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LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways

Light Railway Research Society of Australia Inc.

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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

We have come to the end of a difficult year and we have been fortunate that our activities have by and large been unaffected by the Covid-19 pandemic – we have published six editions of *Light Railways* and one book. The 'lock downs', in Melbourne in particular, have affected our ability for a timely despatch of the magazine posted to members on a couple of occasions and for this we apologise.

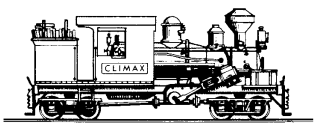
One positive aspect of the lock downs has been that a number of authors have used the time wisely and have produced a large number of articles to be published! Your editor's stockpile of material available to publish is very healthy. But please don't stop writing!

At the AGM in October, the 8th J L N Southern Award was announced and we extend our congratulations to Peter Evans for his winning article on the tramways and mining activities at Coopers Creek in Victoria (LR274) – the full judges' report is included in this issue.

Looking forward to 2022, we plan to publish two new books, one covering the phosphate tramways used on Nauru and Ocean Island by David Jehan, and the other on the tramways associated with gold mining and timber industries of the mountains east of Melbourne by Peter Evans – look out for both of these excellent new books.

Finally, on behalf of the Editorial team, the LRRSA Council and all of our contributors, I would like to wish all of our readers a very Merry Christmas and wish you all the very best for 2022. *Richard Warwick*

Front Cover: *This very crowded 'Picnic train', en route from Magnet to the EBR siding at Magnet Junction, has stopped to enable its 0-4-4-0T Mallet locomotive to take a drink from a lineside tank. The lack of a large nameplate on its side tank identifies it as* Magnet No.3 *(O&K 2609/1907); the date is believed to be 1920. Notice the formal pride on the faces of the three dapper gentlemen, one standing on the right tank with the boater and watch chain, one leaning out of the cab with bow tie and hat, and most of all, one standing beside the cab in a suit, tie, bowler hat and buttonhole rosette, obviously the one in charge. Could it be a wedding party? Even the fireman poses on the left tank. Safety is not on anybody's mind! A photo of the same train, heading back to Magnet, is also included in this issue. Photo: J H (Jackie) Robinson; courtesy Trainiac - Flickr*



Light Railway Research Society of Australia Inc. A14384U
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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.

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.

The Magnet Mine and its trams
The Waller connection
Part 2: Richard FitzArthur Waller

by Scott Clennett

Early years

Richard Waller was born in Ireland in March 1867, 17 years earlier than his youngest sibling James. Details of his early years are sparse. He arrived in Tasmania from Ireland with his parents in 1882 at the age of fifteen with five of his brothers including George who was then ten. His early education is unknown, other than that his name was listed as one of six passing the examination for the first-class AA degree of the Tasmanian Council of Education in 1883 as a student at the High School in Hobart.[1]

Details of his tertiary education can only be surmised. At the time he finished school, civil engineering education in the Australian colonies was in its relative infancy, and there were few opportunities for Richard to pursue his ambitions to become an engineer. There may have been options for him to enter into a pupillage or an indenture with a practicing professional engineer in Tasmania, but this would seem unlikely.

The only fully constituted engineering school in Australia at the time was founded in 1861 at the University of Melbourne, although engineering was taught in the Science Faculty at the University of Sydney from 1883. Further, the Ballarat School of Mines had been founded in 1871 and became affiliated with the University of Melbourne in 1887. On balance, it might be concluded that Richard possibly studied through that affiliation, particularly in view of his later involvement with the Zeehan School of Mines and Metallurgy. However, it cannot be discounted that he may have studied in Britain.[2]

Certainly, by the end of the century, he was being cited as an Associate Member of the Institution of Civil Engineers (Assoc. M. Inst., C.E.)[3] a prestigious professional body based in London. There was no equivalent body in Australia; the Institution of Engineers (Australia) was not created by Royal Charter until 1919.

Whatever the case, by the 1890s, Richard was active in the mining fields of the West Coast as a civil and mining engineer, and in the construction of tramways in the Zeehan and Dundas areas.[4] He also reported on several minerals to "… embrace the work done to elucidate the minerology of the State since the publication of the Minerals of Tasmania, 1896." These included hematite and magnetite at Zeehan, and later a series of special minerals at the Magnet Mine.[5]

Of all the photographs of the Magnet Tramway's two Mallet tank locomotives, the majority are at this spot, a watering and fuelling location near the Arthur River, and most show the locomotives facing Magnet Junction, attesting to the lack of turning facilities. This photo of Magnet No.3 *(O&K 2609 of 1907) is thought to date from the line's later years as suggested by the dress of the people. In our picture, watering has been completed and everyone is paying attention to Jackie Robinson, the well-known photographer from Waratah. Photo: J H (Jackie) Robinson, Wikipedia 28070064140*

At Zeehan, he had a close personal and professional relationship with his brother George, and in 1898, they jointly submitted an application for letters patent for "An Improved percussion table" to the Patent Office at Perth in Western Australia.[6]

Of special note, Richard and George were instrumental in the establishment of the Zeehan School of Mines and Metallurgy.

The committee founding the school had been formed in January 1892, but it was not until 1896 that formal lectures began under the charge of the two Waller brothers.

At the School's committee meeting at Zeehan on 14 May 1896 it was recorded that:

> The first quarterly report was received and read from Messrs. Waller Bros, lecturers to the school, and a hearty vote of thanks was passed to them for the energy and ability they had displayed in conducting the affairs of the school since taking charge.

The report covered all the operations of the School, including the six subjects taught of metallurgy, chemistry, assaying, mathematics, mechanics and mechanical drawing. It also considered fees, examinations, extension of the curriculum and the need for facilities improvement. It was signed R. F. WALLER, G. A. WALLER.[7]

At the time Richard was 29 years old, and George was 24.

In January 1901, Richard was appointed the General Manager of the Magnet Silver Mining Company as the replacement for the retiring manager T H Jones. His first major task was to construct a much-needed 10-mile tram link to connect the mine through steep and difficult country to a transfer junction on what was by then EBR's Waratah branch railway, about 1½ miles east of the town. (Jones had himself played a significant role in the early planning of the Magnet Tram)

The history of the Waratah railway was almost farcical, with ownership structures and infrastructure seeming to change with the breeze. It was initially a wooden-railed horse-drawn three feet gauge tramway, built by the Van Diemen's Land Co. (VDL Co) with the aim of capturing business from the Mt Bischoff 'mountain of tin', but was blocked from reaching Waratah by not having rights to cross private land known as *Rouse's Camp*, about 2 miles east of the town.

It took the best part of three years to build, opening in February 1878. With it being only a single track, it operated on a one-way basis on alternate days. With the need to transfer freight at Rouse's Camp, and with severe wear-and-tear on the wooden rails due to heavy traffic, it did not enjoy a long life. It did eventually reach Waratah after purchasing Rouse's farm in 1881.

It was converted into a lightly laid and poorly equipped steel-railed steam-operated 3 ft 6 in gauge railway by mid-July 1884. The company then suffered accusations of fraud, and government threats of takeover.

Further, it transpired that its two Hunslet locomotives and the rolling stock had been rejected by the Indian State Railways, and purchased cheaply by the VDL Co. through its London consulting engineer, a Mr Sherwood, who, along with the London-based directors, knew little about Tasmanian conditions. It took some time to bring it all to a 'satisfactory' condition.

In 1887, the VDL Co. determined to separate its railway interests, and they were sold to a new company, the Emu Bay and Mt Bischoff Railway Company, with the VDL Co. operating the line until the end of the year. In truth, the new company was little more than a subsidiary of the VDL Co., with the same manager, secretary, directors, and sharing the same Burnie offices. Financially, it would seem that some financial somersaults had taken place, and extra capital had somehow been obtained to account for the £175,000 required for the 'transfer'?

The new company quickly exacerbated the problems of the whole operation when Sherwood selected yet another unsuitable Neilson locomotive that proved to be too heavy and stiff for the track, and spent its life shunting in the Burnie yards and working trains on the Waratah branch line after 1900.

By the turn of the century, mining activity to the south had grown to the extent that a railway connection from the Zeehan, Dundas and Mt Read fields to a better port than Strahan was becoming necessary, and the Emu Bay and Mt Bischoff Railway Company re-organised into the Emu Bay Railway Company, and a rail link between Guilford and Zeehan became a fact. With that, the same EBR acquired and operated the line between Guildford and Waratah as a branch line.[8]

The Magnet line was formally completed with the ceremonial driving of the last spike by Richard Waller's wife Lucie at the Magnet end of the line on 5 December 1901. Although there was still some ballasting to be completed, it was opened for full service in January 1902. That this was after no more than twelve months construction time was a major credit to Richard, and to the men who laboured to build it, including his youngest brother James.

By six months later, Richard had prepared a formal technical paper entitled "THE MAGNET TRAMWAY. by R. F. Waller, Assoc. M. Inst., C.E.", in which he gave a comprehensive account covering the need, planning, survey, design, construction, equipping, costings and economics of the Magnet Tram. Arguably it might be regarded as the most extensive technical account of a light railway built in Australia. It is very probable that it was written for submission to the Institution of Civil Engineers in London, which would have required such a document as part of an application to upgrade his Associate Membership to Full Membership.

The paper was published in the Report of the Tasmania Secretary for Mines for 1901-1902, copy held in the archives of Mineral Resources Tasmania from where it is available in digitised form. Because of its significance in the history of narrow-gauge light railways in Australia, it has been reproduced virtually in full below.[9]

[Note that where the digitisation of the original document has resulted in several difficult-to-read blemishes, it has been necessary to assume appropriate editing. Parts of the paper deal with quite technical issues, and this author makes no comment as to their veracity, other than to comment that such would reflect the accepted state of thinking of the time. Nevertheless, there are a few places where some footnotes have been inserted for information or clarity. There has also been some necessary re-formatting made of tables to match two-column layout]

THE MAGNET TRAMWAY.

by R. F. Waller, Assoc. M. Inst., C.E.

Perhaps the most important problem in the development of many of our Tasmanian mines, and more especially in the case of those on the West Coast, is that of transit. So many of our mines are situated in inaccessible locations that, before economic development becomes a possibility, the problem of getting plant to the mine, and ore to market, becomes of vital importance, and in many cases must be either boldly attacked by share-holders themselves, or all hope of remunerative operations abandoned. This was notably the case at Mt. Lyell and Mt. Read, and some note of the solution arrived at in the case of the Magnet Mine may be of interest.

The Magnet Mine is situated some four miles south-west of Mt. Bischoff, on a spur of the Magnet Range, and is separated

from Mt. Bischoff by the deep gorge of the Arthur River. The Corinna Road passes within two miles of the mine to the south and avoids the Arthur Gorge by crossing that river near its source at an altitude higher than the mine. When mining operations were commenced the obvious route to market lay in a connection with this road, which is well constructed, and with fairly easy gradients. This was first accomplished by means of a pack-track along the leading spur between the mine and the road. With further development at the mine this proved quite inadequate and was replaced by a tramway for horse-traffic of 2 miles in length. This tramway took about £28,000 worth of ore to market. and enabled the company to open up their mine in a systematic manner, which thoroughly demonstrated the fact that such a means of transport was utterly incompetent to deal with the ore available, and that, unless better facilities were provided, only the richest portions of the ore-body could be dealt with, and very large masses of moderate grade ore would have to be left in the mine.

The Magnet Mine contains some very fine bodies of first-class gossan and sulphide ores, which in themselves would be payable under very adverse circumstances, but alongside of these ores lie very large bodies of lower-grade gossan ores of excellent quality for fluxing purposes, containing, as they do, some 35 to 40 per cent of iron and manganese, and about 6 to 10 per cent of silica, and of values in lead and silver ranging from very little up to 30, 40, and 50 ozs. of silver per ton, with 7 to 15 per cent lead. The amount of these ores has been variously estimated from 40,000 to 200,000 tons according to the grades of ore included in the estimate, the lower figure may be taken as a conservative estimate of the quantity of ore now awaiting shipment. With present facilities and prices of metals any improvement in metal prices, and a demand from Smelting Works for iron flux, will largely increase the amount available for export.

Surveys were accordingly put in hand, for the purpose of finding a route for a steam tramway of 2 feet gauge, to put the mine in direct communication with the Emu Bay Company's railway at or near Waratah. The principal obstacle is the gorge of the Arthur River. To head this gorge would mean a line of certainly over 15 miles in length, though construction would be easy; and many other routes, varying in distance and gradients, might be chosen, crossing the gorge lower down at various points. When the author was asked to undertake the construction of the tramway, one route had been partly surveyed, crossing the Arthur River near the top of the gorge. Its length was about 13 miles, and it had to negotiate some extremely heavy country. Another route, over which a flying survey had been run, had a length of 9 miles, and passed through easier country throughout; the grades, however, being heavier. This route was finally adopted and lengthened to ten miles to avoid a short piece of very heavy work.[10]

Permanent survey was started on 22 January 1901, by the author and Mr. F K Pitt, Authorised Surveyor. A party of about ten men was employed, as it was an object to get as good a start as possible during the summer months. The system adopted was to run a carefully levelled and traversed trial line, with frequent cross-sections, plotting to a scale of 1 inch to the chain, and putting 10 feet contours to aid in the location of the line. By this method it is possible to draw a very closely approximate trial section before the centre line is laid down, and to locate the line to the best advantage. This procedure gives accurate data of a narrow strip of country, say 100 feet wide, within which limits it is possible to locate a line with a reasonable certainty that the best, and cheapest location as far as earthworks are concerned, has been secured. The best proof of this is in the fact that usually very trifling deviations indeed are found necessary during construction; it is, however, most desirable that the cross-sections be taken frequently, carefully, and with judgment. A careful system such as this is especially essential where it is attempted to compensate the gradient for curvature, which was done throughout on all grades against the load.

This matter of curve-compensation is a most important one in laying out any railway with heavy grades, as the maximum grade (of any length) limits the train-load, and therefore fixes the minimum carriage-cost. As a rule, on the West Coast, the grades must generally be long, and, with a view to shortening the length of line, it is usually desirable to make them as steep as practicable. The idea of curve-compensation is to make the total train resistance, uphill, approximately equal on curves and on the straight. To give some idea of the Importance of the point, I may note that train resistance is approximately equal on a straight grade of 1 in 25, and on a combination of a curve of 1½ chains radius with a grade of 1 in 42.6.

The formula used in this computation was that given in Molesworth's Pocket Book, page 236. The train resistance on curves (for trains of normal length) is a junction of the radius of curve, gauge of line, and wheelbase of stock. In the present case the gauge is 2 feet, and the wheelbase was taken as 4 feet 6 inches. This value is rather in excess of the length of wheelbase subsequently employed, and as a matter of fact I find that traction on curves is generally rather easier than on straight road.

The ruling gradient was fixed at 1 in 25, and the grade on curves works out as follows, the total resistance for each combination being approximately 1 in 25, or 4 per cent. : -

Combinations of curvature and gradient equivalent to straight road, 1 in 25 grade.

Radius of curve Links	Gradient	Feet rise per Chain
1000	1 in 25	2.64
500	28.5	2.32
400	30	2.20
300	31.5	2.10
250	33	2.00
225	35	1.88
200	36	1.83
175	38	1.74
150	42.5	1.55

A similar calculation was made and tabulated for all the grades likely to be used. In actually grading the section, these tables were adhered to as closely as possible, making the change of gradient at the nearest chain or sometimes half-chain to the end of the curves. In practice, I find that, as stated above the curves are slightly over-compensated.

As to curvature, the sharpest curve was originally fixed at 150 links or 99 feet radius; but after the type of locomotive was decided on, I determined to try the effect of a curve of even sharper radius, with its due compensation in the gradient. This was only done in a very few places, where there was a very large saving in first cost by sharpening the curves, and where altering the line afterwards would not entail much additional expense. The rolling-stock works round these curves of 125 links (82 feet 6 inches) radius quite easily; but, except in positions where the saving in first cost is exceptional, I cannot recommend the adoption of curves sharper than 150 links radius.

The objection to them is solely on the score of increased wear and tear to rails and stock. I hope to be able to alter these curves to a wider radius during the course of next summer, at small cost, by the employment of the line-repairing gangs, who by that time will have the line in good solid running order, and will be able to effect the necessary alterations without the employment of any extra hands.

I think, however, that their introduction here has demonstrated the fact that, under suitable conditions, the employment of such sharp curves is a perfectly justifiable practice, and that where trouble is experienced with sharp curves on a 2-feet line it is not due to the curves themselves, but to a selection of rollingstock which is not suitable for working such a line.

All curves of 160 links radius (and under) are transition curves; that is, they are put in with a length of 50 links at each end, with radii gradually increasing from the minimum to infinity, the curve at each end being a cubic parabola. The train enters and leaves the curves without the jerk usually felt in negotiating such sharp curves.

Speed of travelling on the curved sections of the line is limited to eight miles per hour, but during construction we frequently travelled the worst parts of the line at a speed of over twelve miles per hour, and, except for the danger of encountering a fallen tree, the practice was absolutely safe, and the travelling was smooth and easy. This, I think, is impossible except on a line with compensated gradients and transition curves. Transition curves present no difficulties in setting out, and when platelayers are used to them the extra trouble in construction is trifling; speed of platelaying is necessarily somewhat reduced, as the rails at ends of curves have to be curved on the ground by a "Jim-crow," but the slight extra trouble and still slighter extra expense is more than repaid by the smoothness of the road when built.

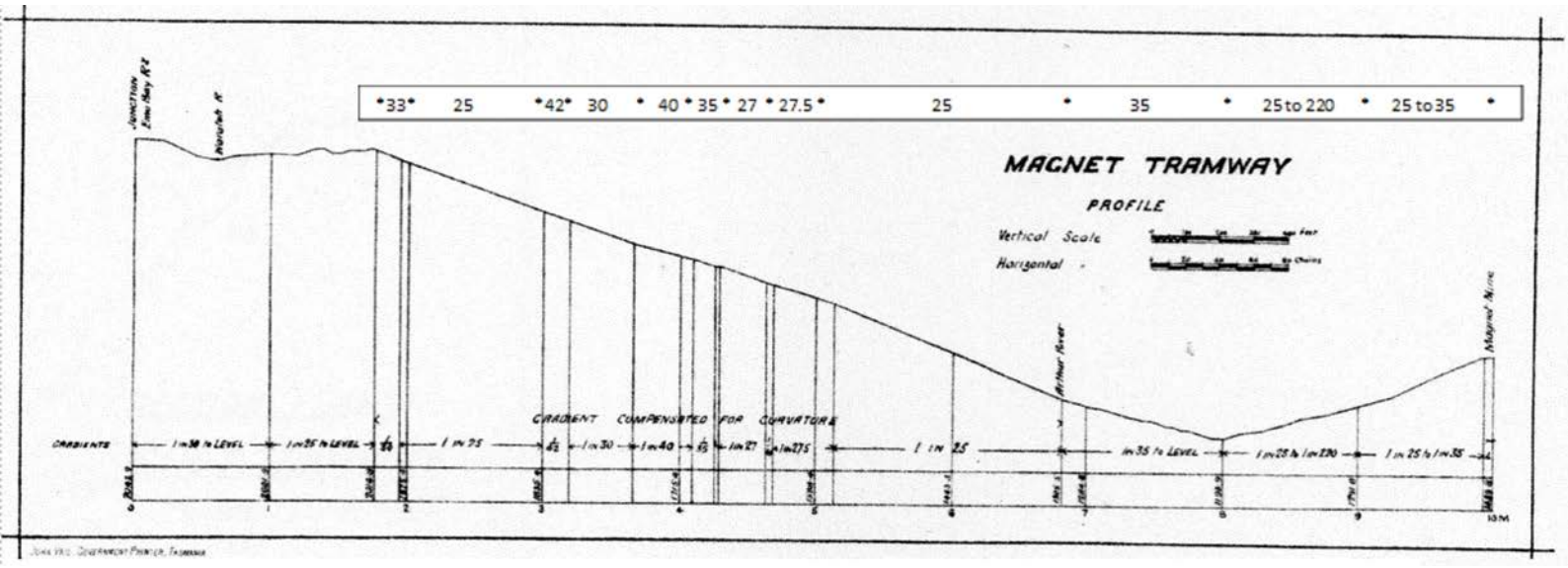
Survey work was started on 22 January, 1901, the first clearing contracts were let in the middle of February, and earthworks were put in hand on 4 March; platelaying was started on 8th August, finished on 5th December; and ballasting was finished and construction hands paid off on 3rd January 1902.

The line junctions with the V.D.L. Company's line to Waratah, now leased to the Emu Bay Railway Company, just outside the township of Waratah, and about 1½ mile from the terminus of that line. Here a running shed for two locomotives is erected, with goods-shed, platform, coal-stage, shelter-shed for transhipping ore to Emu Bay Company's trucks, houses for engine-driver, stationmaster, &c.

From this point the line traverses very easy country to the crossing of the Corinna Road, at 1m Oc. The Waratah River is crossed at Om. 46c., and on this section earthworks are easy,

Above left: *The Arthur River crossing at 3miles 25chains from the mine was a major structure on the line. It was from near there trains began the steep 5-mile "mountain section" of 142 curves, 71 of them under two chains radius, and with long gradients as steep as 1:25. Magnet No. 1, heading for Magnet Junction had come up the river gorge from the right to approach the bridge in a left-hand curve. It would then enter a right/left reverse curve to climb up the opposite side of the gorge before swinging away to the right after about a mile, and then running up to the summit through steep sideling country. Wikimedia Commons: Magnet tram (28416685446).jpg*

Above right: *Having crossed the Arthur River and entered the reverse curves, Magnet No. 1 with its two-truck train prepares to tackle the mountain section on the other side of the gorge. Speed on this curvy section was limited to 8 mph, although Richard Waller admitted that during construction speeds of 12mph were often reached quite safely … except for the danger of encountering a fallen tree.* Weekly Courier *9 June 1906 page 20, Spurling Studios photo*



Richard Waller's longitudinal profile of the Magnet Tram compensated for curvature. After crossing the Arthur River trains met an almost continuous run of steep grades, much at 1:25, but with many other shorter sections of 1:27 to 1:30 for the next 5 miles. The bar at the top shows the inverse of those grades and has been added for clarity. Report of the Secretary of Mines for 1901-1902, Hobart, Tasmania, Mineral Resources Tasmania

and grades, though stiff in places, are short. From 1m. 70c. to 6m. 70c. may be called the "mountain section" of the line. The grade is heavy and continuous, and the route is along steep and broken sidelings. The Arthur River is crossed at 6m. 65c., and from there to 8m, the line runs down the flats of the Arthur River to its junction with the Magnet Creek, thence up the flats of the Magnet Creek to 9m. 30c. This section is the easiest on the route; straights are long, curves are easy, and earthworks very light. The last 60 chains is another stretch of steep sidelings, with heavy grade and sharp curves.

The attached profile shows pretty clearly the nature of gradients on the line. The curvature works out as follows: - Taking first the portions Om. to 1m. 10c., and from 6m. 70c. to 10m ., which amounts to just half the total length of line, we find that these sections contain 53 curves, totalling 1m. 36c. leaving 3m. 44c. of straight road. On the 'mountain section,' from 1m. 70c. to 6m. 7Oc., on the contrary, we find 142 curves, totalling 3m. 21c., with only 1m. 59c. of straights. It must also be noted that the vast majority of sharp curves occur on this section; in fact, there are but five curves of under two chains radius on the other parts of the line. On the "mountain section" there are 71 curves with radius less than two chains.

The whole of the line is through heavy myrtle forest; indeed, on the first two miles the myrtles are the largest I have seen, running up to 5 and 6 feet in diameter. Clearing was done by contract and was let in lengths of about 40 chains as fast as the survey was completed. The line was only cleared to a width of 20 feet, except under seats of banks, which were fully cleared out. Culverts were let to the clearing contractors and fixed and put in well in advance of the earthwork-gangs. Clearing cost about 16s. 6d. per chain, on an average; this included grubbing all stumps over 12 inches diameter, except where covered by over 2 feet of embankment. Log culverts were used throughout, and in all steeply inclined gullies were put in near formation level, with contour drains cut to intercept the water.

The formation width originally proposed was 8 feet; this was found to be rather too narrow. Eventually cuttings were taken out to a base of 8 feet 6 inches, to allow of a drain, and banks were made not less than 9 feet. This is quite narrow enough, and with banks any narrower the loss of ballast is serious.

