lb/yard
- Turntables – 1 x 2.5 m diameter, one non-operational
- Ore hopper (dump truck) sourced from Broken Hill mine
- VW engine (1957 model) satisfactory condition, mounted on wheels which acts as a locomotive
- Siding and additional rail - approximately 200 m
- All track includes sleepers, fishplates, bolts and washers

Location: mid north of South Australia
After some investigation it turns out that the railway for sale is at Appila in northern South Australia. The town was once named Yarrowie but its modern name is Appila. A search on Google earth showed what could be a loop of railway within the confines of the town, but it is not definitive. Max Sayer is listed as the operator of the amusement railway, the original gauge being 1 ft 6 in which was regauged to 2 ft. A further report about the sale is expected.

LIGHT RAILWAYS CENTRE, Milang

610 and 1067 mm gauge
The storyboards are up in the museum and the model railway track has been installed. Kits to make the operating train and display wagons have all been ordered and are on their way from overseas. The coin in the slot power unit and controller have been installed.
There is still some restoration to be done on the Price jetty tractor and munitions wagons to complete the centre. The history of the tractor has been clarified after highly appreciated contributions from several LRRSA members to an email discussion.
The organisation is planning to have an official opening at 10.30 am on Wednesday 14 December. They will be inviting state and federal government representatives, local clubs and societies, the local Council and will also publicise it in the local papers. The reason for it being in the morning is that they hope to get television coverage for the evening news. LRRSA members will be invited and they hope that many will be able to attend.
The BEV locomotive control contactor has been repaired and it is proposed to refit the loco with coupling rods to convert it from 0-2-2 back to 0-4-0 and thus help fix the slipping which has been observed. One coupling rod is in hand, but a second one will have to be made, and three more crank bearings are needed.
All the storyboards have been completed and passed by History SA for printing. Three have been printed and will be mounted soon; the others are being delayed till a source of pins with the required coloured tops can be found, in case different colours from those already set up for printing have to be used.
The map has been received and mounted on a board suitable for pin insertion. The shunting puzzle 32 mm gauge track has been installed and rolling stock for it is being acquired.
Record of Meeting of the SA Group, LRRSA, Thursday 6 October 2016

WESTERN AUSTRALIA

BENNETT BROOK RAILWAY, Whiteman Park

610 mm gauge
At the Ashley Day on Sunday 18 September, the railway launched Ashley's Aussie Christmas, the fourth book in the 'Stories From The Engine

Inside view of the Light Railway Centre at Milang showing the story boards and model train tracks. Kits to make the operating train and display wagons have all been ordered and are on their way from overseas. The coin in the slot power unit and controller have been installed in the middle of the photo. Photo: Peter Lucas

Shed' series. This story is a follow up to Off The Track, which was launched at Ashley Day in May. Volunteers conducted a reading of the new story for the kids, at 11 o'clock on Ashley Day. Blankets and cushions were supplied for the kids, who seemed to enjoy the opportunity to listen to a story about the little engine, behind which many had already ridden. Unfortunately, the railway had to cancel the planned afternoon reading due to inclement weather, but the success of the initial reading suggests that this could become a regular feature at future Ashley Days. This is similar to the way WGR author, Roger Lindsay, reads his own work to children on the platform at Walhalla. Railways which pay the expensive licence fees for Thomas events could well consider a home grown version. Several UK preserved railways have already followed this path. The railway also raffled some framed prints of several original illustrations for the book. These were also well received and may present yet another way of getting the railway's story across to the public.

The 'Stories From The Engine Shed' series is gaining momentum and is becoming a valuable marketing tool for the railway, including a segment on ABC Radio's breakfast programme on the Friday before Ashley Day, to promote the books and Ashley Day. At this stage, the railway is planning to release the next story at Ashley Day in September next year. Feedback from both railway members and young readers is really encouraging. Clearly these young readers will be the volunteers of the future.

Promotion officers are fine tuning the marketing mix using less printed advertising and more digital advertising. They have also adopted extensive use of social media including Facebook and Twitter. A wandering minstrel and rides on a restored bus further added to the show. Other tourist railways could take note of the successful ingredients of Ashley Day.