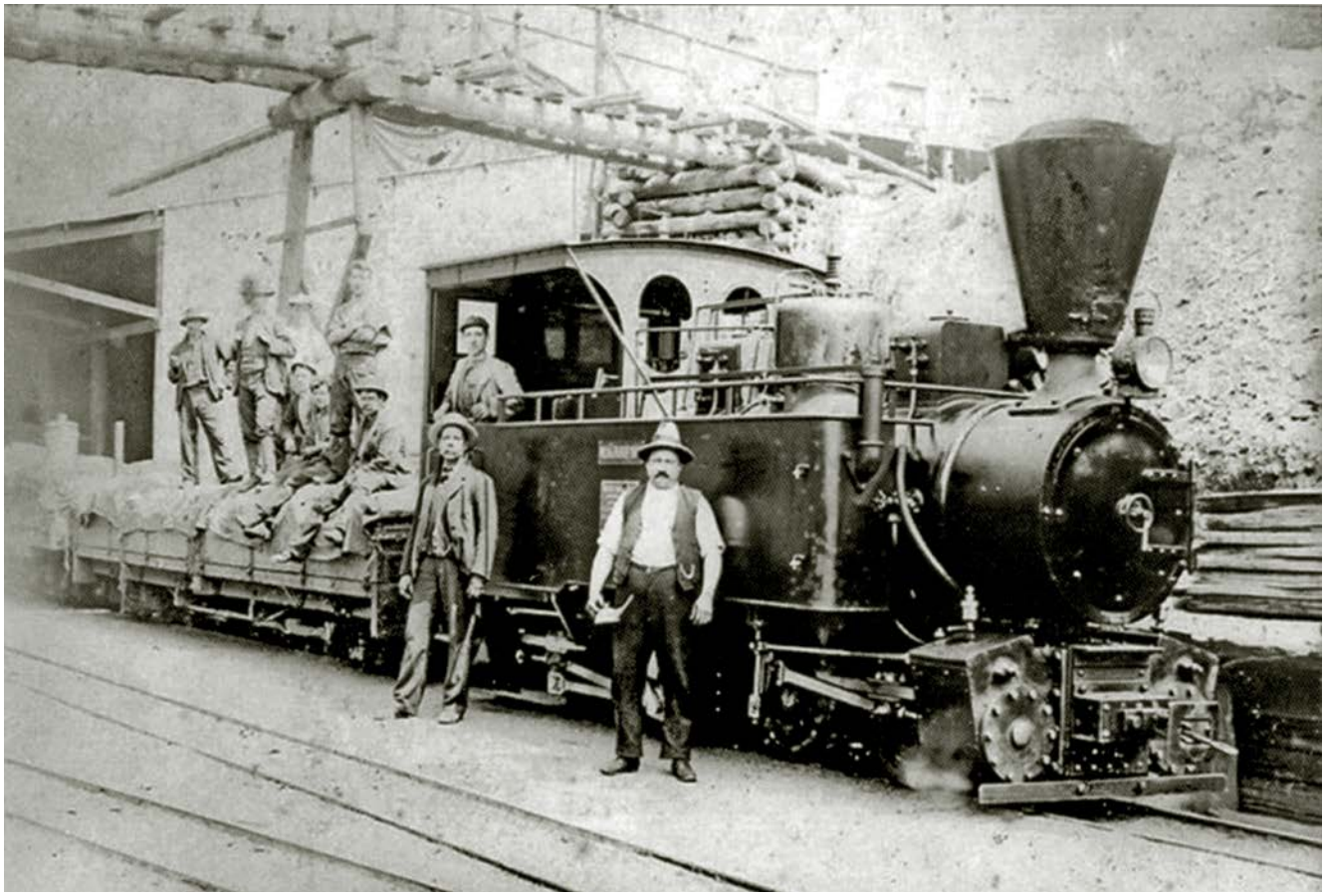
Earthworks were almost entirely done by day labour; an attempt was made early in the job to sub-let some cuttings, but the prices demanded were in all cases much higher than the work was subsequently done for.

I regret that I am unable to give figures for the quantities of earthworks, as the staff available had no time to devote to earthwork measurements. Although it is most desirable, as a rule, that the work of the various gangs be checked by the cost per cubic yard of the work done fortnightly, I think that, if reliable gangers be employed, as good results may be got by cultivating a spirit of emulation between the respective gangs, and comparisons of the length of line formed fortnightly. As the country was rough, it was decided to employ no construction trams for earthworks, as carrying the plant along is a serious matter where no road or track exists; besides this, on a 2-feet line the leads are generally so short that the work can be done almost as cheaply with barrows.

There are four small bridges on the line, the largest (seven spans) being over the Waratah River. Simple beam-bridges of 16-feet span were adopted, with skeleton road. The timber was all hewn locally, and is myrtle, gum, and leatherwood, all of excellent quality.

The question of sleepers received early attention. An attempt was made to procure them hewn alongside the line, of myrtle, which here is of unusually good quality, but it failed. Subsequently a careful examination of the district resulted in the discovery of a belt of gum country, from which nearly all the sleepers were drawn. It was, however, necessary to construct a mile of wooden tramway to connect with the Corinna road, along which the sleepers had then to be carted to the line. Sleepers were cut 5 feet by 8 inches by 4 inches and cost 1 shilling each on the line. About 2200 sleepers to the mile were used, they were spaced 12 to the rail length of 30 feet on straights, and 13 on curves of two chains radius and under. Sleepers were adzed by hand, a contract being let for adzing and boring for one rail only which reduces the boring to be done while platelaying materially.

The rails employed were of American manufacture, supplied by Orenstein and Koppel of Berlin; they weighed 30 lbs. to the yard, and were in 30-feet lengths; rails slightly shorter, to allow for lead on curves, could not be procured, so to keep square joints in platelaying necessitated cutting and re-punching rails by hand, which should have been unnecessary.



One of the Mallets readies for the trip to Magnet Junction from the mine, although the locomotive is yet to fuel up. Richard Waller noted in 1902 that the Mallet engine was very economical in fuel, and on the return trip of 20 miles, from 50 to 80 cubic feet of myrtle firewood and about 1½ cwt of coal would be used. The firewood was cut into 2ft 6in lengths, and a little coal was used to fill up the spaces at the ends of the wood, the firebox being a little over 3 feet long. WikimediaCommons.org: Orenstein & Koppel Mallet (36330872085).jpg

Rails were all curved in the yard, in a hand-press designed on the job, and made in Launceston. The press works with a screw and is practically an enlarged " Jim-crow " made of cast iron and bolted to a stump. The screw acts horizontally, on the web of the rail, and the clips for holding the rail are so arranged that the rail may be put in the press with its head either up or down, so that either right or left hand curves may be pressed without the necessity of turning the rail end for end. I prefer this press to a roller press and think that both cheaper and better work may be done in it. Our rails were pressed by two men, at the rate of about 18 pairs per day, or at the cost of about 1 shilling per pair, and the results left nothing to be desired; the crow was never used on the road, except at the ends of curves, and more particularly of transition curve. I may mention here a new type of fishing-up spanner that was used throughout, made after the idea of the alligator-wrench; but as it was only required to take one size of nut, only one tooth was put in the jaw. These proved very fast and efficient.

The road was ballasted from two pits, the first situated at 2m. 42c., so that no ballast could be put on the road until this was reached. As much of the road was soft, and the work was done in the winter months, this was a troublesome piece of work, rails and sleepers disappearing under the weight of the engine in soft spots. The greater portion of the ballast came from the second pit at 3m. 70c. and was of excellent quality: a decomposed igneous rock, soft, but which never turns to mud. This ballast was taken right through to the mine, a distance of over six miles. About 900 cubic yards were put on to the mile at an approximate cost of 3 shillings per yard laid and packed in the road.

The rolling-stock at present in use consists of two locomotives, both by Orenstein and Koppel, of Berlin, two 15-ton double-bogie ore-trucks, built in the Government Railway workshops in Launceston, a guard's van, and a rail and timber waggon, built on the job. Two 15-ton ore trucks of similar type are under order in America, and shortly expected.

Of the locomotives, No. 1 is a compound engine with articulated under-frame, on the Mallet system; attached is a diagram showing the leading features. (Editor's Note – the diagram was published in Part 1 of this article on page 16 of LR 279) It will be seen that, while the total wheelbase is 10 feet, the greatest rigid wheelbase is only 4 feet 3 inches. The long total wheelbase ensures steady running, and the short rigid base enables the engine to traverse sharp curves with great facility. The following are the leading dimensions: -

Cylinders 8 inches and 12 inches diameter x 12-inch stroke
Wheels (8 four-coupled), 25 inches diameter
Rigid wheelbase 4feet 3 inches
Boiler pressure, 170 lbs.
Heating surface, 418 square feet.
Grate area, 9 square feet.
Water-tanks (side), 500 gallons.
Weight in steam, 18 tons.
Approximate tractive force at 65 per cent. steam pressure in high pressure cylinders, 5940 lbs.
Adhesion (1/6) 6720 lb.

The engine will take a load of 30 tons of ore and two trucks, which tare four tons each up the 1 in 25 grade, and practically

it takes a daily load of 35 tons (gross) up that gradient quite comfortably. This is its regular working load and is taken daily up the six-mile stretch of heavy grade in all weathers without the slightest hitch or trouble. The engine is very economical in fuel. I think that a fair average of fuel used per trip of 20 miles is from 50 to 80 cubic feet of wood, and about 1½ cwt of coal. The firewood used is myrtle, cut in 2 feet 6 inch lengths, and a little coal is used to fill up the spaces at the ends of the wood, the firebox being a little over 3 feet long.

Wood is very much cheaper than coal here, costing about 5 shillings per ton of 80 cubic feet. The best determination of the relative values of wood and Newcastle coal I know of is the result of observations at Mt. Lyell, which gives a ratio of 1 ton of coal to 2.4 tons of wood. This makes wood equal to coal at 12 shillings per ton, whereas it costs about 40 shillings per ton here. However, if it is necessary to get the best work out of a locomotive, and more particularly the fastest work, coal must be used and having regard to wages cost, as well as fuel cost, I think that, provided the traffic is heavy enough to warrant it, it would pay to use coal exclusively.

The only other point I need to allude to in regard to this locomotive is that of repairs. The engine has now made some 5000 miles of running, and the repair bill has hitherto been almost nil, with the exception that we have had some trouble with the tubes. These were rather too light in metal, and we have now replaced some three dozen of them with a stouter make; the rest will be renewed as necessity arises.

The general question of selection of a locomotive for narrow gauge, and lines with sharp curves seems to me to very largely depend on wheelbase. A long wheelbase is very desirable to give steady running, and a short rigid wheelbase is a necessity where sharp curves have to be negotiated. For light locomotives the four-coupled engines with a base of about 3 feet 3 inches to 4 feet, such as our No.2 engine (6¾ tons) and the well-known Krauss engines (7½ tons), are excellent; and it is still a moot point whether such engines are not the most economical generally for 2-feet lines.

Engines a size larger are usually built six-coupled and can be got up to about 14 or 15 tons, and with a wheelbase of about 5 feet 6 inches. This is a type I do not much care about, as the length of base is hardly long enough to give steady running while it is decidedly too long to give the best running on curves of less than two chains radius. The addition of a bogle, or, worse still, of a pony-truck, or two-wheeled bogie, certainly helps as far as steadiness on the road is concerned, but is open to the serious objection that some of the weight which it is so important to utilise for adhesion is carried on idle wheels. The pony-truck is all right if the engine can be turned at each end of the journey but runs so badly backwards that turntables or Ys are necessity at terminal stations. The 20-ton engines in use on the North-East Dundas tram are of this type, though with four-coupled driving-wheels.[11]

Of engines of a heavier type, I think the Mallet system compound locomotive that we have at present in use is about the best now in the market. The wheelbase is satisfactory and if coal were burnt in a shorter firebox, the maximum rigid wheelbase of 4 feet 3 inches might be still further reduced. The only previous engine with a flexible wheelbase, and all the weight on driving-wheels, that I know anything about is the double-Fairlie engine. This engine was troublesome, on account of the difficulty keeping the steam connections tight. The trouble arose from the fact that there was a high-pressure connection, and also an exhaust, to each bogie all of which had to be flexible. These flexible joints were made with ball-and-socket joint and a sliding gland.

It was found exceedingly troublesome to keep these joints good, the difficulty being much accentuated with the high-pressure joints. I believe that later types of these engines have largely overcome the trouble by the use of flexible metallic tubing for steam connections. These troubles are largely overcome in the Mallet system by the adoption of compound working and its arrangement. The boiler is rigidly attached to the frame at the firebox end, and the high-pressure cylinders are situated under the footplate. This gives a rigid connection for the high-pressure steam. The pipe connecting high- and low-pressure cylinders is a large one, lying under the fire box, along the centre of the frame, and acts as an intermediate receiver. The frame is articulated, as shown in the plan, but the amount of angular motion is small, and in the pipe is amply and efficiently allowed for by a short length of flexible metallic tubing. The whole pipe is well lagged, and supplied with steam-traps, and a reheating arrangement with live steam, which, however, we use very little. Condensation in this intermediate pipe is very insignificant The low-pressure cylinders are on the leading bogie, directly under the smoke-box, into which they exhaust through a pipe with a ball-and-socket on the upper end, and a ball-and-socket combined with a sliding gland with packing rings at the lower end. It will be noticed that by this arrangement we have a rigid connection for high-pressure steam, a very simple flexible joint, with a small amount of motion for the steam after its first expansion; and the only joint of a character at all likely to give trouble is the exhaust, where it can do least harm. There has certainly been no trouble hitherto, nor do I anticipate any.

The advantages of the compound system are, therefore, I think, much as follows: -

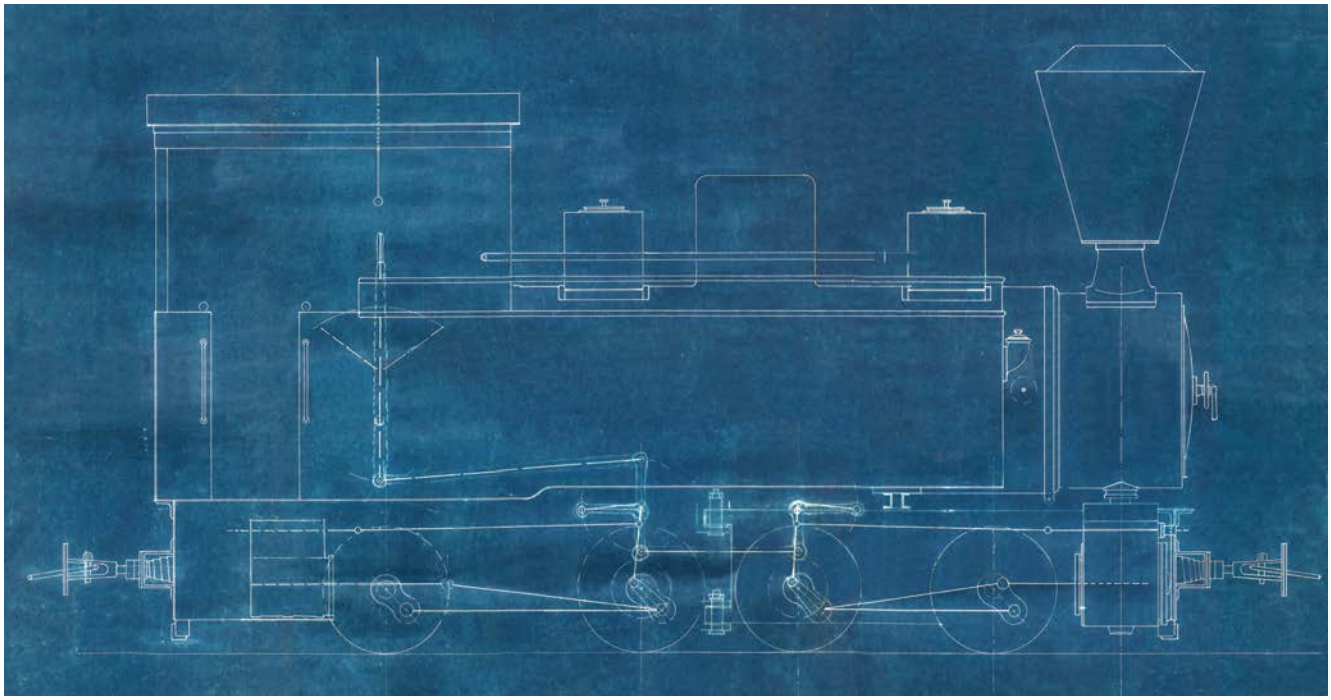
1. Long total and short rigid wheelbase
2. Simplicity in steam connections as compared with non-compound engines with flexible frames.
3. The engine runs equally well forward and backward.
4. Economy in fuel.

The disadvantage, as far as I can at present see, is that the repair-bill must necessarily be higher in the long run, as many parts are duplicated.

Our No.2 locomotive is a small four-coupled engine, weight in steam 6¾ tons. This engine is a good and efficient machine, and does excellent work for its size. At the worst of times it pulls comfortably a gross load of 15 tons up the five-mile stretch of heavy gradient.

The following are the leading dimension with those of the well-known similar engines by Krauss, of Munich for comparison:

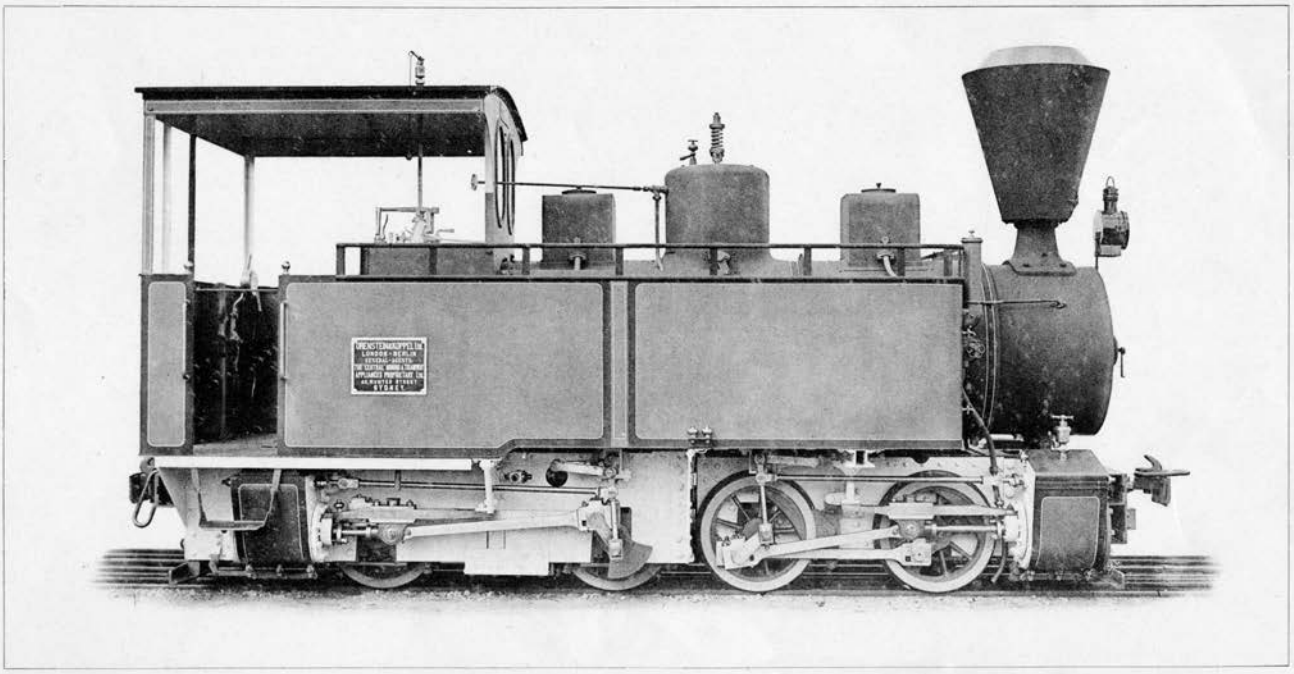
	Orenstein & Koppel	Krauss
Cylinders, diameter	6 ½ ins.	7 ½ ins.
" , stroke	12 ins.	12 ins.
Wheels, diameter	22 ¾ ins.	24 ⅜ ins.
Boiler pressure	170 lbs	170 lbs
Heating surface	155 sq. ft.	166.5 sq. ft.
Grate area	3.8 sq .ft.	3.25 sq. ft.
Tank capacity	108 gallons	107 gallons
Weight in steam	6 ¾ tons	7 ½ tons
Adhesion (1/6)	2520 lbs	2800 lbs
Tractive force (65 %)	2480 lbs	2780 lbs



Above: *General outline blueprint of the locomotives as built. As well as moving the high-pressure cylinders to the outer rear, the wheelbase of the rear bogie was lengthened and the frames placed outside the wheels. These measures all created more space for a larger firebox and ash pan, suitable for burning, mainly, locally-cut wood. These Drewitz-Mallets were fitted with O&K's own design of radial valve gear. One loco awaits restoration in Western Australia. Image: Ted Lidster colln, courtesy Trainiac – Flickr*

Below: *The Magnet Silver Mining Company's first Mallet (b/n 882/1901) was used as a catalogue illustration by O&K. The reason for the placement of the rear cylinders at the outer end rather than the usual location has been fairly debated over the years. A logical reason would be to obtain a larger grate area, important for a wood-burning locomotive. Cylinders under the cab tend to result in a hot cab although in the hills of Western Tasmania this was not so much of a problem. Despite the picture's caption, the actual locomotive was built to 2ft-gauge not 600mm. Photo: Orenstein & Koppel catalogue, courtesy Archive Roland Bude*

Aktiengesellschaft für Feld- u. Kleinbahnenbedarf vorm. Orenstein & Koppel
Berlin ✱ Drewitz.



100 HP, 2×½ gek., 600 mm Spur (System Mallet).

Cylinderdurchm., Hochdruck	210 mm	Radstand der Gestelle	1300/1000 mm	Raum f. Wasser	2000 ltr.
„ Niederdruck	315 „	„ zwischen den Gestellen	800 „	„ f. Holz	1300 „
Kolbenhub	300 „	Heizfläche	37,1 qm	Gewicht, leer	ca. 13,5 to.
Raddurchmesser	650 „	Rostfläche	0,8 „	„ i. Dienst	ca. 18 „
Zugkraft	2440 kg	Dampfdruck	12 kg p. □cm		

The Magnet Tramway's No.2 locomotive was a 6¾ ton 30HP machine built by Orenstein & Koppel (718 of 1901). Though Richard Waller wrote that it "did excellent work for its size", its performance was nevertheless inferior to that of its larger sibling, No.1. Following the arrival of the second Mallet locomotive, No.3, in 1908 No.2 saw little use and by 1912 had been set aside. In 1919 it went to the Boulder Tramway, Renison Bell, and two years later was sold to the the North Mount Farrell Company for use on the Tullah Tramway, where it worked until 1925.[15] *The little 0-4-0WT was photographed at Farrell Siding in 1924 by pioneer Tasmanian photographer HJ King. Photo: Phil Belbin collection*

A comparison of the work done by these engines respectively shows that, weight for weight, there is little to choose between them. Our engine will take a load of 18 tons of ore easily up the 1 in 25 grade, but cannot make steam fast enough to keep this up for a long distance. Indeed, while steam holds, it can manage 19 tons gross load up a 1 in 25 grade. As a regular load, it takes 15 tons easily up the six miles of gradient and loses no pressure in the boiler.

At Mt. Lyell the Krauss engines take a gross load of 23 tons up one mile of 1 in 30 gradient or 13¾ tons up half a mile of 1 in 16. The first performance is just about equivalent to our engine with 18 tons on a 1 in 25 grade, but the second, on the 1 in 1 6 gradient, is better than we can show; but our six-mile length of stiff gradients is quite on a different footing.

In calculating the adhesion and tractive force of locomotives, I find that taking the adhesion at one-sixth of the weight, and the tractive force at 65 per cent of the boiler pressure, gives results that should be attained by an engine under good working conditions, and for runs of reasonable length. The load hauled up any given gradient may then be arrived at pretty closely; the weight of engine being included in the load so found. This will be found to apply closely in the case of the two smaller engines, and also in the case of the 20-ton engines on the North-East Dundas tram. Their weight available for adhesion is about 18 tons, giving the same adhesion as our No.1 engine. The tractive force at 65 per cent works out to about 7000 1bs., and the best work that I know they do under favourable circumstances is to haul a gross load of 60 tons, including their own weight, up a 1 in 30 grade with 1½ chain curves, equivalent to a resistance of 7600 lb.

According to (the) above method of calculation, I should expect these engines to pull a train-load of 36 tons without trouble up the grade mentioned, in good ordinary circumstances. They have ample cylinder-content, but hardly sufficient steaming power. I may note also that, as they burn coal exclusively, on a fire-grate larger than ours, that their fuel consumption must be considerably higher; this obviously follows from a consideration of the types of engines.

Going back to our compound engine, it, may be noted that the tractive force at 65 per cent is lower than the available adhesion. This points out the fact that the engine is under-cylindered and experience on the road fully bears this out. An increase in the cylinder-diameters to 8½ and 12½ inches respectively would bring this proportion about right, and the engine would certainly do better work. In ordering another engine, I should increase these diameters to 9 and 13 ½ inches; the engine would then have ample power for an emergency, a point in which it is deficient at present.[12]

The last point to which I wish to draw attention is the best economic size of engines to use. At Mt. Lyell, after much experience of the Krauss engines, they have come to the conclusion that engines of about this weight (7½ tons) are the most economical that they can use, when running cost, repairs, &c., are included. I have not been working long enough here to pretend to estimate my repair-bill, but I do know this – that, under my conditions, the saving I effect by running the engine we have adopted will pay very heavy repair-bills indeed. My daily running costs, including interest, depreciation, &c., for one engine only on the road amounts to about £3. 8s. 6d. per day.

To do the same work, two engines of 7½ tons would be required which would cost me at the lowest, £4 18s. per day. I believe that the cost at Mt. Lyell is considerably higher. This represents a difference of £1. 9s. 6d. per day, or over £440 per year. I hardly think my repair-bill will amount to this, and the small engines will certainly not run without any.

One point in favour of lighter engines is that a lighter rail may be used. 7½ ton engines will run nicely on a 20-lb. rail, and this would diminish construction costs by, roughly, about £200 per mile.

The conclusion that I have come to, and which seems pretty obvious to me, is that, up to the limit that is fixed by another factor, it pays to use the heaviest engines that traffic on the line will keep fully at work. The factor which, in my opinion, limits the economic size of engines on any road is the train length, taken in conjunction with the nature of curvature of the line. The effect of long trains is not usually felt on 3 feet 6 inches lines, though, even then, where curves are long and sharp, I have heard of several instances where a long light train offered a resistance apparently altogether disproportionate to its weight. The fact is that a considerable proportion of the curve resistance is strictly analogous to the frictional resistance of a flexible string wound round a post, and this may be proved to be proportional to the power of the number representing in circular measure the arc embraced - for example, assuming that this particular portion of the curve resistance amounts to 5 lbs for a single truck, then for two trucks the resistance will be 5^2, or 25 lbs; for three trucks the resistance will be 5^3, or 125 lbs; and for five trucks, it will be 5^5, or 3125 lbs and so on. Thus, if any material portion of train resistance varies in this manner as must evidently be the case, it is obviously most desirable to keep train length as short as possible, and most particularly so on lines of narrow gauge, almost the only excuse for whose existence is economy of construction due to the possibility of using sharp curves.

The employment of trucks carrying as heavy loads as possible is evidently a move in the right direction.

From what I have seen, I am inclined to place the limit of economical train length at three 15-ton trucks, or a gross load of 54 tons; but it is quite possible that this might be increased to four trucks before the extra power required for haulage cut away the gain due to the employment of fewer train-hands, &c. I think, however, that I should not care to go higher than to three.

This train could be easily and economically hauled on a 1 in 25 grade by an engine of the Mallet type, and of about the following dimensions: -

Cylinders, 9 inches and 14 inches diameter, 14-inch stroke.
Wheels, 26 inches diameter.
Boiler pressure, 170 lbs.
Weight in steam, 22 tons.
Adhesion (one-sixth), 8213 lbs.
Tractive force (65 per cent.) 8420 lbs.
Work to haul load on 1 in 25 grade, 7940 lbs.

I may note here that one, sometimes heavy, item in repair bills, the re-turning of tyres, is very materially reduced in engines with articulated frames. My tyres have run 5000 miles and show no signs of wanting the lathe as yet.

The trucks used are the standard Government l5-ton, low-sided, double-bogie wagons. These are excellent stock, tare only four tons, and will carry their normal load. I have only hitherto loaded them, in regular work, to 13½ tons, but they will carry the full 15 tons without trouble. They have done all my ballasting and have been in constant and heavy work for twelve months without any repairs whatever. These trucks are 24 feet long and 6 feet 6 inches wide overall. While all the advantages are in favour of increasing the size of trucks for narrow-gauge lines, I do not think that these dimensions can be much exceeded in practice.

As prime cost was of maximum importance when the line was being constructed, stock was not fitted with vacuum brakes, though the saving in running cost is obvious as on such work as ours a guard can be dispensed with, a saving of some £150 a year, or in our case, of about 2d. per ton in freight cost. On a line such as this, and indeed on all lines, the advantage of keeping the tare of trucks low is very marked. I have been strongly recommended (by the makers) to go in for a better class of steel framed and bolted truck, with a tare of five tons, or even heavier - with a guarantee that they would still be good trucks in ten years' time. I figure out the problem something like this. The present trucks cost me (from America) about £150 each. I can comfortably manage with them a train-load of 35 tons, of which 27 tons is ore, and 8 tons dead weight. The cost of carriage, taking into consideration wages, coal, and maintenance of road, amounts to about 2s. 6d. per ton of ore, but per ton of total load carried about 2s. If, therefore, I use five-ton trucks, I carry two tons dead-weight extra per train; that is, I must leave two tons of ore per train, or four tons, behind daily, which amounts to a loss of 4s. per truck per day, or £60 per year. So that if I were given five-ton steel trucks for nothing, it would pay better to buy four-ton trucks, wear them out in three years, and then throw them away.

The guard's van was purchased with a view to accommodating general goods traffic; but I have hitherto always had full loading of ore for the trains, and we hardly use the van, as it does not pay to drag an extra two tons, in the shape of a van for the reasons given above, for reducing the tare of trucks. We carry goods in the empty trucks on the back trip. We provide no passenger accommodation, except a seat on the ore-trucks.

The cost of construction and equipment ran out as follows:

	£	s	d
Survey	1008	1	9
Clearing and grubbing	682	17	3
Culverts and bridges	523	0	6
Earthworks	3876	3	6
Permanent way material	6171	1	4
Platelaying	519	14	2
Ballasting	1362	13	11
General equipment (buildings &c)	808	16	10
Supervision	1010	6	9
Rolling stock	2961	7	8
Fuel	3	5	9
Stores	150	7	11
General expenses	23	7	0
Interest and exchange	9	13	11
	£19,250	**18**	**3**

The details of this cost-sheet may be of interest.

The line cost, equipped with rolling-stock, £1925 per mile; survey cost just over £ 100 per mile; clearing and grubbing, for a width of 20 feet from end to end of line, cost 16s. 6d. per chain; rail sleepers, &c., cost £617 per mile, of which the sleepers (2200 per mile) cost 1s. each - cost per yard of road 7s. Platelaying, including curving rails, adzing and boring sleepers, charged with its share of locomotive, cost £52 per mile, or 7d. per yard. Ballasting cost £136 per mile, or about 3s. per cubic yard laid and packed in the road. Finally, I may note that included in above costs is an amount of £2100 for duty, wharfage, and freight on the Emu Bay Railway from Burnie, which materially enhanced the cost of construction.

30th June 1902

The future for the Magnet mine

Richard Waller continued as the manager of the Magnet Silver Mining Company until late September 1904 when he was given a complimentary send off by the Mine's employees. He was then 37 years old.[13]

By then, the tram had been in operation for a little under three years, and development of the mine had included the erection of a crusher and drying plant that enabled considerable quantities of first-class ore and gossen to be sent out on the tram. Also, stocks of the unprofitable lower grade ores had built up, and so as to gain some value for these, a concentrating plant was completed by the end of the year for their treatment.[14]

For a few years, the operations were producing some dividends for the investors but these were limited by the need for more capital expenditure, in the extensions to the mill, and in the sinking of shafts thus requiring winding and pumping equipment. Another cost was the purchase of locomotive No. 3 in 1908.

The company had initially been formed in 1895 with a capital of £1024, but this had had to be increased to £2500 in 1898, and again to £4000 as part of the needs of the tramway, although income from the ores carried out over the old timber tram had contributed to the costs of the earlier mine development and the £19,250 for the new tram.

There had also been a dam built on the Arthur River, with races to Magnet to provide more security of water supply

for milling and power needs. This led to capital again being raised to £5000 in 1908, but the company was concurrently affected badly by a protracted strike.

For the next six years the mine barely covered its costs, and several calls on investors were made. Then the Great War began, and in 1914, the capital was doubled to £10,000. Payment of dividends returned in 1916 and '17, but construction of a hydro-electric plant and a second dam bled more money, and the mine became unprofitable; capital was again increased to £24,000, and several more calls made, but generally to no avail.

The great depression arrived in 1929 and was critical for the company, and despite the input of £3,500 from the Tasmanian government in 1931, the company was forced to abandon mining operations soon after.

Leasing tributers then moved in, initially the Magnet Prospecting Syndicate N.L. between 1933 and 1935, which received another £4,185 of government assistance, followed in 1936 by the New Magnet Prospecting Syndicate N.L., it being given another £2,567. This was closely followed by a succession of other unsuccessful enterprises, including Amalgamated Gold Estates N.L. (1937), Magnet Silver Lead Mines N.L. (1937), and finally the Spartan Silver Lead Mines N.L. in 1940.[15]

A report from the Acting Government Geologist dated July 1937 stated that the Magnet Mine had by that stage produced 36,903 tons of lead and 7,611,903 ounces of silver, valued at £1,718,137, and when the it finally closed in 1940, it had produced only marginally more.

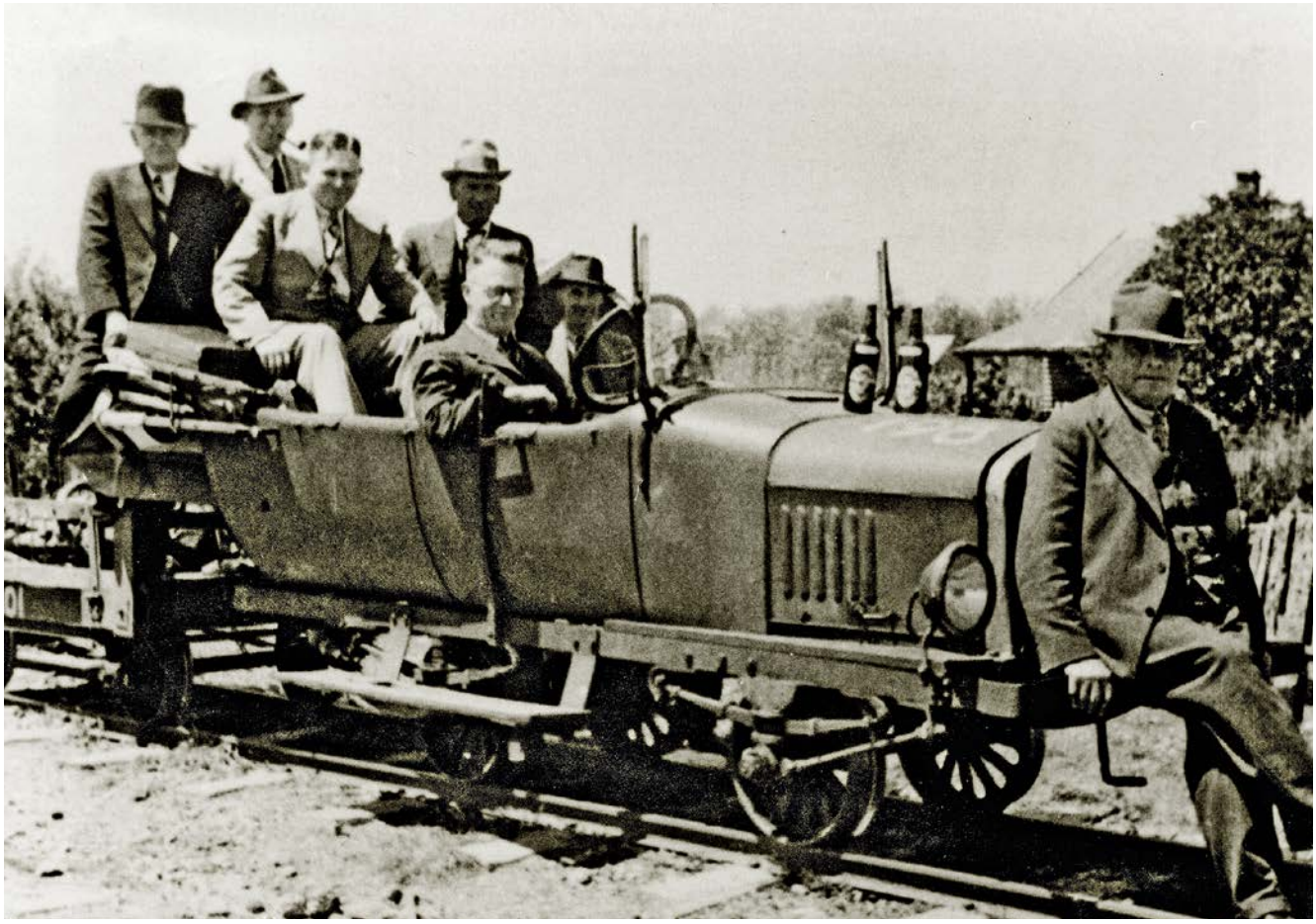
During this roller-coaster history, the tram remained the only real contact that the town of Magnet and its mine had with the outside world, and its locomotives rode along with it. Four-wheeler No. 2 had, of course, been sold to the the North Mount Farrell Company with the arrival of No. 3 in 1908, but the two Mallets carried on through good times and bad with the occasional 'out-of-service' when times were lean.

Through the majority of the tram's 38-year life, there was no accommodation for passengers, other than at special times when ore trucks were sometimes crudely 'converted' by providing seating planks etc. However, by the early 20s, a T-model Ford motor vehicle had been crudely converted to a railcar with accommodation for perhaps a driver plus five passengers, and capable of trailing two small four-wheeled trucks carrying some freight.[16]

In the *tributers*' period from 1933 until the end, at least No. 3 seemed to see some work, but by that stage, the two Mallet locomotives were well worn, and No. 1 had to be cannibalised to provide parts to keep its sister in working order.

Then No.3 was sold, together with what was left of No. 1 to R J Howard at a special clearance auction in late November 1940, at which other mining and railway assets were also offered. A condition of the auction was that the tram would be made available to carry purchases out to Magnet junction, but by that time the Waratah branch line had been closed anyway.

No. 3 was then given the undignified task of lifting the line, before going into storage until in 1946 when it and parts of No. 1 were sold to the Great Boulder Gold Mines Ltd of Kalgoorlie, WA.[17] It was subsequently moved to Whiteman Park where it is stored by the Bennett Brook Railway pending restoration.[18]



Formal passenger accommodation on the Magnet tram was non-existent, at least until the arrival of this converted Model-T Ford car in c1924, and even then, it was quite basic and probably limited to just official use. The background topography and the house at right centre might indicate that the photograph was taken at Magnet Junction. Did the seven gentlemen share just two beer bottles?

The future for Richard FitzArthur Waller

After he left the Magnet Mine in 1904, details of Richard Waller's later life have proven to be quite sparse, other than that family papers have indicated that he and Lucie travelled to many parts of the mining world following his profession.[19] In the mid-1920s he apparently joined his brother James on railway works in Spain.

With the death of his father in 1923, he assumed the role of head of the family, and lived at Luska in Tipperary, a property that his father had repurchased on his return from Tasmania in 1900. It was there that Richard died in July 1942. He was 75.

Of the ten sons of William and Sarah Waller, two died in infancy, at 7 and 14 months, one met an accidental death in Argentina at 38, and Richard died at 75. The other six lived very long lives reaching 80, 84, 90, 83, 88 and 83.

Their parents William and Sarah lived to 88 and 85, respectively.

References

1. *The Mercury* (Hobart, Tas) Tue 1 Jan 1884, Page 1
2. Similarly, Richard's brother George Waller may have gained his qualifications as a mining geologist through the same route.
3. *Report of the Secretary of Mines for 1901-1902*, Hobart, Tasmania, 1902, page cxix (digitised version page 139)
4. *A History of Railways and Tramways of Tasmania's West Coast*, Lou Rae, 1983, page 181
5. *Notes on unrecorded and other minerals occurring in Tasmania*, W. F. Petterd.
6. Application No. 2288.-RICHARD FITZARTHUR WALLER, Civil Engineer, and GEORGE ARTHUR WALLER, Mining Engineer, both of Zeehan, in the Colony of Tasmania, "An Improved percussion table." Dated 15th November, 1898.
   Malcolm A. C. FRASER, Registrar of Patents.
7. *The Mercury* (Hobart) Tue 19 May 1896 Page 4
8. For a more detailed account of the Waratah tramway/railway, refer to *The Emu Bay Railway, VDL Company to Pasminco*, Lou Rae, 1991
9. *Report of the Secretary of Mines for 1901-1902*, Tasmanian Department of Mines (now Mineral Resources Tasmania), pp cxx-cxxx (pp 139-155 of digitised version), or reference OS_193
10. Actually 10 miles 10 chains.
11. Sharp Stewart 0-4-2T, TGR G-class, later replaced by the two notable K-class Garratt locomotives.
12. This was not done; Magnet No. 3 (O & K 2609 of 1907) was of the same basic Mallet design as No. 1.
13. *Zeehan and Dundas Herald*, Wed 28 September 1904, Page 2.
14. *History of Magnet Mine*, Acting Government Geologist, Mines Department, Hobart, July 1937, (Ref No MRT UR1891-1969_101.pdf)
15. See also: *Light Railways* No.246, December 2015: Orenstein & Koppel steam locomotives in Australia, John Browning, pages 6 (No 2), 7 (No. 1) and 8 (No. 3).
16. *Light Railways* No. 233, October 2013, page 27
17. *A History of Railways and Tramways of Tasmania's West Coast*, Lou Rae, 1983, page 184.
18. Bennett Brook Railway web pages
19. Notes about the Waller family: James Waller's daughter Beatrice, 1993, and www.jocelynwaller.info › PriorPark, 'THE WALLERS OF PRIOR PARK' (A history of the broader family prepared by Hardress Jocelyn de Warrenne Waller, Rynskaheen, Dromineer, Tipperary)

Heading for the EBR siding at Magnet Junction, Magnet No.1 (O&K 882 of 1901) has stopped to take water on the long climb up to the summit with a rather unusual consist. Passenger accommodation is quite basic. In all there are a dozen people in view, men, women, and boys. The load seems to be mainly of household items, although there is no kitchen sink in sight! Judging by the clothing and the assortment of goods one suspects a family is leaving Magnet forever, possibly dating the photo to the late 1920 or 1930s. Maybe our photographer knew the family. In the earliest photos taken at this spot a small 4-span trestle bridge spans a gully and the infilling of same shows clearly in the above image. Photo: J H (Jackie) Robinson, Wikimedia Commons (27715738033)

A posed photograph with Magnet No.3 (O&K 2609/1907) on an easier section of line, possibly near the Corinna Road crossing on the way to Magnet Junction. The rather dismal-looking fellow at the rear is sitting on a small four-wheeled truck, which may sometimes be seen at the rear of trains in other photographs. Is he part of a track gang, on their way to a work site, and hitching a lift upgrade? Could he be the repairer who lived in the hut at the 5¼ mile mark? The photographer is unknown but the scene was turned into a postcard and widely sold. Photo: LRRSA archives

A traveller's perspective of Magnet in 1903

(by our Special Travelling Representative)

Visitors to Waratah should not miss taking a trip out to the Magnet. About a mile down the railway line is the Magnet junction, from which a tram runs to and from the mine twice daily. The first tram starts from the junction at 8 am; it is best to take this one, as there are thus about six hours available for inspection of the mine and township, the last train returning leaves at 2.40 pm. The length of the tram line is 10 miles; it is light in construction, but well ballasted, and needs be as some of the gradients are as much as 1 in 22, and 1 in 25, and many of the curves very sharp. However, due regard to safety has not been overlooked.

In making the line no very serious engineering difficulties were encountered, and any that did exist have apparently been overcome by the circuitous course the line has taken in heading gullies, skirting sides of hills and ravines in its corkscrew-like windings. This may be imagined when it is said that as the crow flies the distance between the Magnet and Waratah is only three miles. Another route had previously been surveyed at a higher level, where the gradients would have been less severe, but the length would have been 14 miles. The present line was surveyed, and its construction carried out by Mr R F Waller, CE, as engineer-in-chief for the company, and was completed in January, 1902. A few months prior, in September, 1901, he was appointed general manager, with full charge of the mine and railway, a position he still holds, giving satisfaction to his board, and also the shareholders.

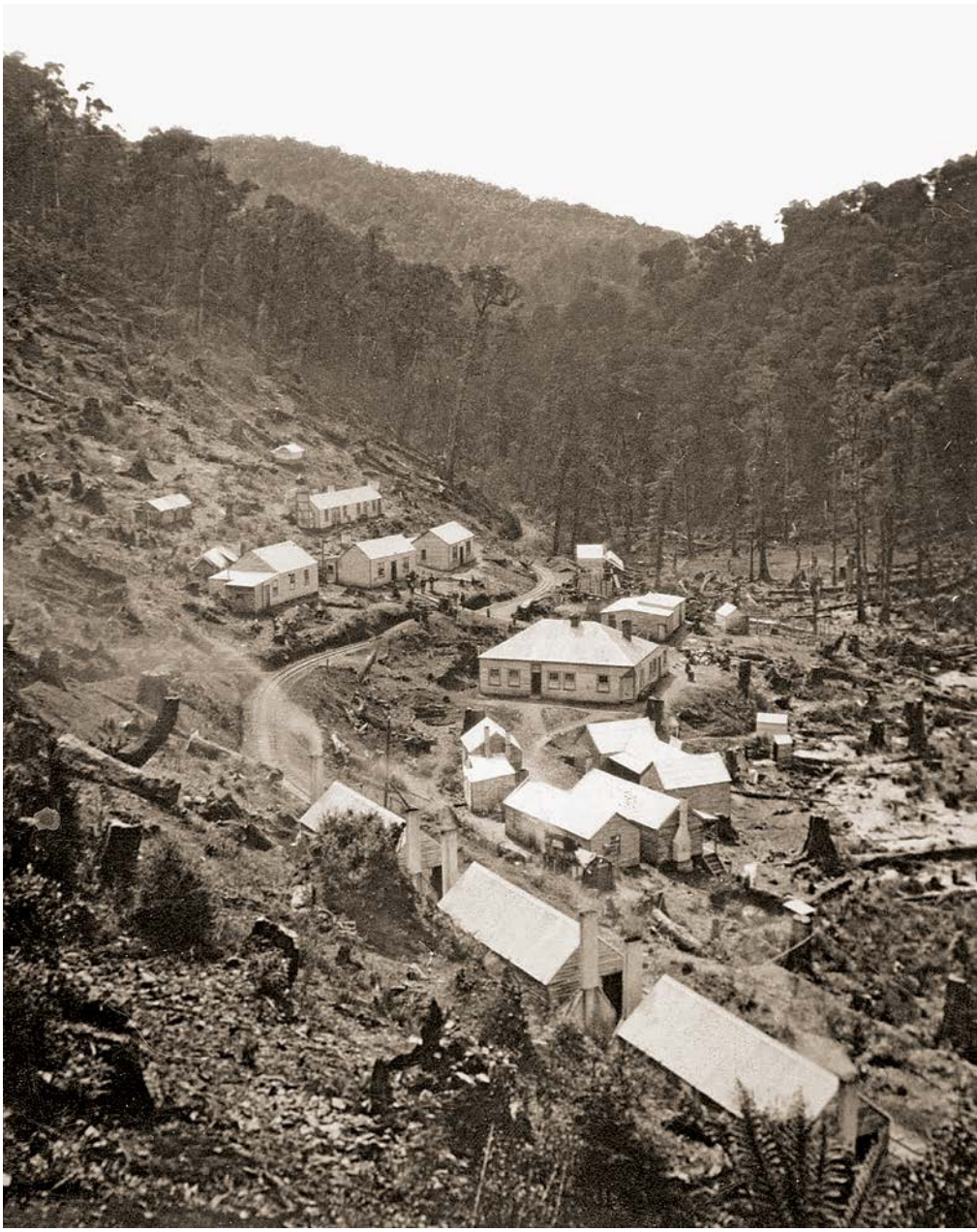
Nothing is so satisfying to mining investors as a dividend and this Mr Waller has succeeded in winning from the mine – the first, and the appearance of the mine indicates that it will not be the last. The mine is being worked on the most economical lines, and in that way nature had lent a helping hand, giving a plentiful supply of water, which has been placed under subjugation. A tunnel has been driven under the Magnet Falls, high up in the ranges, "falls" is merely a name now, as the water which once passed over is now diverted into the tunnel beneath, and carried from the outlet along flumes and races to a point on the mount. From there it is led into the machinery room by a 5in pipe, and distributed, turning two Pelton wheels, one of which being used for driving the machinery in connection with the air compressor plant, and the other for the drying and crushing plant.