B*ennett Brook Railway Newsletter* October 2016

YARLOOP WORKSHOPS

1067 mm gauge

The Yarloop timber mill workshops, destroyed by fire in January 2016 (see LR April 2016) are a priority for rebuilding according to Harvey Shire. A Town Development Working Group has been set up to focus on the re-development of Yarloop. The workshops are the fourth priority after the essentials of fire station, community centre and a town development plan. While the workshops cannot be replicated, it is intended to build a display centre on a cleared site. No timeline has been given.

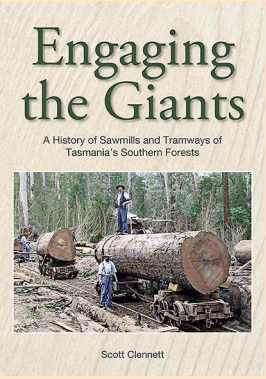
A general view of the remains of the Millars' Yarloop workshops on 7 October (see LR 248). *Photo: David Whiteford*

New from LRRSA Sales ...

Engaging the Giants

A history of sawmills and tramways of Tasmania's Southern Forests

By Scott Clennett — Published by the LRRSA



Hard cover, 240 pages, A4 size, 170 photographs, 21 maps, bibliography, references, and index.

Describes a complex series of timber tramways which operated in southern Tasmania during the period 1850 to 1974. It covers the area from Franklin (45 km south of Hobart) to Cockle Creek - the most southerly settlement in Tasmania, and includes Bruny Island. Details of the ships and barges which carried the products of the sawmills are given, together with an insight into the living conditions and the innovative methods that were used to solve many problems. Gauges of the timber tramways varied from 2 ft 6 in to 6 ft, but the most common gauges were 3 ft 6 in and 4 ft 6 in.

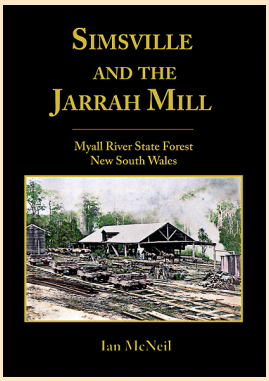
Over a dozen steam locomotives were used, including two Shays, and many of ingenious local manufacture. Three Hobart engineering firms supplied steam and internal-combustion locomotives (of unusual designs) to many of the sawmillers.

The maps, prepared by Mike McCarthy, show the tramways, mills, roads, waterways, and contours.

Price $60.00 ($45 to LRRSA members) **plus postage.** Weight 1420 gm

Simsville and the Jarrah Mill

Myall River State Forest, New South Wales



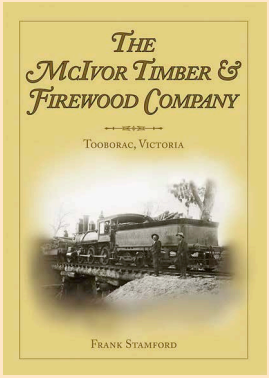
By Ian McNeil
Published by the LRRSA
Soft cover, 96 pages, A4 size
55 photographs, 12 maps and diagrams, references, and index.

The history of a 3ft 6in gauge tramway and sawmiling operations at the village of Simsville, near Stroud. The tramway used three Climax geared locomotives.

Price $29.00 plus postage
($21.75 to LRRSA members)
Weight: 490 gm

The McIvor Timber & Firewood Company

Tooborac, Victoria



By Frank Stamford
Published by the LRRSA
Soft cover, 104 pages, A4 size
104 photographs, 23 maps and diagrams, references, and index.

The history of a 5ft 3in gauge tramway from Tooborac to Mitchell's Creek, Puckapunyal, Moormbool West and Cherrington.

Price $30.00 plus postage
($22.50 to LRRSA members)
Weight: 490 gm

Postage and packing: Within Australia, up to 250gm $3.50; 251 to 500gm $6.60, 501 gm to 3 kg $15.00, over 3 kg to 5 kg $18.70
Send to: LRRSA Sales, P.O. Box 21, Surrey Hills Vic 3127.
Payment may be made by cheque, money order, Mastercard or Visa.

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see our web site:
www.lrrsa.org.au

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Application for membership of Light Railway Research Society of Australia Inc. P.O. Box 21, Surrey Hills Vic 3127

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(full name of applicant)

of _____

_____
(address) (postcode)

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