On the mount there are six levels altogether. Nos. 1, 2, 3, 4, and Nos. 1 and 2 south. At No. 2 there is a self-acting tram, which delivers all the ore from that level, also the surface open-cut stuff to the crushing floor. At No.1 south level the adit is in about 250ft, and being driven in the face on rich sulphide ore; this class of ore is also coming from the stopes. At No. 4 level the tunnel is in about 500ft. At 450ft an underlay shaft is being sunk, on an angle of 75deg. and is down about 40ft; here a cuddy was driven, which intercepted the lode, good sulphide ore being met with. When this shaft is down 100ft it is intended to open out. The country in which the ore bodies, galena and gossan, are mostly found, is websterite, dolomite, slate, and sandstone. The ore when it reaches the crushing floor has the large lumps sorted out and put in the crusher,

dropping down from there on to the drying floor, the smaller pieces being shovelled down.

On the drying floor it is there fed into a large revolving cylinder, set on an incline, a hot blast from a furnace constantly passing through. As the cylinder revolves the ore gradually gravitates to the lower end thoroughly dried, and falling on to a vibrating shoot it is shaken into a bucket suspended on an aerial tram, which when full is run along and emptied into the bagging bins. These buckets, though small and seemingly long in filling, manage to carry during the week an aggregate of 260 tons. On the bagging floor, which is on a level with the loading platform, men and boys bag the ore and load these into the trucks. Two trucks comprise the rake per trip, carrying about 22 tons of ore. The engine attached is of a very powerful type, though small, an 18-ton compound Mallet ; there is another little compound‡, for emergencies, of 6¼ tons. The ore is now going to the smelting works at Dapto, N.S.W., and has been going there since the termination of the contract with the Tasmanian Smelting Works at Zeehan on September 30 last.

The site of the company's plant two years ago was a dense forest; taking that into consideration, and looking at the complete plant in full working order, a dividend-paying concern as well, it needs no Solon¶ to say that the management of the mine must be in first-class hands. A new building is just going up, in which it is proposed to erect a concentrating plant; it is small, but still it is an indication of the enterprise and up-to-date notions prevailing at the Magnet silver mine.



The last half-mile or so of tramway up to the mine was a twisting turning affair, winding along a side-cut with occasional cuttings through ridges, passing between the houses, shacks, and hotels plus a cottage hospital and church that made up the village of Magnet, all the time following the valley of the Magnet Creek. As the valley sides were cleared for timber and firewood, houses were also constructed on the hillsides. Photo: LRRSA archives

The Tram Ride — The trip by the tram to the Magnet will he found quite a unique experience. On arriving on foot at the starting point, the Magnet Junction, there is the little engine already mentioned and two empty trucks attached. The obliging guard, whom is afterwards found to be a bit of a wag, solemnly points to the two bare boards thrown across the truck, and calls out, "Take, your seats, please." After taking in the situation, you then take your seat courageously with your back about two feet from the engine – the guard giving an assurance that there the smoke passes harmlessly overhead. Presently the little engine puffs merrily away, and the guard sits down alongside at the screw brake, and as we bowl along he points out a few of the interesting spots we pass. So far, which is not any great distance, the ride in the open truck is enjoyable, and memories of bygone days float up of jolly excursions from Ferntree Gully in crowded sheep trucks.

Suddenly the speed of the train slackens as the ascent of a steep incline is began, and at the same time our friend, the guard, is smitten with profound silence. Just here trouble begins – thick black smoke is being emitted from the funnel of the engine, suffocating, blinding, pitiless and merciless until the journey's end. The guard, hardened sinner as he was, seemed affected at our plight; even his eyes were also shedding unbidden tears, which comforted us somewhat. And he comforted us more as he smiled through his tears, when he told us that the train stopped for refreshments at the top of the hill. Beams of joy broke over the faces of the six suffering passengers! When it stopped we found the refreshment was

‡ The small loco was not a compound. O&K b/n 718/1901 0-4-0WT. History in LR246 "Orenstein & Koppel steam locomotives in Australia" by John Browning http://media.lrrsa.org.au/piko246/Light_Railways_246.pdf

¶ Solon c. 630 – c. 560 BC, was an Athenian statesman, lawmaker and poet. He is remembered particularly for his efforts to legislate against political, economic and moral decline in archaic Athens. His reforms failed in the short term, yet he is often credited with having laid the foundations for Athenian democracy.

Careful comparison with the front cover photo will show that this is the same train, going in the opposite direction, at the same 'refreshment' spot where both water and firewood was available. The number of people on board has greatly diminished; the crew now have the loco to themselves and a young girl seems to be the sole occupant in the guard's van. Reference to the newspapers identifies any number of reasons for the running of special tramway trains ranging from a Catholic Church dance, tennis tournaments, picnics to a general exodus at Christmas times. Photo: J H (Jackie) Robinson

for the engine – it was a water tank. We looked for our friend, but he was gone; after the train started again we noticed he was riding on the tail-board of the last truck.

Mustering for the return journey, the guard approached us before we boarded the trucks again, looking humble and penitent and assured us that it would be "quite different" going back. He seemed contrite, and as we had regaled ourselves at the hotel, we felt forgiving, and let bygones be bygones, jumping in cheerfully to our doom. The 'dry dog' had indeed told the truth; we had not been long on our journey ere we discovered it was "quite different" going back, the difference being that we now had fiery sparks instead of blinding smoke. The sparks were as large as blowflies, and kept us quite as lively; they dropped down our necks, and set our clothing alight with much persistence. Naturally, we wished to discuss these matters with the guard; but he was again sitting on the tail-board of the last truck 'quite indifferent' – we shall always keep his memory green. We were informed that the scenery along the line was very pretty; we hoped so, but assumed that those who had seen it must have missed the train, and walked. Moral: Place not your trust in #@^%★ guards!

The Magnet township does not boast of many family residences, but wives and children will soon appear as the married men settle down. There are plenty of neat little 'batching' quarters, a boarding house or two, an excellent hotel, two stores, and a butcher's shop. As the town increases and families settle, the inevitable State school and churches are sure to follow. A cricket pitch is being laid. That was sure to be, indeed nothing was more certain – Mr Tom Hollow✢ is employed at the mine!

Notes: This account, originally titled "The Magnet" appeared in the *Daily Telegraph*, Launceston, Monday 28 December 1903. p.7, as part of a longer series of articles by the *Telegraph's* Special Travelling Representative, entitled "Highways and Byways". The article in the issue at hand includes an interesting account of the Mount Bischoff tin mine and the town of Waratah, the Magnet SMC, and a number of smaller mines in the vicinity of Waratah. Our extract has been slightly edited. The original can be found at http://nla.gov.au/nla.news-article153910412 [Phil Rickard]

✢ Tom Hollow – renowned West Coast batsman of the period. Had previously been on the Mount Lyell Proprietary team. In 1899 he was working at the South Tharsis mine as manager. Well known as a member of the Queenstown band, and prominent in the Amalgamated Miners' Association. Spent a period in southern Africa c1901, including Rhodesia but was back on the West Coast, at Magnet, by mid-1903. Later spent time at Williamsford

Number 6, one of the five Clyde 0-6-0 diesel-hydraulics built with a fold-down cab, coming under the QR's bridge that carries the Kuranda railway, and crossing Kamerunga Road. Note one of the crew, his head and hat just visible above the cab – he would be standing outside the loco on the cab steps. Red Peak at the right background. The Kuranda railway, after crossing the low-level bridge, will wind its way into the mountains at left and head into the Barron River gorge, just left of middle background. Photo courtesy: www.westonlangford.com/images/photo/108385

That bridge at Redlynch – a 1950s solution

by Phil Rickard

In *Light Railways* No.277 (February 2021) discerning readers would have noted that the two photographs on page 28 were taken not far from that of the photo on page 30, albeit about 80 years apart. The give-away, of course, being Red Peak (elevation 1912ft. 583m) dominating the background.

The captions on the page 28 photos mention the restricted clearance available under the Queensland Railways' Kuranda railway overbridge at Redlynch and reminded me of some photos taken by the late Weston Langford on 14 November 1966 at this location. They show one of the five Clyde 0-6-0DH locos built between 1956 and 1965 and especially modified with cab roofs that folded down, backwards, to reduce the locomotives overall height – counterweights on each side assisting in this. Additionally, (for the first two) the front of the cab folded forward, onto the loco's bonnet and the cab back windows folded into the cab and up against the roof. The later three had cab front's that hinged at the top. When folded back the windows stayed in the closed position, reducing somewhat the room in the cab.

Photographs of these locos with the cab folded-down are not very common as generally the crews returned the cab to normal height, whilst on the move, as quickly as possible after coming under the bridge, either with empties going north, or fulls coming south. The *raison d'etre* for the bridge and the operational problems it presented was discussed by John Browning in LR151, with follow-up notes by Chris Hart in LR152.[1] If one wants to see what happens at this location when excess rain waters accumulate in the dip under the QR bridge, revisit the front cover of LR234 to view the drama!

The locos in question serviced the canefields on the Barron River flood plains and north of the Barron River, towards Trinity Beach. The locos were later rebuilt with low-profile cabs and one of these is shown in the photo on page 30 of LR277. One suspects that crew safety would have been one reason for the rebuilding – it was usually the practice to ride outside the cab, on the bottom rung of the cab step. Even at the time, such practice must have been considered somewhat risky.

Another reason that facilitated rebuilding was changes at the bridge. Photos from the mid-1950s show it with double stacked timber girders supporting the QR track. At some time before the mid-1960s, the span under which the 2ft-gauge track passes was reduced to a single girder on double corbels, effectively allowing at least an extra foot of clearance for the 2ft track. This is apparent in the above photo when compared to the span on the right.

Cane from these areas originally went to the CSR's Hambledon mill but following that mill's final crush in 1991 the cane now goes to Mulgrave Central Mill at Gordonvale. The locomotives were also purchased by Mulgrave mill at the same time.

1. All these issues – free download at www.lrrsa.org.au
2. Meticulously measured on Google maps!

The continual encroachment of suburbia onto cane lands around Cairns has seen a gradual cut-back of these northern tramways and one wonders if this bridge scene could become history at some time. Nowadays, from Redlynch yard, cane trains to Gordonvale mill have to traverse over eighteen kilometres[2] of Cairns' continually expanding urban area, including 25 level crossings and a 280m tunnel. The total run from Redlynch yard to the mill is about 34km so over half the journey is now through urban areas.

The locos, which were converted to a either a normal or low-profile cab between 1979 and 1981, were supplied by Clyde Engineering Pty Ltd of Granville, NSW, to two different models. The first two locos, No.6 and No.5, arrived in 1956 and 1958. They were of the 0-6-0DH type, model DHI-71 of 170 hp, with a 6-cylinder GM engine and weighing some 18 tons. The other three locos, Nos. 3, 8 and 9 arrived in the mid-1960s, also being 0-6-0 diesel hydraulics. They were of the slightly larger model HG-3R, also weighing around 18 tons and being of 263 hp with a GMV8 engine.

Builder's numbers, etc, are given in the following table, kindly supplied by John Browning.

List of the five locomotives, of two different models, built by Clyde Engineering, Granville, New South Wales.

B/No.	Year	Model	Mill No.	Altered
5696	5/1956	DHI71	6	1981
58190	5/1958	DHI71	5	1980
64316	10/1964	HG3R	3	1979
64379	2/1965	HG3R	8	1980
65435	5/1965	HG3R	9	1980

All built with fold down cab. Cab replaced with normal (6,5) or low profile (3,8,9) design as noted.

My grateful thanks to John Browning, Chris Hart, Greg Stephenson and David Mewes for their assistance and help with information and photographs.

Above: *Close-up of CSR Hambledon Mill's No.6 (Clyde b/n 56-96 of 1956) the first of these unusual locomotives, entering the Redlynch yard. Though the loco seems devoid of a fleet number, the '6' is actually hidden behind one of the support arms of the retracted cab – my thanks to Chris Hart for the identification. Note within the loco cab, the two-level floor, with a footwell adjacent to the doorway – was this meant to be for the crew when going under the bridge? Beyond the tram yard, the same view today features a busy highway and the suburban sprawl of Redlynch. Photo: https://www.westonlangford.com/images/photo/108386*

Below: *Redlynch yard, 13 August 1970 and Hambledon No.5 has just arrived from the Barron River cane lands to the north, and under the QR's low-level bridge. Yet already the crew have raised the cab roof and brought the front windows up. Even though Nos. 6 and 5 were built to the same model DHI-71, readers will note differences between the two – principally the cab steps and cab floor. One can imagine that the dual-level cab floor in the first loco, No.6, was a hazard for the unwary when stepping backwards. Additionally the much larger steps on No.5 appear more in accord with enhanced safety. Note that the exhaust, between the two front windows, also hinges forward. Photo courtesy: David Mewes*

A very warm and sunny day in Cairns as No.3 arrives at Hambledon mill and trundles its rake of bins into the fulls' yard. Number 3 was one of three folding cab locomotives built to the larger Clyde model HG3R although weighing the same as the earlier DHI-71. Keen to catch any breeze, the crew have opened both the front and back windscreens. On this model the front windows hinged upwards rather than downwards as in the earlier locomotives. The date – 14 August 1969 and in the background the Isley Hills that surround the mill like an amphitheatre, are fast disappearing into the midday haze. There was an occasion when the crew of one of these locos failed to lower the roof at the bridge – the following weeks saw it running around topless, sporting a beach umbrella for shade! Photo courtesy: David Mewes

The memorial to Perry Engineering located in front of the Mile End Shopping Centre.

Perry Engineering Memorial

by David Jehan

Perry Engineering was founded by Samuel Perry, who emigrated from Shropshire, England in 1897. After serving an apprenticeship he established a small blacksmithing business in Adelaide. This soon expanded into an iron foundry and boiler shop.

In 1912 Perry received an order for 10 locomotive boilers and the business was moved to a new larger site at Mile End. In 1915, Perry purchased the James Martin & Co 'Phoenix Foundry' works in Gawler. In the following years a large proportion of the firm's business was derived from locomotive construction, which was carried out in the Gawler works. This continued until 1927 when the Gawler works was closed, and activities were consolidated at Mile End.

In addition to locomotives the company also built equipment for the marine, mining and power generation industries as well as structural fabrication and general engineering.

Samuel Perry died in 1930 and his nephew Frank Perry took over. The firm was incorporated as Perry Engineering Company Limited in 1931.

During World War II much of the factory was converted to manufacture munitions and defence equipment as part of Workshop Australia. In 1947 the company became a public company and in the 1950s, it became involved in the automotive industry, manufacturing mechanical presses for Chrysler, Ford and Holden.

In 1966 Perry Engineering merged with Victorian company Johns & Waygood to form Johns Perry Engineering. The Group was later bought by Boral and the Mile End facility finally closed in 2003.

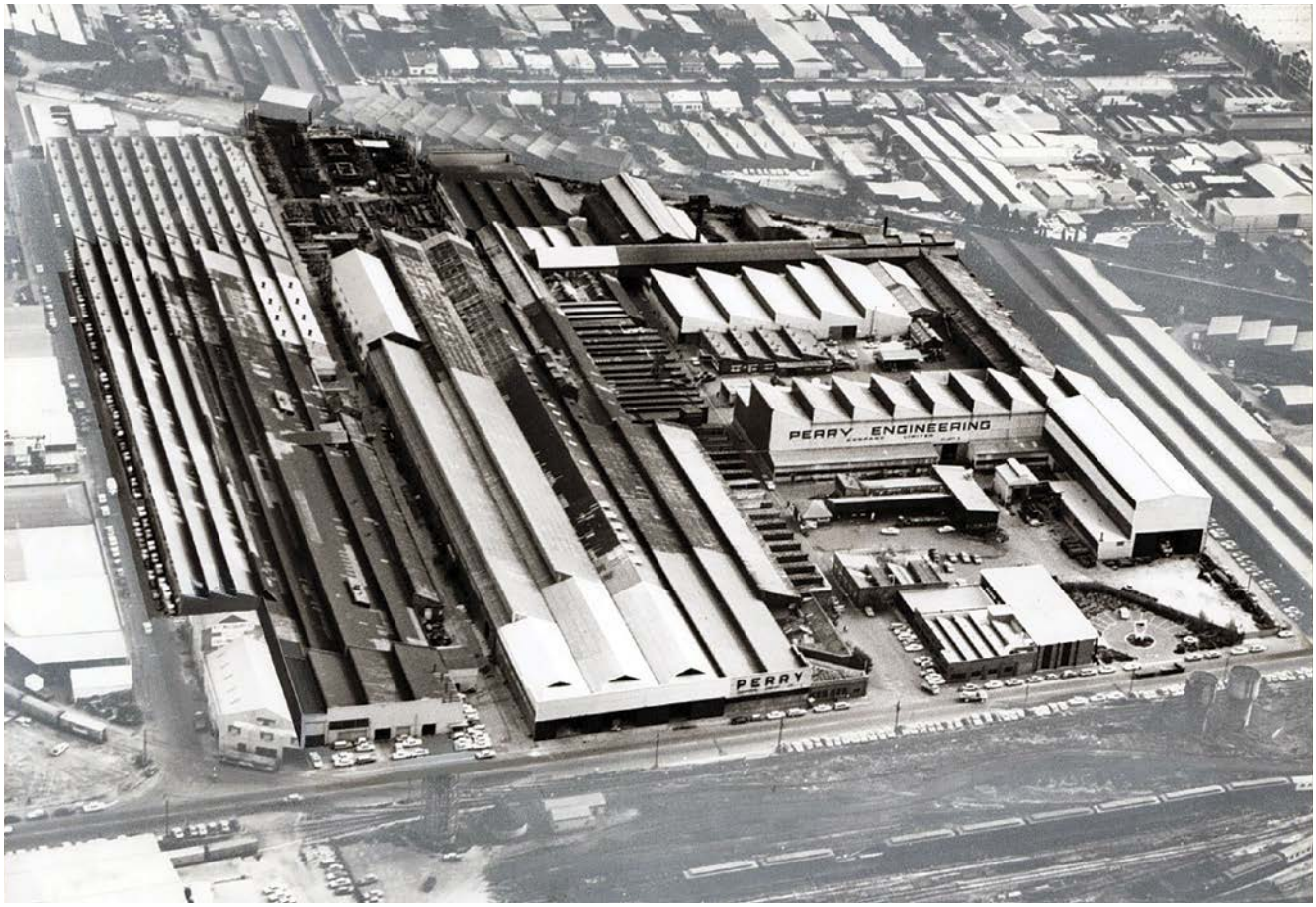
To those interested in light railways, the best-known Perry Engineering product was the locomotives built for the sugar cane tramways of Queensland. Between 1934 and 1952 the company built thirteen 0-6-2T and six 0-4-2T 2ft gauge locomotives for various mills. These were some of the few Australian-built steam locomotives in the sugar industry.

The Mile End site was progressively cleared after closure and is now occupied by the 'Mile End Home Shopping Centre'.

A memorial has been erected to this great Australian manufacturer, partly funded by the Friends of Perry Engineering, unveiled at Railway Terrace adjacent to the Mile End Home Shopping Centre in late 2010. It consists of a large granite block which has two bronze plaques, one giving a brief history of the company and the other displaying a list of the industries served and the products provided to them. A reminder of a time when manufacturing was a major part of our economy and our culture.

For further information on the company and memorial refer to: -

- Australasian Locomotive Builders Lists- James Martin/ Perry Engineering, LRRSA.
- www.westtorrens.sa.gov.au/Council/Local-History/West-Torrens-Industries/Perry-Engineering-Ltd



Above: *An aerial view of the 9.7 hectare Mile End works of Perry Engineering in 1965.*
Below: *Perry Engineering 0-6-2T Tully No.6 (B/No.7967/49/1) at the Illawarra Light Railway Museum, 2000.*

General view of the Balmain yard showing the track work in the 1950s. Photo: W Allen collection

Balmain maintenance yard tramway Sydney Ferries Ltd

by Jim Longworth

In 1900 the North Shore Ferry Company absorbed most of the other large ferry companies operating around Sydney, to become Sydney Ferries Ltd.

Following competition from street tramways many of the inner harbour ferry routes were abandoned during the first decades of the twentieth century. But the big blow for Sydney Ferries Ltd came with the opening of the Sydney Harbour Bridge in May 1932. From carrying over 50 million passengers in 1927, patronage fell to 20 million in 1933. For most of the twentieth century the distinctive Sydney inner harbour ferry was Sydney Ferries' light green double-ender, to distinguish them from the outer harbour or Manly ferries. Steam engines in the vessels were slowly replaced with diesel engines between 1930 and 1970.

The Parramatta ferry service that had operated along the Parramatta River from the City, had remained independent and closed in 1943, together with the steam tramway the company had operated at Parramatta since 1884. The tramway connected with the ferries at Redbank Wharf on the junction of the Parramatta and Duck Rivers, and terminated at the Park Gates in O'Connell Street, Parramatta.[1] The State government took over Sydney Ferries Ltd in 1951 when the company was almost bankrupt.

The company operated a maintenance facility at Balmain that included a short length of standard gauge track, which was utilised by a long-jib steam-crane. Being of standard gauge, steam tram motors from the Parramatta tramway could also be landed and moved around the works.[2]

The first steam tram motor at Parramatta was Kitson T 52/1882. This motor was a replacement for a pair of Kitsons which had been lost at sea. It was to hand in Kitson's works, as it had been built in 1882 and trialled with two horse cars on the Headingley tramline in Leeds on 7 April 1882. It was dispatched to Parramatta on 23 April 1883 and was in service there in October 1883. Originally No.1, it was rebuilt in 1905 to resemble a Baldwin motor and renumbered No.4. The motor was given a new body, more or less to the Baldwin design.

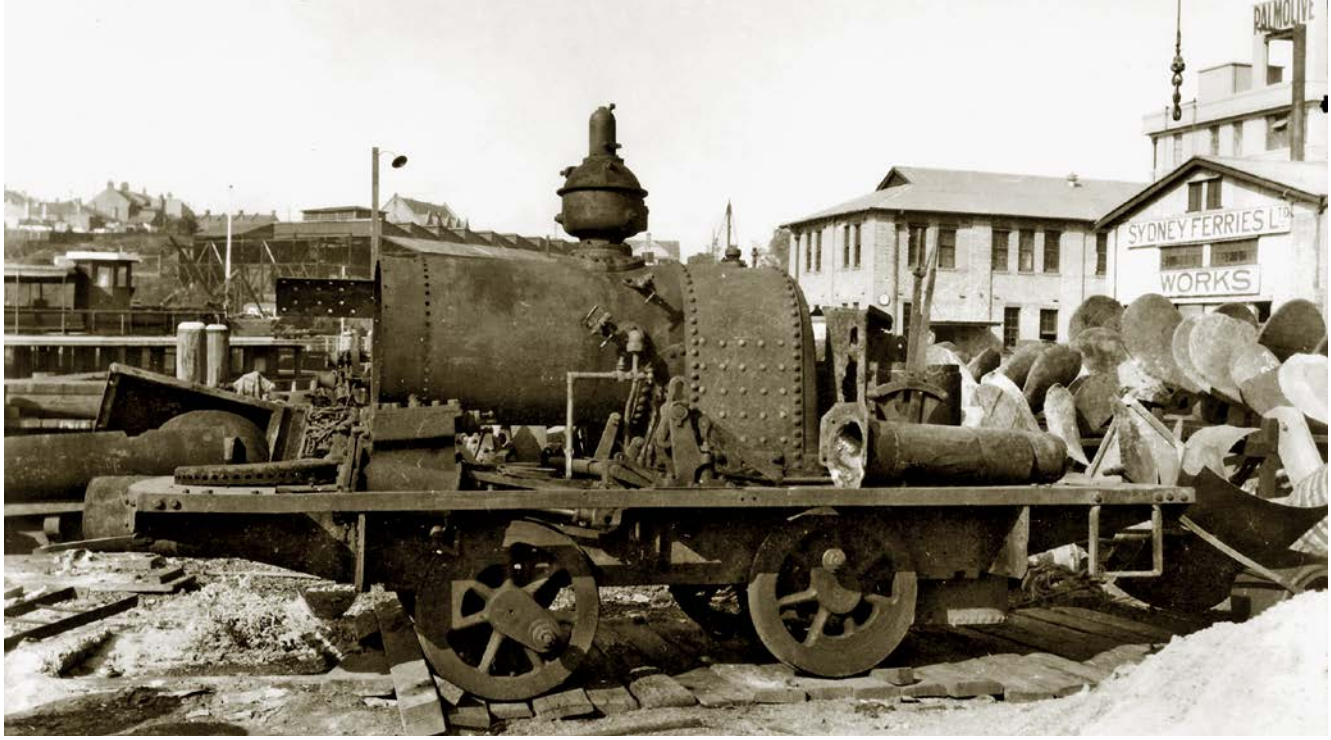
The second steam tram motor at Parramatta was No.2 Baldwin B/N 4343 of 1878 which had a vertical boiler. The motor was new to the Adelaide, Unley & Mitcham Tramway Co, but was only used on a trial in February 1879 and was sold to Parramatta in October 1883. Baldwin records show that when new it was painted 'canary' (ie, yellow), in which livery it appears in the society's new book *Australia's Colourful American Locomotives*.

Acknowledgement

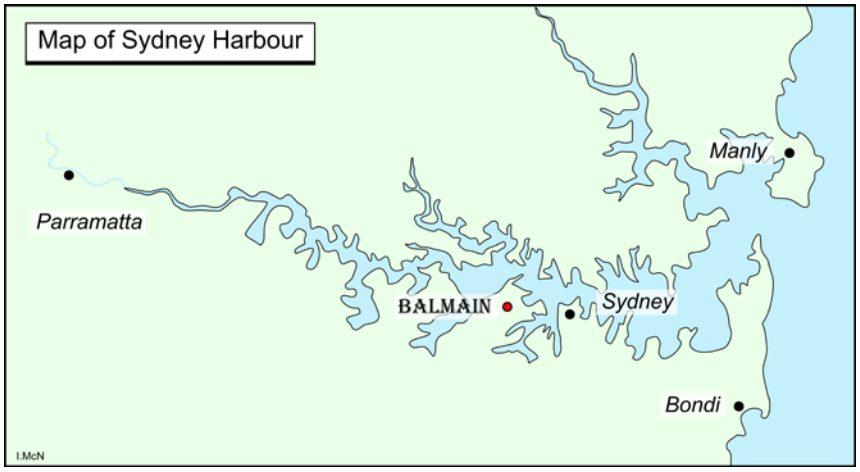
Assistance from Richard Horne is appreciated and acknowledged.

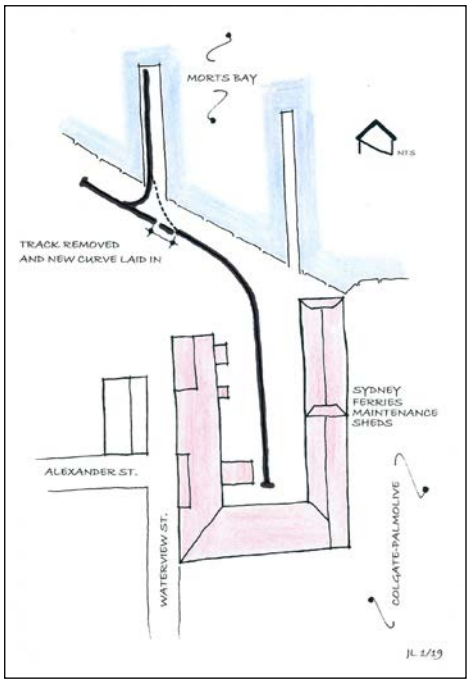
References

1. Matthews HH, *The Parramatta Wharf Tramway*, ARHS *Bulletin*, No.254, December 1958.
2. Eardley, GH, Manuscripts, Mitchell Library collection.



Above: *This undated photo of locomotive No 1 in the Balmain yard shows how the smokebox was greatly extended to protrude though the end of the cab, as was the Baldwin practice. In rebuilding No.1 to become No.4, the frames were also lengthened. Photo: G H Eardley collection*





Below: *Baldwin locomotive No 2 shown here sitting in the space between the two long buildings in the yard in Balmain. Photo: G H Eardley collection*

LRRSA member Bob Dow has recently made a collection of photos taken by his grandfather P G Dow available for publication in *Light Railways*. The photos were all taken on trips to the Queensland sugar cane tramways around 1960. The first selection features tramways at Victoria Mill at Ingham and the captions have been kindly prepared by Chris Hart. We will feature more photos at different locations in future issues.

Right: *Hudswell Clarke 0-6-0* Townsville *(1099 of 1915) crosses Herbert Street in Ingham on its way to Victoria Mill with full whole stalk cane trucks, circa 1960. Photo: P G Dow*

Below: *Despite the lack of motive power in this photo taken at Victoria Mill circa 1960, it is still a very interesting image depicting a scene which is so very different today. On the left is the empty yard which was fed by the Simplex pulling empties from the tips off to the left of the photo then propelling them into the lines in the yard. At the bottom right, the two lines curve off to the sugar hopper and sugar shed. The three sugar sidings are to the right of the empty yard and with no sign of sugar bins, the train must have been on a trip to the port at Lucinda. The line to Lucinda recedes into the distance in the top right of the photo. The empty cane bin in the bottom centre is one of the first bins used at Victoria and is of around 2 tonnes capacity. Photo: P G Dow*

Victoria Mill's empty yard shunter Motor Rail Simplex 4wDM 1 (10181 of 1950) waits on the B side empty line for a rake of trucks to build up from the tip. Photo taken circa 1960. Photo: P G Dow

Victoria Mill's Hudswell Clarke 0-6-0 Cairns *(1706 of 1939) crosses Herbert Street in Ingham as it heads out with empties, circa 1960. Photo: P G Dow*

Victoria Mill's Clyde 0-6-0DH Adelaide *(56-90 of 1956) with a load of full cane trucks is crossing the QR line in the Ingham Station precinct, circa 1960. This loco is the present-day 3 at South Johnstone Mill. Photo: P G Dow*

This classic railway scene depicts the halcyon days of the Victorian narrow gauge era, c.1924. A mixed train from Moe has arrived at Gould, an important timber loading station in the Walhalla line's early years. After taking water, the crew of 13A will need a good head of steam in preparation for the four mile uphill slog to Moondarra. Meanwhile, sawn timber is being transferred from Brown's tramway to NQR wagons for dispatch to Moe, while the horse takes a well-earned breather. Photo: Milton Collins, Mike McCarthy collection

Memories of a railway childhood

by Nick Anchen

As part of the research for his books, Nick Anchen interviewed Jack Davis in 2014 – here is his story.

I was born into a railway family in 1926, and lived until age five at Gould, a little station on the Moe to Walhalla railway. My father was a repairer at Gould, where he had the job of pumping water up from Tyers River to the water tanks. My mother was the caretaker and also ran the refreshment rooms. As we lived in a railway house next to the station, us kids used the station and yard as our playground.

There were usually four mixed trains per day through Gould, two each way, and they always had at least a smattering of passengers onboard. When the morning train to Moe pulled in, the passengers went straight to the refreshment rooms for a cup of tea and one of mum's delicious tall scones, which she was famous for. My mother also handled the paperwork for goods consignments and for the timber loading, which was all supervised from Moe.

I remember the black, sooty engines, which always took water at the Gould tanks, and the drivers, firemen and guards, who were always friendly. One of these drivers was a very tall man called Bob Rumpff, who used to blow the whistle and wave to us. He was based in Walhalla, and he was so tall he looked as if his head would just about push through the roof! There was one conductor I recall, too, who had a very pronounced moustache – this moustache always fascinated me as a young fellow.

Every year we travelled on the train to Moe, from where we either went to visit my mother's people in Stratford, or my father's in Hastings for our annual family holiday, and every New Year's Day, all the kids travelled on the train to Walhalla in converted goods trucks for the annual gymkhana. These trains were packed, and when the train rounded one of the sharp bends in the line, many of the kids used to jump off and walk through the scrub and rejoin the train. This was great sport.

The timber wagon

One of my main memories at Gould was playing in the station yard, and one day my brother, who was four years my senior, showed me how to release the hand brake on a goods wagon, by turning the wheel on the end. The wagon started to move, but mum was watching, and she yelled out, 'Put that brake on!' I thought this looked like terrific fun, so a few days later I tried it myself. It was a wagon fully loaded with timber, from Tommy Brown's sawmill. I managed to release the brake, but I did not know how to re-apply it, and the wagon rolled down the hill towards Tyers River, derailing on the scotch block. My mother came running out of the refreshment rooms yelling at me, and I was not too popular when my dad came home, as he had the job of re-railing it!

We kept a cow and had a chicken house, and there were a few snakes around. One day a snake hissed at me, so I ran off to tell mum. I said, 'There's a "biteya" out there!' Mum came out and said, 'Where is it?' We found it curled up in the egg box. Mum was used to snakes, and she knew how to handle a garden fork, so the snake was quickly disposed of!

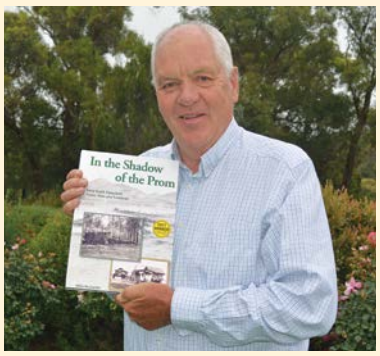
Mike McCarthy wins History Publication Award

At the Victorian Community History Awards Ceremony on 27 October 2021, Mike McCarthy's book *In the Shadow of the Prom*, published by the LRRSA, won the History Publication Award. This award recognises the best non-fiction publication or e-book on Victorian history.

The Victorian Community History Awards are held annually and are sponsored by the Royal Historical Society of Victoria and the Public Record Office Victoria.

The judges commented:

> This book, the result of more than 30 years of research, represents community history at its best. The work minutely details the role of tramways in linking small local communities in South Gippsland to the wider world. In areas where it was hard to build all-weather roads, tramways became the preferred means of moving produce—such as timber, fish, as well as a variety of equipment—to places they were needed. In servicing local industries and providing personal transport, tramways were crucial to the life and survival of otherwise isolated communities in this largely untouched region. This study of light railways is well referenced and profusely illustrated with photographs, maps, and diagrams. *In the Shadow of the Prom* is a beautiful testament to the value of painstaking, prolonged and passionate historical research into community history. Mike McCarthy's labour of love combines history with studies of photography, geography and the history of technology to reveal the heart and soul of his beloved South Gippsland



In the Shadow of the Prom was up against some strong competition. The other books shortlisted for the award were:

Changing Fortunes: Ebb and Flow of People and Place in a Pocket of Port Melbourne; by David F. Radcliffe; PenFolk Publishing, Blackburn, 2021

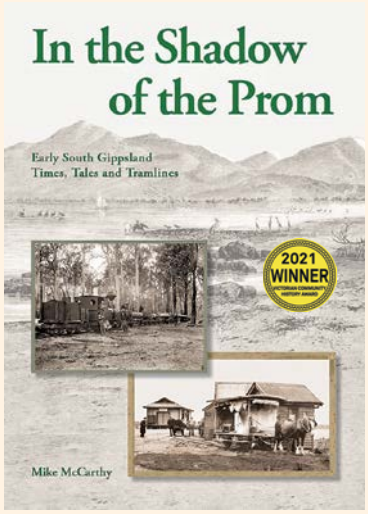
Jas A. Munro & Co.: The Largest Garage in Melbourne by Ian Berg, self-published

Labassa: House of Dreams by Vicki Shuttleworth for the National Trust of Australia (Vic.); Hardie Grant Books, Richmond, 2020

Made in Lancashire: A Collective Biography of Assisted Migrants from Lancashire to Victoria, 1852-1853 by Richard Turner; Monash University Publishing, Clayton, 2020

Save Our Sons: Women, Dissent and Conscription During the Vietnam War by Carolyn Collins; Monash University Publishing, Clayton, 2021

In the Shadow of the Prom is available from the LRRSA Online Shop at $66.00 ($49.50 for LRRSA members) plus postage.



In the Shadow of the Prom

Early South Gippsland: Times, Tales and Tramlines

Winner - Victorian Community History Award

Best non-fiction publication or e-book on Victorian History

By Mike McCarthy — Published by the LRRSA

Hard cover, 285 pages, A4 size, 212 photographs, 64 maps plans and diagrams, bibliography, references, and index.

In the Shadow of the Prom is a history of the early settlement of south Gippsland from Foster to the Mullungdung forest north-east of Port Albert. The development of the towns and the importance of coastal shipping to their survival is comprehensively covered. It includes details of numerous tramways which provided transport from the coast before the coming of the South Gippsland Railway.

The 2 ft gauge steam operated Goodwood tramway from Port Albert is covered in detail, as is the 2 ft 6 in gauge Victorian Railways Port Welshpool line. The illustrations, including photographs, maps and diagrams are some of the best to be produced so far in an LRRSA publication

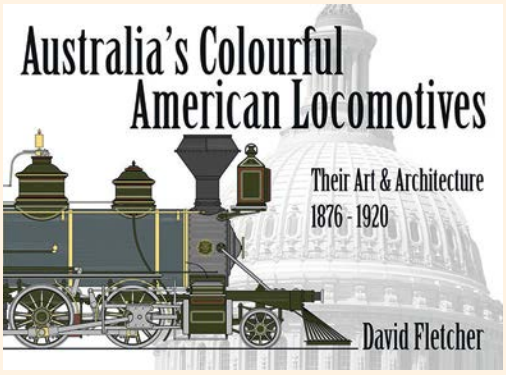
The recommended retail price is **$66.00** ($49.50 for LRRSA members) plus postage $16.90.

Australia's Colourful American Locomotives

Their Art and Architecture, 1876 – 1920

By David Fletcher — Published by the LRRSA

Hard cover, 160 pages on heavy art-paper, A3 size landscape format, 56 large coloured drawings of locomotives, over 320 other illustrations.



Australia's Colourful American Locomotives shows the livery of American locomotives at the time of their import to Australia. It dispels – once and for all – the myth that American steam locomotives have traditionally been black!

With the exception of Shay and Climax geared locomotives, it includes all known American steam locomotives delivered to Australia from the first in 1876, up to 1920, by which time liveries had become very simple. The great majority came from the Baldwin Locomotive Works. The livery of these has survived in that Company's records. Using that information the author has meticulously recreated the liveries in scale drawings.

The recommended retail price is **$129.00** ($96.75 for LRRSA members) plus postage $16.90.

Details and Online orders: **https://shop.lrrsa.org.au/**
Or by Mail: LRRSA Sales P.O. Box 21, Surrey Hills, Vic 3127.

Industrial Railway NEWS

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

QUEENSLAND

FAR NORTHERN MILLING PTY LTD, Mossman Mill

(see LR 279 p.32)
610 mm gauge

The Ballyhooley tourist railway at Port Douglas has officially closed, with the trackage and Baguley 0-6-0DM *Mowbray* (3378 of 1954) to be passed on to Mossman Mill. A car collided with a cane train on the Mossman Daintree Road during the evening of 3 September. The car collided with the eleventh bin of the train and was dragged for approximately 50 metres.

Shane Yore 9/21; myPolice Far North 6/9/2021

MSF SUGAR LTD, Mulgrave Mill

(see LR 281 p.36)
610 mm gauge

Clyde 0-6-0DH 25 *Cucania* (63-289 of 1963) was due to return to service as a spare loco in September. It has been fitted with a Mulgrave Mill cab previously fitted to Com-Eng 0-6-0DH 9 *Meerawa* (FC3473 of 1964). Set aside locos at the mill in October included Com-Eng 0-6-0DH 6 (A1006 of 1955) and Clyde 0-6-0DH 14 (56-86 of 1956) along with the frames of Com-Eng 0-6-0DM 4 (A1004 of 1955) and Clyde 0-6-0DH 15 (58-190 of 1958). Brake wagon pairings seen this year have been Clyde 0-6-0DH 19 *Redlynch* (65-435 of 1965) with Clyde 6 wheeled brake wagon 18 (CQ132 of 1965) and Walkers B-B DH 20 *Mulgrave* (612 of 1969) with Clyde 6 wheeled brake wagon BV19 (CQ1319 of 1969). BV19 has been repainted and fitted with skid brakes. Its identity is now carried on the side in large flurorescent yellow digits on a black background. Contrary to what was stated in *Light Railways* 277, the Wrights Creek bridge has yet to be moved to accommodate the nearby Bruce Highway duplication and it was still in use on 7 September.

Gregorio Bortolussi 8/21, 9/21; Joseph Dietz 8/21; John Charleton 10/21

MSF SUGAR LTD, South Johnstone Mill

(see LR 281 p.36)
610 mm gauge

A new bridge is being built over the North Johnstone River on the line north to Babinda. Work had commenced by 26 August and by 3 October a number of piers had been completed with the first span placed. Clyde 0-6-0DH 14 (63-288 of 1963) is based in the Babinda area and is used to feed cane to locos going to Mulgrave Mill. During October, EM Baldwin B-B DH 32 *Liverpool* (10385.1 8.82 of 1982) was seen with Hockey 6 wheeled brake wagon 4 (built in 1982) instead of its usual South Johnstone Mill bogie brake wagon 6 (built in 1990) which was out of action.

Jason Sou 9/21; Gregorio Bortolussi 8/21, 9/21; Luke Horniblow 9/21, 10/21; Darren Smith 10/21

TULLY SUGAR LTD

(see LR 281 p.36)
610 mm gauge

Com-Eng 0-6-0DH 18 (AO60113 of 1977) was seen with the ballast train in the Euramo area on 25 September. Com-Eng multi-unit locos 11 (AD1347 of 1960) and 16 (AH4484 of 1964) were seen bringing in fulls on the Birkalla line near Tully on 3 October. Bradken at Boogan has continued to build new 10 tonne bogie bins for Tully Mill and to date has supplied 835 units with another 500 required to replace the remaining 4 tonne bins in the mill's fleet. They are delivered by rail over the South Johnstone Mill system using a South Johntone loco with a Tully loco taking over south of Silkwood.

Gregorio Bortolussi 9/21, Jason Sou 9/21; Luke Horniblow 10/21; Bradken website

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills

(see LR 281 p.36)
610 mm gauge

Clyde 0-6-0DH *Kalamia* (67-569 of 1967) arrived on loan to Victoria Mill from Invicta Mill on 31 August.

Mossman Mill's EM Baldwin B-B DH Daintree *(7303.1 7.77 of 1977) crosses Parker's Creek bridge with a rake of empties bound for the Drumsara House loops on 5 September. Photo: Gregorio Bortolussi*

Above: *In this scene at Mulgrave Mill on 23 August, Com-Eng 0-6-0DH 8* Charringa *(A1926 of 1958) on the left is chasing empties while Prof B-B DH 22* Aloomba *(P.S.L.25.01 of 1990) and Clyde 0-6-0DH 19* Redlynch *(65-435 of 1965) with Clyde 6 wheeled brake wagon 18 (CQ132 of 1965) head for the loco shed. Photo: Gregorio Bortolussi*

Right: *Clyde 6 wheeled brake wagon BV19 (CQ1319 of 1969) departs the Mulgrave Mill yard at the rear of a rake of empties hauled by Walkers B-B DH 20* Mulgrave *(612 of 1969) on 4 September. Photo: Gregorio Bortolussi*

Following an incident on 15 August, Victoria Mill's EM Baldwin B-B DH *Rynne* (5423.1 9.74 of 1974) was pulled out of service. It was the regular sugar train loco and since then a number of locos including EM Baldwin B-B DH locos *Townsville II* (6400.2 4.76 of 1976) and *Adelaide* (7070.2 4.77 of 1977) as well as Clyde 0-6-0DH locos *Perth* (69-682 of 1969) and *Kalamia* have been used on the sugar train. The *Rynne's* EM Baldwin 6 wheeled brake wagon 2 (7065.5 6.77 of 1977) was transferred to Macknade Mill on 9 September for pairing with EM Baldwin B-B DH *Selkirk* (6750.1 8.76 of 1976). The *Selkirks's* former brake wagon, Clyde 6 wheeler BV7 (CQ3477-3 of 1976), was transferred on the same day to Victoria Mill for storage. By 4 September, the cab of Clyde 0-6-0DH 11 (65-383 of 1965) at Victoria Mill had been removed for fitting to Clyde 0-6-0DH *Lucinda* (65-436 of 1965). The damaged cab from the *Lucinda* had been placed in the vacant spot on 11 by 10 September. Macknade Mill's Clyde 0-6-0DH 12 (65-434 of 1965) was on loan to Victoria Mill from around 5 September to around 12 September. Owing to COVID-19 restrictions, Hudswell Clarke 0-6-0 *Homebush* (1067 of 1914) was not used at the annual Maraka Festival last year. This year, the Maraka Festival Committee has confirmed with Wilmar that the train rides can no longer proceed owing to the COVID-19 restrictions and insurance requirements.

Editor 8/21, 9/21, 10/21; Sara Wessling 9/21; Anthony Vardanega 8/21; Luke Horniblow 10/21; Ingham Maraka Festival Committee 9/21

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru

(see LR 281 p.37)

610 mm gauge

Clyde 0-6-0DH *Kalamia* (67-569 of 1967) went on loan to Victoria Mill on 31 August. Owing to ongoing final drive overhauls, Com-Eng 0-6-0DH locos *Haughton* (AH3878 of 1964) and *Northcote* (AH4091 of 1965) were unavailable for the early part of the crushing season. The *Northcote* was expected back in service in September. Com-Eng 0-6-0DH *Chiverton* (C1030 of 1958) arrived on loan from Kalamia Mill on 2 October. The Bruce Highway overpass of the main line to Clare and Dalbeg was opened late in August. Most of Invicta Mill's cane comes in on this line and a very busy level crossing has been eliminated. Invicta has been crushing some cane for Inkerman Mill which has a rail network isolated from the rest of the Burdekin system on the southern side of the Burdekin River. Invicta bins are being road hauled across the river using haulout trucks with bins being set down and picked up at sidings on the north side of the river. In mid August, Kalamia Mill loco *Chiverton* was being used to move bins between these sidings and Airdale Loop, from where an Invicta Mill loco took over.

Luke Horniblow 8/21; Jamali Labelak 8/21, 10/21; Gary Vaughan 8/21; Lyndon Camm 8/21

WILMAR SUGAR (KALAMIA) PTY LTD, Kalamia Mill

(see LR 281 p.38)

610 mm gauge

In mid August, Com-Eng 0-6-0DH *Chiverton* (C1030 of 1958) was being used to move Invicta Mill bins around in the Airdale area in association with the transfer of Inkerman Mill cane to Invicta.

Above: *South Johnstone Mill's EM Baldwin B-B DH 32* Liverpool *(10385.1 8.82 of 1982) crosses the North Johnstone River bridge on 25 September with the new bridge being built on the left. Photo: Luke Horniblow*

Left: *South Johnstone Mill Clyde 0-6-0DH multi-unit locos 17 (55-57 of 1955) and 16 (56-93 of 1956) with fulls on the New line on 27 September. Photo: Luke Horniblow*

Below: *South Johnstone Mill's EM Baldwin B-B DH 32* Liverpool *(10385.1 8.82 of 1982) with Hockey 6 wheeled brake wagon 4 (built in 1982) at the end of its rake of empties, winds its way down the back end of Pin Gin Hill on 3 October. Photo: Luke Horniblow*

Above: *South Johnstone Mill EM Baldwin B-B DH 32* Liverpool *(10385.1 8.82 of 1982) on Fisher's Creek bridge in the Nerada area on 3 October. Photo: Luke Horniblow*
Left: *Tully Mill's Com-Eng 0-6-0DH multi-unit locos 11 (AD1347 of 1960) and 16 (AH4484 of 1964) bring in a rake of fulls from the end of the Birkalla line on 3 October. Photo: Luke Horniblow*

The *Chiverton* went on loan to Invicta Mill on 2 October. Com-Eng 0-6-0DH locos *Delta* (FD5094 of 1965) and *Airdmillan* (AH3068 of 1963) were seen working trains in the Airdmillan area on 13 October. Luke Horniblow 8/21; Jamali Labelak 10/21; Mark Taylor 10/21

WILMAR SUGAR PTY LTD, Inkerman Mill, Home Hill
(see LR 281 p.38)
610 mm gauge
Some Inkerman cane is being crushed at Invicta Mill with haulout trucks being used to transfer Invicta bins between the Inkerman rail network on the southern side of the Burdekin River and the rest of the Burdekin rail network on the northern side. Bell Avenue siding near the mill is being used as a set down and pick up point for the Invicta bins.
Luke Horniblow 8/21

MACKAY SUGAR LTD, Mackay mills
(see LR 281 p.38)
610 mm gauge
An inbound train hauled by a Racecourse Mill Clyde 0-6-0DH ran into the rear of a rake of full cane bins during the evening of 15 October. The loco was derailed and several bins ended up sprawled over the adjacent Cowley Road.
The Courier Mail 16/10/2021

BUNDABERG SUGAR LTD, Millaquin Mill
(see LR 281 p.39)
610 mm gauge
Bundaberg Foundry B-B DH *Booyan* (001 of 1991) which was involved in a roll over last year, has not returned to service and is currently stored at the loco shed at Bingera. Also stored here is EM Baldwin B-B DH *Oakwood* (5800.1 5.75 of 1975) which is awaiting repairs, reportedly after some minor accident damage. On 19 September, other locos seen at Bingera were EM Baldwin B-B DH locos *Givelda* (5800.2 6.75 of 1975) and *Delan* (5800.3 7.75 of 1975), Com-Eng 0-6-0DH locos *Thistle* (A1207 of 1955) and *Sharon* (A1935 of 1959), EM Baldwin 0-6-0DH *Manoo* (3875.1 7.71 of 1971) and Walkers B-B DH *Kolan* (633 of 1969). Com-Eng 0-6-0DH *Burnett* (AH2967 of 1963) was seen locked in the compound at the Wallaville depot on 18 September. EM Baldwin B-B DH locos *Moorland* (5565.1 10.74 of 1974), *Bucca* (6104.1 8.75 of 1975) and *Miara* (8988.1 6.80 of 1980) were seen working out of the Fairymead depot on 19 September. Locos seen based at Millaquin on 19 September were EM Baldwin B-B DH locos *Vulcan* (5317.1 11.73 of 1973),

Calavos (4983.1 7.73 of 1973), *Barolin* (6456.1 11.75 of 1975) and *Fairydale* (10048.1 6.82 of 1982), EM Baldwin 0-6-0DH *Perry* (6/1576.1 8.66 of 1966), Com-Eng 0-6-0DH *Tegege* (FD4799 of 1966) and Bundaberg Foundry B-B DH *Elliott* (002 of 1991). On 26 August, a truck collided with the *Elliott* at the intersection of Darlingtons and Three Chain Roads, Calavos. The *Elliott* was pushed off the line and a number of empty cane bins were derailed with the truck ending up on its side. At some time, rail access has been removed from the loco shed at Qunaba and it now appears to be used for storing assorted junk.

The Courier Mail 26/8/21; Bob Walker 8/21; Mitch Zunker 8/21; John Browning 9/21

ISIS CENTRAL SUGAR MILL CO LTD

(see LR 281 p.39)

610 mm gauge

By 1 September, a concrete pad had been established at Isis Mill where the road transport Maryborough cane is tipped onto the ground then loaded into the mill's rail bins using a front end loader. This was to supplement the transloader at Childers. By 18 September, construction on the Wallaville line had extended about 2 kilometres north of the road dump siding at Duingal. This included two loops with the second loop and last 700 metres of track not yet commissioned.

Canegrowers 9/21; Brian Bouchardt 9/21; John Browning 9/21

OVERSEAS

FIJI SUGAR CORPORATION

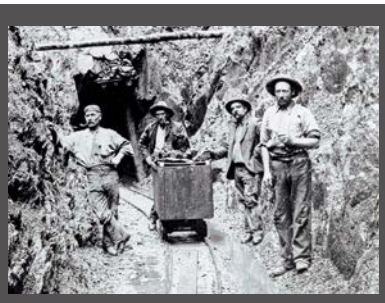
(see LR 281 p.39)

610 mm gauge

3 tonne cane bins are in use in Labasa Mill's Macuata area with farmers stating that it was cheaper for them than sending their cane to the mill using road transport. Crushing at Labasa Mill was expected to finish early in October with cyclone damage to the cane crop blamed for the expected low tonnage of around 360,000 tonnes.

Fiji Sun 9/9/2021, 11/10/2021; *The Fiji Times* 27/9/2021

Above: *Returning light loco from Victoria Mill, Macknade Mill's EM Baldwin B-B DH* Darwin *(6171.1 9.75 of 1975) and Com-Eng 4 wheeled brake wagon BV 1 (PA101 of 1967) cross another transfer train hauled by EM Baldwin B-B DH 20 (7070.4 4.77 of 1977) with EM Baldwin 6 wheeled brake wagon BVAN 1 (7065.3 6.77 of 1977) at the rear on 31 July. Photo: Luke Horniblow* ***Below:*** *Pioneer Mill's Walkers 0-6-0DH* Aramac *(583 of 1968) passes under the Bruce Highway with fulls from the Barratta area on 26 September. Photo: Gregorio Bortolussi*



Field Reports

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

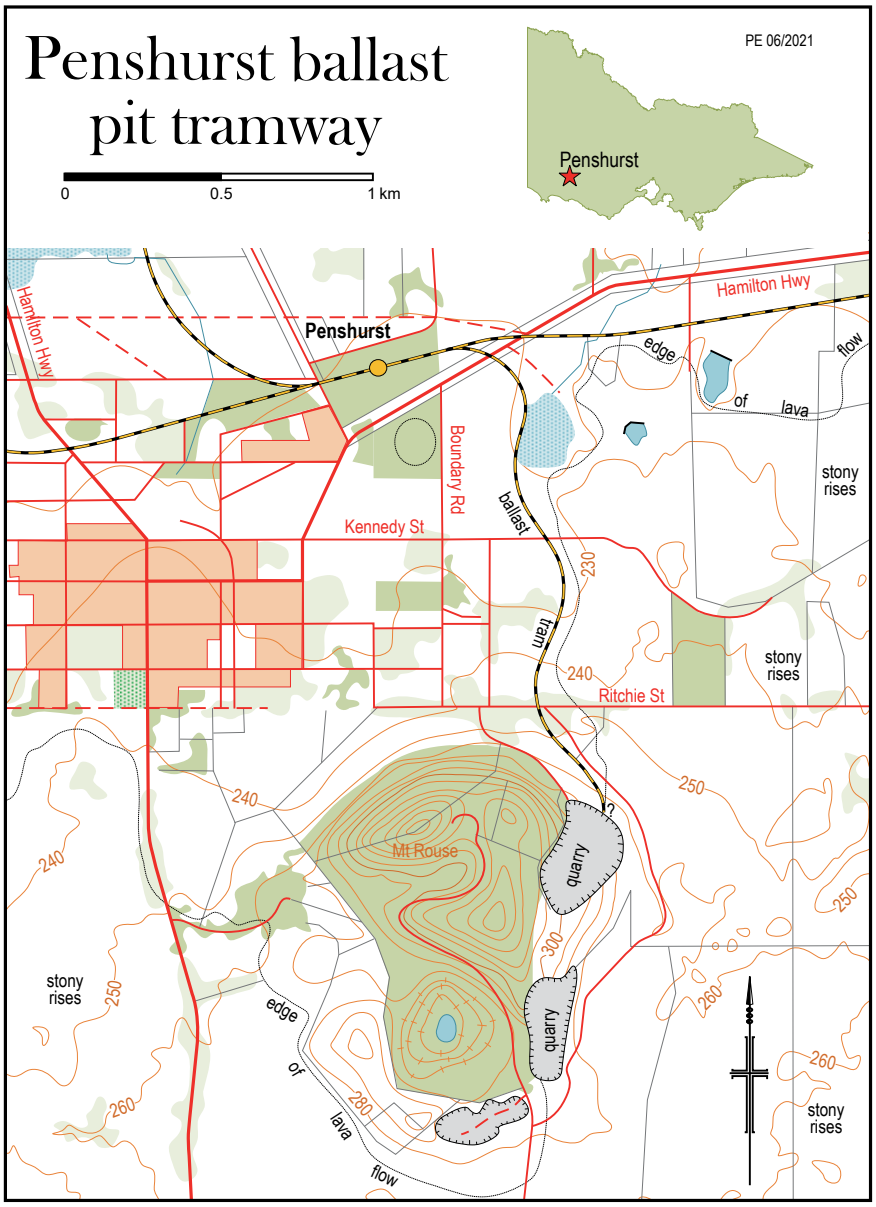
Penshurst ballast pit tramway, Penshurst, Victoria
Gauge 1600mm

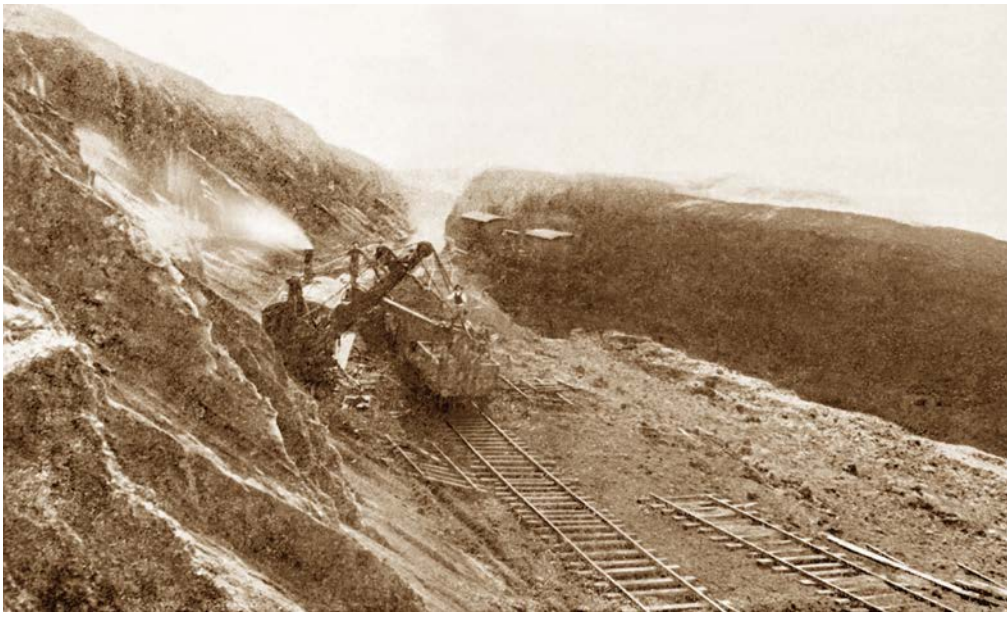
Situated in south-western Victoria, Penshurst (208 rail miles from Melbourne) was the main township on the railway from Koroit to Hamilton, so extensive rail facilities were provided when the rails reached town in 1890. These comprised a four-road layout with dead end extension to one road, home signals, goods shed and ramp, passenger platform and office, waiting room and parcels shed.

The railway building contractor at the time, Neil McNeil & Coy, had trouble sourcing ballast from private landholdings along the railway survey so the Victorian Railways (VR) facilitated ballast supplies at Mount Rouse, an extinct volcano immediately south of Penshurst. The VR obtained the requisite authority to excavate volcanic scoria gravel from public lands on the east side of the mount. McNeil laid down a tramway from the east end of Penshurst yard and continued to the gravel pits some 2.8 km distant. On completion of the railway-building contract the VR chose to retain the tramway for its own purposes. The pits were used as required on the occasions when ballast was needed for various track works in the western part of Victoria.

In 1907 the VR acquired a large capacity, rail mounted Marion steam shovel to work the pits in a more efficient manner. The shovel could grab two tons of scoria per sweep and load this into a rail truck in two minutes. There was now much more traffic at the pits so the signalling for the tramway connection was regularised at this time. An 'up home' signal was installed, a plunger lock was provided on these points (and presumably also for the main line points in the Penshurst yard). In 1917 the ballast tramway points were converted to Annett lock and an 'up departure' signal put in.

The VR ran the pit itself until the early 1950s when it engaged contractors to manage the operation and supply the ordered quantities of scoria. Sometime in the early 1960s the VR stopped running ballast trains along the line and required the contractor to load the ballast into trucks in the Penshurst rail yard.



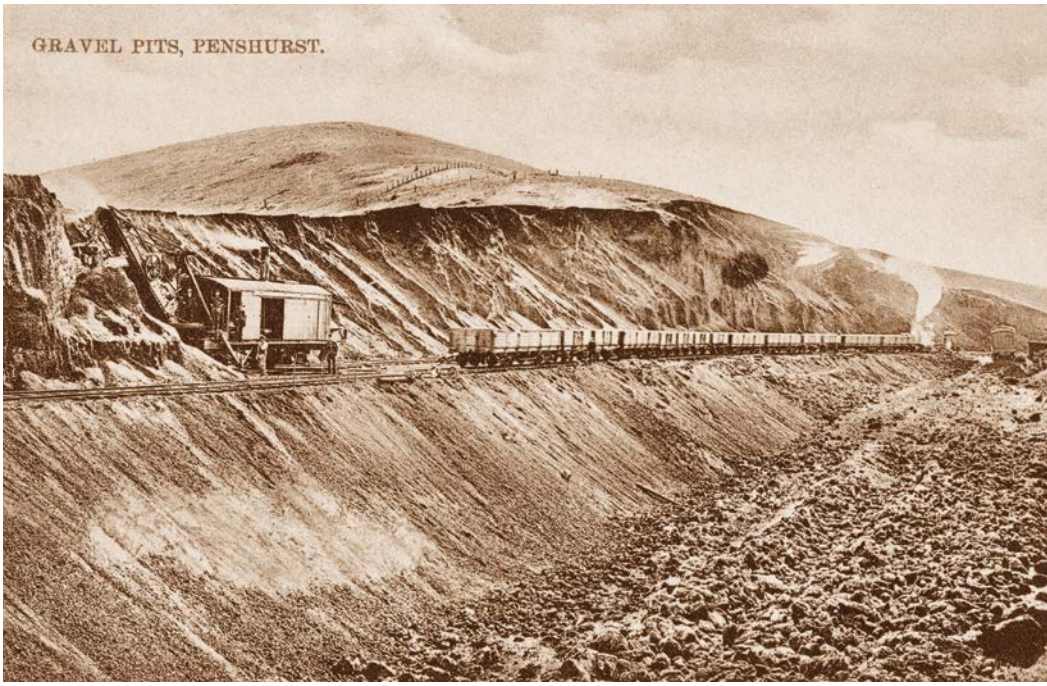


The Marion steam shovel at work in the pits loading rail trucks, circa 1910. The ballast line comes into the pit via the cutting in the background. The rails in the pit are in loose panels that are moved around as the cutting face advances. There is a short spur siding to the right and here are stabled three equipment and stores trucks for the shovel. Image courtesy John Thompson postcard collection.

The unused line was officially closed on 7 August 1968 and the Annett lock, derail and the signals for the ballast line were abolished. Penshurst station remained operational until 1977, when regional freight centres were provided in Warrnambool and Hamilton that did away with the need for local goods trains. Penshurst was officially closed on and from 12 September 1977.

In 2016 the writer made a field excursion to the ballast pit tramway to inspect the remains. The rails have long gone but the formation is intact over the full distance to the edge of the quarry. However, at the quarry itself, extractive operations in the 1970s by the local Shire have obliterated the former rail benches and loading points. A large bank of overburden has been pushed against the northern face of the pit where the railway entered it so not even the exit gap can be detected.

Norman Houghton 06/2021



Above right: *Another view of the Marion shovel in the ballast pit. Shirley Jones post-card collection, State Library of Victoria image H90.160/517.*

Right: *A train on the lightly-laid Penshurst ballast tramway with Mount Rouse in the background. Image courtesy John Thompson postcard collection.*

Below left: *View along the ballast line as it rises to the east side of Mount Rouse and looking towards Penshurst. The formation represents an elongated S-bend to achieve the right grade to the summit. Photo: Norman Houghton*

Below right: *Sleeper remains in a rising cutting about three-quarters of the way along the line. Photo: Norman Houghton*

Book Review

Australia's Colourful American Locomotives

Their art and architecture 1876 to 1920

by David Fletcher

Published 2021 by the LRRSA. Large format 42 by 29 cm, hard cover 160 pages on heavy art paper. A3 size landscape format with 56 large coloured drawings of locomotives and over 320 other illustrations.
Available from the LRRSA online bookshop – $129.00 plus postage ($96.75 plus postage for LRRSA members) – Postage within Australia is $18.00 for 1 or 2 copies.

This is no ordinary railway book, even if only judged by its size (43 x 30 cm, landscape), quality of design, fine printing on art paper and, most importantly, inclusion of the author's superb locomotive drawings, of which there are nearly 70. The title might suggest that it is a study of the classically based design elements, decoration and colour schemes of those locomotives imported into Australia from the USA over a period of 45 years. It is far more than that. From an introduction to Classical Architecture, with its important relationship in the USA to locomotive detail design and decoration as well as station architecture, it also traces the evolution of the on-going technical improvements to locomotives.

Explanatory examples are shown in numerous photographs and engravings, mainly of locomotives built by Baldwin, as this firm produced the vast majority of American locomotives in Australia. However, other firms are represented, especially William Mason (the design of whose 4-4-0 was, in the author's view, the epitome of elegance and balance) and Rogers, who in 1877 sent the first US locomotive imports to Australia: two locomotives for the Victorian Railways (D class 4-4-0s). Photographs of details on classical buildings, both ancient and contemporary, are compared to those on locomotives, such as dome and cab shapes.

The author considers the late 19th Century American locomotive to be an object of great beauty. Beauty is, of course, in the eye of the beholder. To British (and thus contemporary Australian) eyes, these ornate designs, when compared to the relative simplicity of current British practice may have been considered overly fussy and 'Yankee brashness'. There was, as noted in the book, an antipathy to the US locomotives in NSW (also in South Australia), with preference being given to British products, even if those from the USA were shown to be as good or better. An exception was the highly successful Baldwin steam tram motor, used mainly in Sydney but also in Queensland, South Australia and Victoria.

A most welcome inclusion is an explanation of the Baldwin classification system used for all its locomotives, as well as the standards that it created, putting it ahead of its competitors in terms of efficiency of construction and compatibility of all parts and painting, both when new and for future spares and replacements. Colour schemes and decoration are extensively described in the book. Baldwin created different combinations for different types of locomotives and colour sample cards were kept (the 'Book of Styles'), which have survived and are one source for the colours used in the author's drawings.

The 1876 Centennial Exposition at Philadelphia was key to the introduction of US locomotives into Australia. Not only were a number of locomotives on display, but a 3 ft gauge steam railway ran around the site. The various Australian colonies exhibited at the Exposition and their officials naturally met the US locomotive builders. As a result, in 1877 Baldwin supplied the NSWGR with its U 105, a 4-4-0, on a trial before purchase basis. It was to be tested against the contemporary British built Beyer, Peacock C 79 (later 12 class) 4-4-0. Inexplicably, to illustrate the 12 class (of which three are preserved), a photo is shown of one converted to a 4-4-2T in 1896 (the preserved 1301).

The subsequent classes of Baldwin locomotives shipped to Australia are discussed in detail, with technical and historical information, drawings and photographs comparing them with similar products built for use in the USA and overseas. For each, there is in addition one of the author's superb drawings. These, together with some New Zealand locomotives, the steam tram motors and the few locomotives supplied by Rogers, Davenport and Vulcan Iron Works, constitute 58 drawings. A further eleven of the author's drawings show locomotives in the USA and one in England, the Lynton & Barnstaple Railways' Baldwin 2-4-2T *LYN*.

The Government railways of NSW, Queensland, South Australia, Victoria and Western Australia all received Baldwin locomotives, as did a number of industrial lines including the BHP Co. Ltd.'s line from Whyalla to Iron Knob, with its hefty 4-6-0s and 2-8-2s. All are described in detail, as are the Victorian Railways' NA class 2ft 6in gauge 2-6-2T locomotives, that now run on Puffing Billy. Only the first two of the 17 members of the class were actually built by Baldwin, the remainder being copies built by VR itself. The few locomotives from Davenport and the Vulcan Iron Works also receive due attention and drawings by the author. For whatever reason, no mention is made of the five 2 ft gauge Baldwin 0-4-0STs, that were imported in 1939 by the Netherlands Harbour Work Co. for use of construction of Melbourne's Appleton Dock. Built in 1920, so falling within the time frame of the book, they were originally delivered to Batavia.

In the chapter on steam tram motors, it should be noted that the photo of a much rebuilt Bendigo motor, shown on page 121, was not running on the Marrawah Tramway as stated, but more likely was on the contract to extend the Warrnambool breakwater c1914.

The final chapter deals with those Australian locomotives built by Baldwin, but to essentially British designs, for the NSWGR (P6 class), Victorian Railways (DD class), Commonwealth Railways (G class) and Midland Railway of Western Australia (D class)

In summary, this book is in every way a delight. The author (an architect) brings a high level of scholarship to his view on the influences on the design of late 19th Century American locomotives and to his detailed recording of their introduction into Australia. His enthusiasm for the subject is manifest and his drawings superb. Even my wife enjoyed looking at the illustrations, so buy the book while you can!

Richard Horne

LETTERS

Milang Railway Museum (Heritage and Tourist report) LR 280

We were surprised to see that the Milang Railway Museum report in the August edition had been edited to include an ill-informed comment from anonymous "readers" who disagreed with our statement that our 1927 Fowler locomotive was missing too much to ever run again.

We have had our Fowler locomotive inspected by a steam restoration expert who declared that the only parts that could be restored for operation were the frames and the driving wheels. The smokebox, boiler, firebox, cab, cylinders and valve gear would all have to be replaced with new build components. Then there are the missing injectors, regulator, safety valves, trailing bogie, tender and complete set of cab controls to replace.

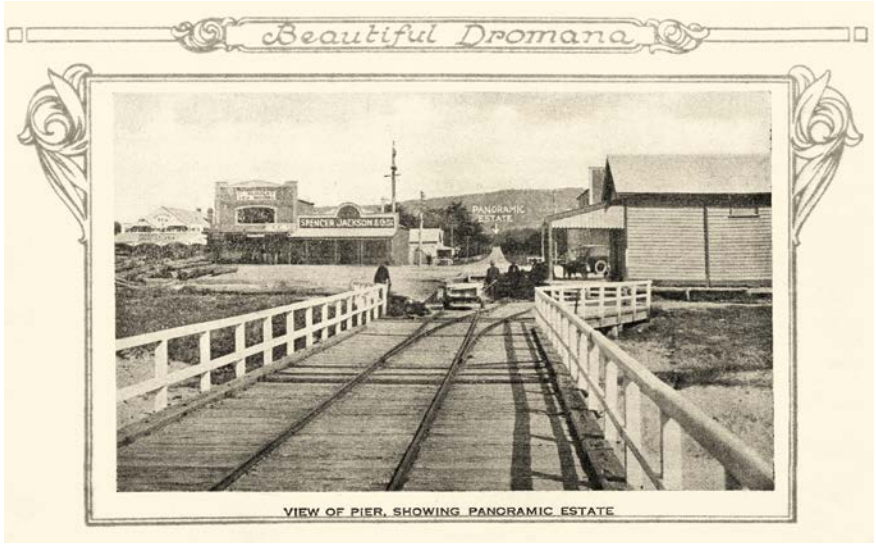
For a museum with steam experience and qualified steam and boiler fitters, firemen and drivers and sufficient funds and time then even the most extreme restoration is possible. But we have none of those things. We have just four enthusiastic volunteers with no steam experience or qualifications who focus on putting on a good show for our visitors and keeping our collection in good shape. Whilst we would love to have an operating steam loco, the magnitude of the project plus the need to train and qualify our volunteers for steam just makes it way too hard. So I should have added three words to our report "It is missing far too much to ever run again in our circumstances so the volunteers….."

In the meantime we will concentrate on the restoration of diesels ….them we know about.

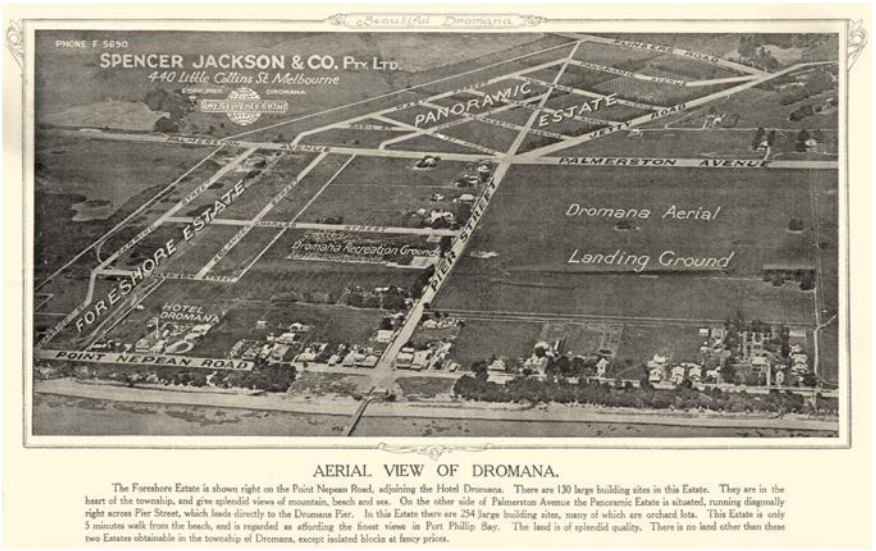
Peter Lucas
Secretary
Port Milang Historic Railway Museum Inc.

Victorian jetty tramways (Looking Back) LR 280

Many thanks to Phil Rickard for preparing the item on Victorian jetty tramways in LR 280. The photo of the Dromana pier set me hunting through my collection for a similar view of which I had been aware. Enclosed herewith are two pages of a photocopied brochure advertising the locality by the now defunct real estate company Spencer Jackson & Co Pty Ltd (note its logo – "we sell the earth"). Each of these views appear to date from only a few years prior to the article image. I say this as Pier Street has fewer power poles along the right side of that street than the article. Also, the pier tramway has a branch to a beachside shed which the article image shows as no longer being in place. A car stands in the position of the said shed. The page titled 'Aerial view of Dromana' indicates that the pier tramway did not cross Point Nepean Road. It is interesting to note that the Dromama aerial landing ground is now a residential area, whilst the Mornington Peninsula Freeway sits alongside Palmerston Avenue.



VIEW OF PIER, SHOWING PANORAMIC ESTATE



AERIAL VIEW OF DROMANA.

The Foreshore Estate is shown right on the Point Nepean Road, adjoining the Hotel Dromana. There are 130 large building sites in this Estate. They are in the heart of the township, and give splendid views of mountain, beach and sea. On the other side of Palmerston Avenue the Panoramic Estate is situated, running diagonally right across Pier Street, which leads directly to the Dromana Pier. In this Estate there are 254 large building sites, many of which are orchard lots. This Estate is only 5 minutes walk from the beach, and is regarded as affording the finest views in Port Phillip Bay. The land is of splendid quality. There is no land other than these two Estates obtainable in the township of Dromana, except isolated blocks at fancy prices.

Unfortunately I have not been able to say how or where I came across these pages, however, they may be of interest to your readers.

Jeff Stocco
Balwyn North, Victoria

Editor's note: Thank you Jeff. The Editorial team did some "Troving" and believe your photos date from 1927. Spencer Jackson lived at Dromana at that time and had purchased the land next to the hotel (the Foreshore Estate) which he duly subdivided and started selling. The owner of the orchard higher up the hillside, at the end of Pier Street asked Jackson if he'd like to buy his land as well, hence the Panoramic Estate.

Advertisements appeared in *The Argus* in December 1927, duly extolling the two estates. As shown in the photo with the jetty, Jackson opened an office on the corner of Pier Street and Point Nepean Road. Looking through the various images of Dromana at the State Library of Victoria, taken from the jetty, one notices that Jackson's shop changes hands quite often. By the time of the image used in Light Railways 280 it was a motor garage. Amazingly for a real estate salesman, everything Jackson says in the advert seems to be true or has come to pass!

Pole Cups – (LR 278 and 280)

The answer to Graeme Castleton's query, is that pole cups were not fitted to NSWGR 35 and 36 class passenger locomotives, but only to those of the 38 class. This was because the 38 class had cast steel frames, manufactured in the USA by the General Steel Castings Corporation of Granite City, Illinois, and this would seem to have been a standard GSCC detail. For the same reason, the 60 class Garratts had pole cups. However, the NSWGR did indulge in cable shunting, as shown in the attached photo (next page). It was a practice surely more appropriate for use on a light railway.

Richard Horne
South Croydon
Surrey
United Kingdom

Researching Manning Wardle locomotives for a potential article in LR

I am researching the standard design Manning Wardle locomotives that were imported into Australia, the Old I, K and H classes, but also the two examples of the N class and the singular O class.

I have notes on most of them, but a few remain elusive. I was hoping that you could put me in contact with anyone doing research in a similar area. I noted that many of the Manning Wardle locomotives seem to have been involved in Breakwater construction at some stage in their working lives and there were in recent years a series of excellent articles on the subject.

There are four locomotives in particular which seem to defy all my attempts to find records or photographs:

- Builders No. 72/1863: Caledonian Colliery Co. No.1 – Waratah colliery perhaps?
- Builders No. 162/1865: *Driver* originally in NZ, possibly became a winding engine at Wallarah Colliery? One photo found, poor quality.
- Builders No. 182/1865: Contractor's engine, then NSWGR No.66 then a contractor's engine once again – no known photos, nothing on disposal. Supposedly an early K class, but at this time the Old I and K class were identical save for the K class being 6-inches longer.
- Builders No. 909/1883: No records other than ordered by G A Levy & Co (I cannot seem to trace that company) and a suggestion it may have been owned by George Blunt, Railway Contractor. Again, no known photos, no disposal.

I have also seen a photo of what appears to be a derelict Manning Wardle K class, with no identifying markings other than No.1 painted on the cab side sheet. Found in the ARHS Unidentified collection.

Martin Hartley
via email

Gemco locomotives

We have some diesel locomotives in our workshop here [Hobart] upon which we are doing some repairs. We understand they are a Gemco 8-ton units but have found drawings in our system for 12-ton unit as well. The units themselves weigh approx. 9 tons. We have some drawings here but are missing a lot and some of the drawings we have are pretty much unreadable because of the age of them (1970s).

I was wondering if you can find any information for these units such as parts lists etc. or possibly assembly drawings etc. or even how we can definitively identify a model number of what we have here. We have managed to identify the bearings and seals we need, but we also need to replace the clutch packs and are struggling to find anything.

I have attached a photo below for the units we have here at the moment. If you can find any information at all, it would be greatly appreciated.

Mark Le Souef
Swanston Industries
27 Sunderland Street, Moonah TAS 7009

Editor's Note: Chis Hart and John Browning have provided the following information:

The photo of number 60 looks like one of six Mount Isa 8-ton Gemco units that were converted to diesel in a workshop in Mount Isa in about 2000. They were to be retained for maintenance duties on some of the upper levels of the mine. Number 60 looks like it has been fitted to go across a Rock-Flo tippler.

Number 60 was Gemco 8B/6101-7B/6101/70/68. That means it was number 70 in the 8-ton series, built in 1968. The other numbers are the original electric motor serial numbers.

They were built to be convertible between 2ft gauge and 3ft 6in and this one was supplied to 3ft 6in gauge and probably remained so.

Assuming that you are not doing this work for Mount Isa, Mount Isa Mines would be the best source for further technical information on them as rebuilt. I am not aware that as battery locos they would have had clutch packs.

For historical purposes, we would be very grateful for the identities of the locos you have as well as information regarding gauge plus when and where they came from and where are they going. If possible, we'd like to publish this information in the industrial news section of the magazine but would refrain from doing so if that is not agreeable with you.

Christopher Hart
IRN Editor

Coraki Wharf – Treasures from Trove (LR280)

I noted in *Light Railways* 280, comments on the wharf at Coraki and the ss *Captain Tom*. I suspect this is the same vessel that worked at Broadwater Sugar Mill for a long time. I was a young lad there between 1952 and 1957, and the *Capt. Tom* was the leader in the fleet for hauling cane from the derricks, down river to the mill (including punts brought out from the "Creeks" area near Ballina, worked by the Leo). I well remember seeing the *Capt. Tom* coming home; with smoke coming out of her funnel, with a string of punts each side. I was allowed to take a trip on her once, which I loved.

She was originally a Ballina pilot vessel, I don't know when she was on sold but later

while I was travelling through Lismore, I noted her funnel lying on a creek bank (she was out of sight). More recently when at Brooklyn (on the Hawkesbury) I called in for a yarn at Fenwick's Marina. The *Capt. Tom* had been changed over to a diesel but I don't know whether that was for private or public use. She evidently ended up driven up a mud bank somewhere on the Hawkesbury and forgotten.

The Northern Rivers were the 'highways' in earlier times. The three CSR mills, Condong on the Tweed, Broadwater on the Richmond, and Harwood on the Clarence all used river transport (launches and cane punts) to various degrees, in addition to varying lengths of 2ft-gauge tramline and horse lines. I worked at Harwood Mill for three years from 1965 and we had five timber launches dating from 1881 and two much newer steelies. Four of the timber launches were initially built as steamers but by the time I knew them they had 5LX Gardiner diesel engines. Sugar was transported away by the sea going vessels the *Viria* and *Harwood*, each about 900/1000 dwt. I loved it all, but it was the end of an era. By the mid-1970s they'd all gone, supplanted by road transport to move the new era of short-billeted mechanically harvested sugar cane.

In the early 2002, I tried to get the Maclean Council to mount some sort of memorial or museum presentation to remember the river traffic. Unfortunately, as far as I know it did not happen although a scaled down version of a cane loading derrick had been built in the main street of the local town of Maclean.

Ian Stocks
(via e-mail)

Editor's Note: Thank you Ian for the reminiscences. Readers wishing to know more of river transport on NSW's Northern Rivers may wish to start with the Facebook site "Ballina Naval and Maritime Museum" which has many photos of river vessels, including the ss *Captain T Fenwick*. A quick search in Trove noted that the vessel sank in December 1915 in the Richmond River, about eight miles from Coraki but was raised the following year, rebuilt and re-entered service in 1918, initially as a steam tug at the river entrance at Ballina which agrees with Ian's recollections.

Some further notes on Wallace's tram at Confidence Saddle (see LR 281, page 35).

I was most interested to read James Shugg's notes on Wallace's tram at Confidence Saddle in the Field Reports section of LR 281. I walked the North East Dundas Tramway formation in 2004 from North Dundas Road (Five Mile) to Confidence Saddle and return, but unfortunately did not have enough daylight time left to continue down the timber tram. The Tasmanian Secretary for Works' report for 1918-19 noted that the Public Works Department was supervising the construction of a private tram by Dunkley Brothers from Confidence Saddle to timber leases and mining sections, assisted by a £2000 government loan. The Secretary for Works' 1919-20 report noted that the tram was almost complete; it was of 2 ft gauge with wooden rails, and was intended to bring out King William pine.

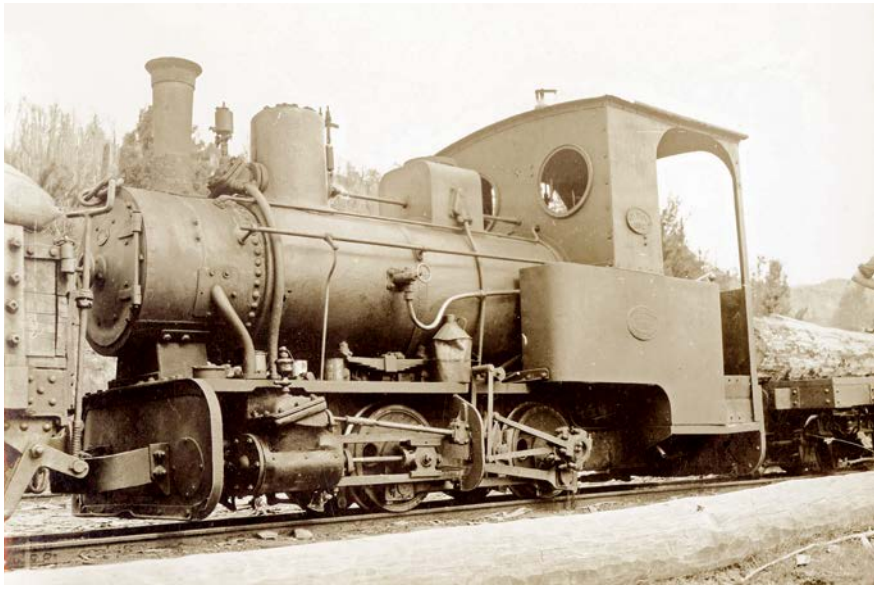
Dunkley's Zeehan sawmills were destroyed by fire in August 1923 and the Dunkleys disposed of their Zeehan area operations on 1 March 1924 to their foreman, Joe O'Brien. Dunkleys relocated their operations to the Trowutta area in the far north-west, where better timber and transport resources were available.[1] They even dismantled the family home at Zeehan and moved it to Stanley. In 1927 the Crown sought foreclosure on the Confidence Saddle tramway and the right/title/interest of Dunkley Bros Pty Ltd and Robert Dunkley in certain timber leases in the vicinity.[2] This action may have been an attempt by the government to recover the loan of £2,000. Someone was probably still using the tramway in the late 1920s, as several hundred tons of freight (presumably timber) continued to be loaded at Confidence Saddle in most years until 1928-29. The Tasmanian Government Railways closed the North East Dundas Tramway between Nickel Junction and Williamsford on and from 1 July 1929, but the track remained in place until around 1939 and the line saw some further official or unofficial use by timber cutters and local excursionists.

Jack Southern had a memorable trip to Confidence Saddle on 20 February 1937 on the former Zeehan Tramway Coy's Krauss 0-4-0WT (5800 of 1907), which was being used by Jim Howard to bring King William pine logs and sawn timbers down to Zeehan. Jack also noted that the pine logs were destined for the Victorian Railways' pattern shop, and that Howard had purchased Krauss 5800 from Dunkleys in 1935 for the Confidence Saddle operation.

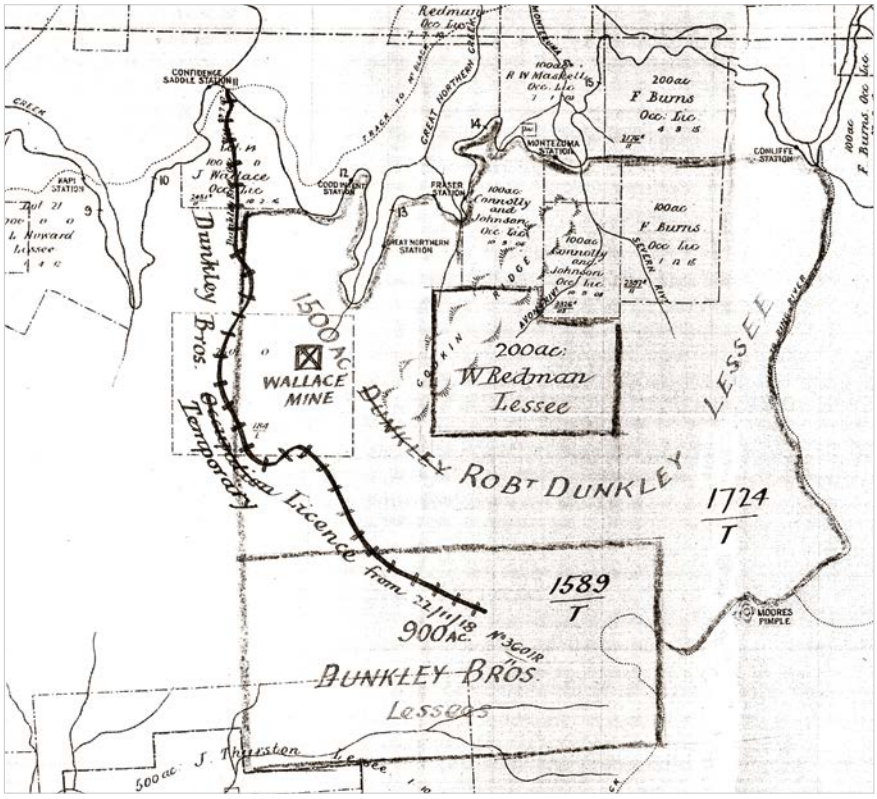
Two maps show the Confidence Saddle tramway although they differ to some extent on the exact route. A copy of the mineral lease chart[3] shows the tram running due south from Confidence Saddle for about 2 km, and then turning generally south-east for around another 2 km to end in 900-acre block 1589/T, marked as leased to Dunkley Bros. The chart records that Dunkleys were granted an occupation licence over the tramway route on 22 November 1918, but the word 'occupation' has been struck out and replaced by 'temporary'. Wallace Mine is marked about 300 metres east of the line at a point about 1.5 km south of Confidence Saddle and close to Great Northern Creek. The locations of the tram and mine have been added to the mineral chart by hand, and may not be entirely accurate. Galena had been discovered on the old Good Intent section near Confidence Saddle in 1922.[4] The discoverers were not immediately identified, but there was a stopping place on the North-East Dundas Tramway called Good Intent Track at 12 miles (i.e., one mile east of Confidence Saddle) which recorded occasional passenger and goods traffic, and from which a foot track ran south-westwards towards the Wallace mine as marked on the mineral chart.

The Lands Department 1:100,000 Pieman map of 1977 shows the old tram formation running south from Confidence Saddle for around 2 km and then turning approximately due east from the northern side of Carbine Hill for around another 1 km to end at the eastern of the two streams that form the headwaters of Great Northern Creek. Much of the detail on the 1:100,000 maps comes from air photos, and I have always found them impressively accurate, especially as many of the tram lines they record were abandoned and overgrown.

The Wallace family seems to have been something of a clan. James, William and George Wallace [the latter also known as Bravo] and J. [Jim or Jack] Ferguson had discovered galena on mineral section 374/93M, five miles north of Zeehan and about 30 chains from the Emu Bay Railway line to Burnie.[5] They sold the galena find to H.E. Quigley on 29 November 1909 for £2400, and Quigley then on-sold it to Thomas Vincent, general manager of British Mount Zeehan Silver Mines, for a sum said to be close to £4000.[6] Thomas Vincent and the Wallace brothers soon found a rich copper deposit some distance west of Wallace's galena show.[7] A photograph exists of Jim



Krauss 5800 at Confidence Saddle on 20 February 1937. Photograph: J.L.N. Southern



Confidence Saddle map. Mineral chart, Tasmanian Archives & Heritage Office file PWD 243/1/120.

Wallace and Jack Ferguson on the TGR line in the Nickel Junction area.[8] A Mrs Wallace had opened a general store on the site of the Madame Melba Hotel (bunt down in 1900) at Five Mile,[9] and W. Wallace was licensee of the Caledonian Hotel in Zeehan in 1927.[10]

On 16 August 1910 the TGR opened a 1 mile 30 chain branch line from Nickel Junction on the North-East Dundas Tramway northwards to a location originally known as 'Wallaces', but soon renamed Griffith. The branch generated quite substantial outward freight traffic, peaking at 14,451 tons in 1911-12, and thence gradually declining until traffic finally ceased in 1931-32. Until 1916 there was also a workers' passenger train from Zeehan, peaking at 33,028 passengers inwards to Griffith in 1912-13. The Zeehan – Griffith line formally closed on 5 July 1932.

The Lands Department 1:63,360 provisional Pieman sheet, which was based on 1956 air photos, shows the old tram formation running south from Confidence Saddle for around 2 km and then turning approximately east from the northern side of Carbine Hill to end at the eastern of two streams that form the headwaters of Great Northern Creek. The map also shows huts near the end of the tram line and tracks extending beyond it. This location of the tram formation is confirmed in the 1977 1:100,000 Pieman sheet. I have always found the Lands Department interpretation of old tram formations from air photos impressively accurate. It is possible that the southern end of the tram as built by Dunkleys was later replaced by the eastward line shown on the Lands Department maps, either in the later 1920s or by Jim Howard in the mid 1930s. The TGR traffic returns confirm that timber was being loaded at Confidence Saddle until 1929, but I am not sure who was working the timber after Dunkleys left the West Coast in 1924. It might have been Joe O'Brien or some other operator such as the Wallace family.

On checking references I picked up in many years ago, I recalled a 1922 report from a Zeehan correspondent that read: 'Active developmental work is being put in hand at Wallace's show at North-east Dundas. It was discovered a few months back that the property is a promising one. The lode shows five or six inches of good grade galena.'[11] At the time I assumed the report referred to the Griffith area, but it now seems likely that it refers to Wallace's mine near Confidence Saddle.

Jim Stokes, 10/2021
(via e-mail)

References:

1. *Burnie Advocate*, 25 August 1923, page 4; and 4 March 1924, page 3.
2. *The Mercury* (Hobart), 5 March 1927, page 5.
3. Tasmanian Archives & Heritage Office file PWD 243/1/120.
4. *The Mercury* (Hobart), 30 March 1922, page 2.
5. *The Mercury* (Hobart), 15 November 1909, page 5.
6. *The Mercury* (Hobart), 15 November 1909, page 5; and 30 November 1909, page 3.
7. *The Mercury* (Hobart), 21 December 1909, page 3.
8. Howard, Patrick (n.d.). *Farewell Heemskirk, Goodbye Dundas*. Mount Heemskirk Books, Kingston, Tasmania, page 169.
9. *The Mercury*, (Hobart), 5 May 1910, page 8.
10. *The Mercury* (Hobart), 25 November 1927, page 2.
11. *The Mercury* (Hobart), 5 August 1922, page 15.

"The Null" tramway, Watagan Mountains, NSW central coast

I recently came across the *Light Railways* magazine for the first time. Reading it I was reminded of a tramway I used to visit, called "The Null" on the NSW Central Coast.

I have not been there since 1999, and have no idea of its present condition. I used to have many photos of it, but have long since lost all of them – so can't even give you an image of it. Here is what I know:

Back in the 1890s, an American named Carson obtained a licence to harvest the Cedar growing in the Watagan Mountains. With no roads and no suitable vehicles, to transport these huge logs down to the saw mills in the valley below, he needed to find away.

His first effort was by means of a shute that was constructed of half round timbers and was secured to the side of a sandstone ridge. The Cedar logs were 6 feet across and 30 feet long, so as you can imagine, it was an impressive piece of engineering. The shute even passed through a tunnel blasted in the sandstone. Once the log reached the valley below, it would take a week to dig it out of the dirt, before it could be taken to a saw mill.

Apparently, one Saturday, Mr Carson was cleaning the tunnel after being flooded with debris, when a worker let a log go. He was pushed by the log the entire distance and managed to only escape it when the valley floor was reached. Badly shaken, he needed to find a safer method before he (or someone else) was killed.

Decommissioning the shute, he built a curved flying fox to convey the cedar down to the valley below. On this, a spinner would travel on the log during its decent, to keep the log travelling straight, so it would not wipe out the gantries as it passed by. The flying fox was 600 feet high, and only secured by gantries up on the Ridge and down in the valley.

Fifty metres from the top gantries for the flying fox, he built a two track wooden railed tramway. On one, a log suspended on two bogies would be released, with a man riding it to operate the 'bell brake'. The bogies were attached by a steel cable, via a pulley, to two empty bogies down the bottom on the other track. These empty bogies would be pulled up to the top by the decending log. This tramway was used until all the cedar was harvested from the Watagans in the 1920s. He then shut down the tramway and relocated to Gloucester, where he began harvesting the cedar from the Barrington Mountains. Gravity was the only means of power and no locomotive or winch were used, although a steam powered winch was used up on the ridge to load each log on to the bodies, ready for its descent below.

The only remnants of the tramway are the bogie loading area at the top, and the descent of the two tracks down the side of the ridge. At the bottom, where the tracks went for one mile across the valley floor, they got pulled up in the 1970s. Aside from the tramway, the stumps of the flying fox gantries are also there, and you can still make out the curve. The last time I saw the shute, bushfire had destroyed most of it.

Mark Murchison
Mildura, Victoria
via email

Editor's Note: Thank you Mark for your interesting letter. We believe this is Carson's timber tramway in what is now the Olney State Forest. One of our intrepid researchers also made the pilgrimage to the site about twenty years ago to confirm the remnants (LR180) following an article on the tramway that appeared in LR98 back in 1987. With the advent of *Trove*, and other sources, this might be a good topic for a researcher to revisit.

Photo of Wolseley 18/85 (LR 281 Page 46)

Having just purchased the above magazine, I am motivated to comment on the restoration of this unique directors' vehicle, which in my opinion has changed the character having little regard to its service history.

At the time of its removal for EZ's Rosebery in the early 1970s, I worked at their mine site as chief accountant and remember both front guards had round indentations, evidence of having been moved by a steam engine, the buffers left their mark on the guards. Just when this happened is unclear but it does show that the vehicle has a history. Locals advised that the managing director of EZ Industries was a frequent visitor to the Rosebery mine workings including the Williamsford and Tullah mines and enjoyed the service/comfort of this vehicle run by the EBR company based in Burnie. Also, why it was in dry storage at Rosebery is not known.

It is unclear where the vehicle will be displayed and I hope photographs were taken prior to restoration to ensure that its service history is not lost, thanks.

Vic Tucker
Parmelia, Western Australia

Ringwood Colliery (LR 130, 155, 279, 280 and 281)

I would like to apologize to all your readers for the misinformation contained in Letters LR 280 Ringwood Colliery. John Browning has very kindly sorted me and the identities of the locomotives concerned. That is the down side, the up side being the locomotive clarification and the reasoning behind it.

Garry Allen
Fern Bay, NSW
via email

Lacrosse Island lighthouse tramway (LR 281)

The extraordinary engineering involved in this line and its location, presented in Phil Rickard's article in LR 281, make an interesting record. I have several comments. One is the question what provided the power to operate the winch that hauled the trolley over gradients of 1 in 2 steepest and 1 in 4 average? I suspect a diesel engine with a gearing down system, but whatever it was, how was it installed at 110 metres altitude, then maintained/serviced, and what happened if it failed to start? Did that put an end to the call by the servicing ship, or did it stay while a mechanical fitter in the visiting party fixed things? Indeed, did it have a smaller internal combustion engine to start it?

Second, the engineering involved. Phil remarks on the wheel/rail configuration and gauge. The Queensland Railways operated from its inception running trains in 1864 until the 1980s with vertical rails and cylindrical wheels. This was unusual even in 1864. There was a curve in the throat of the flanges and in the head of the rails, which in combination kept the flanges away from the rails, the inner surface of which was not polished. The rolling resistance of QR trains was no higher than on other railways on straights or curves, if anything slightly less. The QR flange was about an inch deep. The QR found that with the higher axle loads used with the export coal traffic, it was suffering acute rail shelling, and from the 1980s adopted the more usual inclined rails and coned wheels. The reasons therefor and process are given in detail in a paper by D Shonfeld et al, "The Development and Testing of Improved Wheel Profiles for the Queensland Railways", Fourth International Heavy Haul Railway Conference, 1989, Brisbane 11 to 15 September 1989. Although all wheels on the system have now long been coned, many lesser used parts of the system still in use have vertical rails.

The Bay Area Rapid Transit System, of San Francisco USA, started in the 1960s with the vertical/cylindrical configuration, but started to change to the inclined/coned, also in the 1980s. The 90 degree angles in the profile in the Departmental drawing in Phil's article, especially the tips of the flanges, are extreme by both of these examples. I wonder if they were not representational rather than actual. There were no curves in the line to take into account in the profile. Indeed, for four wheels and a short length of straight line it would have been usual to obtain standard items available in the trade, as McPhersons catalogue of 1960 mentioned on the drawing could be, eg the plummer block, or axle bearing. Available rails would be expected to have a normal head and wheels would have

OBITUARY

Graeme Bruce Inglis
1948 – 2021

We were very sorry to hear of the sudden death of Graeme Inglis on Wednesday 13 October. Graeme joined the Victorian Light Railway Research Society, as the LRRSA was then known, around October 1966, and had membership number 95. He was very active in the LRRSA and other railway enthusiast organisations in the first half of the 1970s. In the LRRSA he was the Hon. Secretary for over two years from 1970 to 1972. He was then the Hon. Treasurer for two years, and then a committee-man until July 1975.

Apart from heavy involvement in the administration of the LRRSA, he also took part in a number of field investigations, including the Tyers and Thomson Valley tramways at Erica; the Lal Lal Ironworks tramway; Rollo's tramway south of Yarragon; and the Trawalla and Waterloo tramway. His report on the Tyers Valley expedition makes interesting reading in LR 38, as does his report and map of the Waterloo tramway (LR 43). For *Light Railways* No.34 he produced the drawing of the ironworks on page 2, and the sketch plan of the site on page 16. For *Light Railways* No.42 he produced the plan of the Tyers Valley Harman locomotive in the centre pages.

Graeme was a also a member of the three-man McIvor Survey Group of 1971-72, which made a number of visits to plot the routes of the McIvor tramway. His lateral thinking was vital on two occasions when the route of the tramway was lost. Without that input a number of discoveries may not have been made – discoveries that caused amazement to the members of the Group! As part of that project he also undertook much newspaper research in the La Trobe Library, leading to the discovery of Penrose & Oddy's tramway at Graytown and its associated steamship. All that material was made available for the LRRSA's *McIvor Timber & Firewood Company* book, and that book owes a lot to his input.

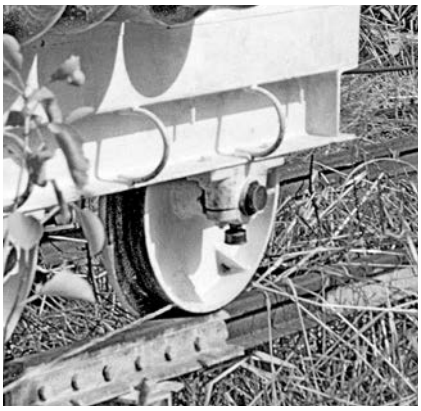
In parallel with his involvement with the LRRSA, Graeme was a foundation member of the Ballarat Tramway Preservation Society, and was an active volunteer and board member in its early years, both before and after it commenced operations. Although family commitments then took precedence over active involvement in both societies, the interest remained, and over the past year Graeme was a regular attendee at the LRRSA's members' Zoom meetings.

Graeme Inglis aboard the Croydon-Normanton railmotor, Queensland, 29 August 1974. Photo: Stephen McLean

been pressed or cast, then machined to exact shape, with a curved flange throat. Manual tramways were still in use when the line was built, ie before the fork lift truck took over (at least for most purposes, rather than the helicopter which acted as the replacement here), so such would have been available, say from eg the Engineering Supply Company of Australia (ESCA) which I remember.

John Knowles
New Malden, UK
via email

Editor's Note: Thank you for your observations John. Phil advises that having examined the trolley drawings and the high-quality photos from the NAA, he is sure that the drawings of the wheels are actually what occurred. He notes that the first design for the trolley incorporated a lever-operated brake actuating four brake blocks, each 3 in x 2 in and believes the wheel profile was designed to suit them. When someone realised that the Lacrosse Island line would be winch-powered and brakes were not required, a second design was drawn with the brakes omitted however the wheel profile stayed the same. These braking



and trolley drawings may be examined at recordsearch.naa.gov.au/SearchNRetrieve/Interface/SearchScreens/BasicSearch.aspx Insert Lacrosse Island in the search box. The listing also includes "Haulage winch" but the file has yet to be opened. However, if one searches for "Lacross Island" [sic] one will find an open file "supply and deliver one diesel engine drawn haulage winch". Unfortunately, it has not been digitised, and is located in Perth. Whilst there are only a total of 32 files labelled "lacross/e" they are scattered – Perth, Melbourne, Canberra and Brisbane. Some are open, others closed. As to how they got the diesel winch to the top of West Bluff – the editorial team suggested they built the tramway first and then got the winch to haul itself up on the trolley and that is why the track is so substantial. No doubt, as Sir Humphrey Appleby would say "It's all in the files"!

2020 JLN Southern Award

The LRRSA is delighted to announce the winner of the JLN Southern award for the best article published in the magazine over 2020. The top-scoring article was 'Copper, Platinum, Gold and Lime' (the mines and tramways of Coopers Creek, Victoria), by Peter Evans. We offer our congratulations to Peter for his outstanding article.

In a covid-19 era, zoom meetings and *Light Railways* have kept the society's morale high at a time when live meetings, field trips and research at libraries/archives have been limited in some states. Having such a strong set of articles has helped us all.

Our three judges, Ruth Kerr, Roderick Smith, David Whiteford, are based in Queensland, Victoria and Western Australia. They are used to working by email, and now have zooming available too if needed. We thank them sincerely for their efforts.

As ever, all of the nine articles with the prerequisite 1500 word length were top class and interesting to read (one part 1 is held for part 2). They covered a diversity of aspects, including some rarely-considered ones. The editor has chosen well; LR stands high in the field of Australian-history publishing. Some will become long-term references, to be taken from a shelf as an aid to understanding a future article.

As with league football, there can be only one premier. Newspapers often forget that all teams in the league are still ahead of all teams which aren't in it, but we don't. This year's award was yet another where the top contenders were very-closely spaced, but the judges were unanimous.

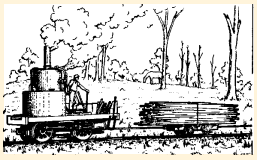
After rating the criteria, the top-scoring article was Peter's. It was comprehensive and researched thoroughly (resources and field work), complemented with excellent maps as an aid to understanding.

All the others had stand-out features: thorough research, debunking myths, or covering unusual aspects.

The judges commended the two-part 'Rails to Woomera', by Mark Langdon. It was good to welcome a new author to the fold, and the topic gave an insight into the background of a project of international importance. The judges also commend the members who brought John Shoebridge's horses article to fruition posthumously.

At this time, we also recognise and thank J L N Southern, whose bequest made this award possible.

JLN Southern winner Peter Evans with his award. Photo: Mirjana Rasic



LRRSA NEWS

MEETINGS

LRRSA members on line meetings
The LRRSA will be holding regular members meetings on line via Zoom conferencing on the dates below. Members wishing to "virtually" attend will need to pre-register by responding to an email inviting you to attend or via our website lrrsa.org.au. After registration, details of how to join the meeting will be provided to those that have registered.

December 2021 members Zoom meeting
Date: Thurs 9 December at 8.00pm AEDT
Floyd Bromley will present "A hike along the Yan Yean tramway alignment". The Yan Yean tramway was built in 1858 to facilitate the construction of Melbourne's first major water supply scheme.

February 2022 Members Zoom meeting
Date: Thursday 10 February 2022 at 8.00pm AEDT
John Browning will make a presentation titled "A survey of local government, private and industrial railways in Queensland". This promises to be a fascinating subject and you are encouraged to book early to avoid disappointment.

BRISBANE: "Annual Mike Loveday photo competition"
The main item at the meeting will be the annual judging of the winner of the Mike Loveday photo competition. Attendees are also encouraged to bring any DVD's of light railway interest for viewing.
Location: BCC Library at Coopers Plains.
Date: 17 December 2021 at 7.30 pm

SYDNEY: "No meeting"
There will be no meeting in Sydney in December – the next meeting will be held in February 2022.

MELBOURNE: "No meeting"
There will be no meetings in Melbourne until further notice.

ADELAIDE: "Railway themed film"
The SA group will be meeting for a railway themed film and supper with no formal business. Accommodation is limited, so contact sa_group@lrrsa.org.au if you have not been to a meeting before.
Location: 1 Kindergarten Drive, Hawthorndene
Date: Thursday 2 December 2021 at 7.30 pm

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

BUDERIM PALMWOODS HERITAGE TRAMWAY, Buderim

762 mm gauge

The Buderim Palmwoods Heritage Tramway Inc. (BPHTI) plans for the Krauss display in central Buderim are starting to come together, although there is still some opposition to work through.

On 26 June 2021, the Buderim War Memorial Community Association had offered a parcel of its land in central Buderim as a home for the Krauss, and accepted the offer. There is still some opposition in the community to this location.

Buderim-Palmwoods Heritage Tramway group website post 17 September 2021

BALLY HOOLEY RAILWAY, Port Douglas

610 gauge

This steam railway has now closed, the last service running on 24 September 2021.

Purchased from Mossman Mill in 2002, the John Morris family have owned and maintained the trains, as well as the tracks with a core team including a dedicated group of volunteers allowing it to operate over many years in Port Douglas between the Marina and St. Crispins.

At 93, John Morris has been keen to ensure that these historic trains remain within the shire, and over the last couple of years, has sought in vain to find a committed group to continue its operation. Approaches were made to several organisations, including the Douglas Community Sports Club and the Douglas Shire Council, but none were able to commit to the long-term future of the railway.

The train is now to be incorporated as an exhibit in a restaurant at Port Douglas.

Editor's note: I have received a detailed article setting out the history of the Bally Hooley Railway and this will published in LR very soon.

DURUNDUR RAILWAY, Woodford

610 mm gauge

Unfortunately, Covid lockdowns and temporary increased restrictions have affected the Railway in several ways. As well as not having any public running days in July or August, Covid issues have reduced volunteers on site and also caused delays to the supply and construction of the workshop annex. Volunteers have not been idle however, with a significant number of concrete sleepers put in the track, as well as other tasks like getting the tree outside the cottage trimmed and preparing the formwork, etc., for the concrete base for an additional garden shed. The Railway is still looking for ideas to celebrate its 50th anniversary next year.

Durundur Railway Bulletin 42: 371 September/October 2021

ATHERTON-HERBERTON HISTORIC RAILWAY, Atherton

1067 mm gauge

Volunteers have completed the construction of the shed extension which will be a very useful addition to the workshop. Funds for the purchase of the steel and the pouring of the concrete floor came from the Gambling Benefit Fund.

Atherton-Herberton Historic Railway Facebook page post October 8

NEW SOUTH WALES

PETE'S HOBBY RAILWAY, Junee

610 mm gauge

During the NSW lockdown, the opportunity has been taken from time-to-time when weather condition permit, to take the Ruston diesel locomotive for a run around the track so that it can be said that the line is operational.

Preliminary planning is under way for the relaying of the main line along the back southern-most boundary of the property as the first stage in the completion of the back reversing loop. Fresh track levels will need to be determined in order to provide for an easier grade, resulting in a bob-cat having to be hired in to prepare the new formation.

There has been little recent activity for the operational Hunslet steam locomotive due to the departure of volunteer workers to paid employment. The current boiler certificate expired in October last year. This has not been of much concern as there has been no real desire to steam the loco. While work has been progressing on the preparation of the boiler for the Boiler Inspector, the COVID-19 epidemic has meant delays in this regard. The inspection is normally arranged to coincide with commercial inspections in the Riverina so that PHR as a non-commercial organisation is not required to meet his full transportation and accommodation costs for a single boiler inspection.

At the time of preparation of this report, most wash-out plugs have been removed, as has the safety dome which gives access to the internals of the boiler itself. Unfortunately, the gasket seal was broken as the dome was removed, so a replacement will need to be cut. Plenty of gasket material is held in store. Plumbing from the steam turret, including to the pressure gauge, await disconnection, along with the unbolting and removal of the steam turret, which will facilitate the internal inspection of the firebox by the Boiler Inspector. Following removal of the fire-bars from the firebox, the boiler and firebox internals will be given a total wash-out to provide a clean interior for the Boiler Inspector.

It had been anticipated that the income from the sale of the Perry locomotive would more than cover the restoration of the Fowler using volunteer labour only. While the majority of the funds from the sale of the Perry steam locomotive are held in reserve for the Fowler restoration project, these would be nowhere near sufficient to meet a commercial cost of restoration. Accordingly, the Fowler restoration is on hold for the present time, with some funds being diverted to other projects.

Pete's Hobby Railway has no intention of disposing of the Fowler bits and pieces. Pete will continue to look at any available and/or suggested options for the project to continue. Unfortunately, funding is not available through the annual Transport Heritage NSW allocations, as PHR does not meet the essential requirements.

The restoration of the Fowler back to operational condition is now regarded as a longer term project, with efforts being concentrated on completion of the turntable and track extensions.

Progress Report 69, October 7, 2021

VICTORIA

BELLARINE RAILWAY, Queenscliff

1067 mm gauge

ASG 33 restoration progress

Overhaul of the only remaining wartime Australian Standard Garratt (ASG) locomotive is making steady progress on the Bellarine Railway in Victoria. It was assembled and entered service on the Australian Cement Limited private 3 ft 6 in (1067mm) gauge railway at Fyansford, near Geelong in late 1945. During the following decade, it hauled limestone from a quarry at Batesford to the cement works at Fyansford. It was replaced by a diesel-electric locomotive in 1956 and then only ran on a few occasions during the next decade. Following closure of the railway in 1966, all six surviving steam locomotives were donated for preservation. G33 was donated to the Railway Museum at North Williamstown and moved there in late 1968, where it resided in the open air for the next 45 years.

In March 2013, G33 was moved from the Railway Museum to the Bellarine Railway at Queenscliff, operated by the Geelong Steam Preservation Society (GSPS). The GSPS had been aiming to restore the locomotive since the early1970s. Having started out as custodians of two former Fyansford locomotives in 1968 (Vulcan Iron Works No.4 and Hudswell Clark No.6), it has gradually reunited the remaining Fyansford steam locomotives at Queenscliff, Beyer Garratt No.2, ASG No.3 (33), Vulcan No.5 and Perry No.11.

Some members commenced a survey of G33 to determine the feasibility and work required to return it to operation. It was known that the locomotive was in good mechanical condition

Above: *A side view of ASG 33 showing the rear engine unit and boiler cradle under restoration in the Queenscliff workshop of the Bellarine Railway.*
Left: *A front-on view of the boiler showing the front tubeplate as well as the installation of the superheater elements after testing.*
Both photos: Chris Hibble

when retired to the Museum. Restoration would mainly involve making good the deterioration that had occurred during 45 years of display in the open air. A small team commenced work around June 2014. The two engine units and boiler cradle sections had been unloaded at Queenscliff and placed on track outside of the workshop shed, but with a small distance between each component. Investigation showed that the wheel sets in the rear engine unit were seized and would not turn. All axleboxes and other moving components needed to be freed up and lubrication systems made operable before any movement could take place. A start was made by overhauling the rear engine unit. It was lifted, all moving parts removed, cleaned, checked, tested as required and repaired. Reassembly took place as each component went through overhaul. New lateral wear faces were attached to all axle boxes and all lubricating pads were redesigned and refitted. All steam pipes, both high and low pressure, were checked and refitted. The flexible joints were all fitted with new springs. All air brake components were removed, overhauled, tested and refitted.

The Society had the foresight to purchase all remaining ASG spare parts from the Emu Bay Railway 40 years ago. This included a full set of springs that allowed new ones to be fitted to the leading bogie and trailing axles on both units. A complete new set of spring hangers and cotters were manufactured to complete this task. There is a set available for the front unit when they are required. The rear unit piston rods were hard chromed and new piston rings made. The rear unit crossheads were fully overhauled and fitted. The rear engine unit is almost complete and ready for service. The coal bunker is normally fixed to the rear engine unit, but had been removed for transport purposes. Not surprisingly, the floor of the bunker had rusted badly during five decades in open storage. The floor has been replaced and the bunker repainted, ready to go back in position after the locomotive is reassembled. The rear water tank was found to be in surprisingly good condition. An access hole was cut in the top where a small section of metal had rusted and was replaced. It was cleaned and repainted. The front water tank is also in excellent internal condition.

The next section to be tackled was the central cradle carrying the boiler and cab. The boiler lagging had been removed whilst the locomotive was on display at the Museum. However, some damage was done to the metal cladding and various brackets and fastenings during its removal and relocation, when they were all welded back on to the boiler.

The boiler has been cleaned and inspected. It is mainly in very good condition internally, with some wasting of stay heads on the outer firebox, mainly on the back head and on the left (fireman's) side of the boiler. There are approximately 70 wall stays to be replaced. All superheater elements have been removed and testing of them will commence shortly.

The air compressor was dismantled and had considerable water damage. The air cylinder was machined, main compressor shaft hard chromed and a new shuttle valve body obtained.

The cab was removed and the timber ceiling and floor dismantled. Many sections of the cab were rusted beyond repair, as a result of damp coal dust and other dirt sitting in areas for decades. New side sheets have been manufactured and riveted to the original roof, front and back sheets.

Work is carried out on the ASG every Tuesday from around 10 am until 3 pm and similar hours on Saturdays (subject to Covid restrictions). Some tasks require skilled work, but many simply require a useful pair of hands. A variety of age groups are involved, both male and female. Turn up on the day or make contact ahead of time via the Project Manager, Chris Hibble on 0410 186 840. Tax deductible donations to assist the project may be made via www.trybooking.com/BSCA Progress with the locomotive may be viewed on the Facebook page G-33 Fundraising and Progress Michael Menzies September 2021

TASMANIA

DERWENT VALLEY RAILWAY, New Norfolk
1067 mm gauge
THE Derwent Valley Rail could be operating again as soon as early next year after the Government confirmed it would table a corridor notice soon. The corridor notice would enable the Railway to use a section of the track.
Derwent Valley Gazette online 20 September 2021

WEST COAST WILDERNESS RAILWAY, Strahan
1067 mm gauge
During the last week of August, diesel locomotive D1 made her way into the workshop, where work has begun stripping the locomotive down for a major overhaul. Work to be undertaken will include an engine and gearbox rebuild and possibly a wheel turn, as well as a lot of other smaller jobs. West Coast Wilderness Railway website post 12 September 2021

WEE GEORGIE WOOD, Tullah and REDWATER CREEK, Sheffield
610 mm gauge
Wee Georgie Wood opened the 2021/22 season on 2 October. Despite forecast heavy rain, the weather was balmy until a storm front arrived just as the last train of the day departed. *Georgie* ran eight return trips, and carried 113 passengers, the most ever in a day according to available records. The loco had not run for nearly six months, but by lunchtime after the first four runs, everything was bedded down and sizzling hot on Fingal-sourced coal, and the locomotive's performance was right on point, loping up the steeply graded line at maximum boiler pressure.

In exciting news, we can report that all necessary approvals have been granted to allow *Wee Georgie Wood* and two passenger carriages to travel to Sheffield for Steamfest 2022 in March next year. This will be the first time this 97-year-old Fowler locomotive has ever operated away from Tullah. The plan is to run two trains simultaneously throughout the three-day event (Sheffield's resident Krauss hauling the other), crossing at the newly completed Dulverton station and passing loop.
Looking further ahead, as an example of the increasing cooperation and coordination between the Tasmanian heritage societies, plans are already being tentatively drawn up that hopefully will see

Top: *Opening up: early on the morning of October 2, preparations for the day's running are about to start at the Tullah workshops.* Wee Georgie Wood *operates on the first and last weekends of the month between October and April.* ***Above:*** Georgie *pauses at the Ardyn Street loop before the run back up the hill to Tullah station on October 2. The pink building in the left background is the Tullah pub, which boasts the longest bar in Tasmania. Back in the day, beer kegs were a regular inward freight consignment for the little Fowler loco. Both photos: James Shugg*

both the Redwater Creek Krauss and the Tullah Fowler visiting the Ida Bay Railway once that line is running.
James Shugg 2 October 2021

IDA BAY RAILWAY, Ida Bay
610 mm gauge
On 15 October the *Hobart Mercury* reported that DarkLabs will be looking for a different far south site for the Transformer art installation after the Huon Valley Council rejected the DA (Development Application) for the proposal at Ida Bay in a five to four vote. DarkLabs will not appeal against the Huon Valley Council's decision to refuse the planning application for its Transformer installation, instead setting its sights on finding another location for the project. The DarkLabs' director said that on balance it would be best not to enter an expensive appeal process and that they would accept the Council's decision. DarkLabs will not abandon the project but will seek another suitable site.
The Council rejected the application on a technicality, but the reason behind the decision was a desire to protect the railways' assets to facilitate its reopening.
Meanwhile, the Society's work progresses. On October 11, eight volunteers, including some new faces, helped prepare and load 93 sleepers at Yarlington, ready for shipment to Longford via Oatlands for vacuum heat treatment. Once that is done, the Society will have 400 new treated hardwood sleepers ready to go in storage down south near the railway.
IBRPS Facebook posts October 2021

WESTERN AUSTRALIA

CARNARVON JETTY, Carnarvon
1067 mm gauge
State Budget funding included a boost for Carnarvon's One Mile Jetty, which is a significant feature of the Carnarvon Tramway Trail. The McGowan Government's 2021-22 Budget allocated $8.7 million for works on the jetty following cyclone damage. The funding almost doubles the McGowan Government's election commitment for restoration works. This may be the case of closing the door after the horse has bolted as the damage to the jetty is extensive and the money could perhaps have been better spent five years ago which would have largely negated the damage done by the cyclone.
Railtrails Australia Facebook page post 15 September 2021

BENNETT BROOK RAILWAY, Whiteman Park
610 mm gauge
Operations in 2020/21 continued to face the challenges of 2019/20 with Covid 19 continuing unabated. During this period the railway lost six operating days (Anzac weekend and early July) due to Covid lockdowns and restrictions in addition to 19 days due to fire restrictions. Apart from those days the Railway was able to provide a service on every day it was scheduled to run.
The locomotive department's major project on site has been the overhaul of the Fowler, providing a new engine and gearbox, re-tyring of the wheels, and a re-paint. The holdup to completion of this project is the re-tyring which is being undertaken by an external provider and workers are awaiting the completion and return of the wheels to the workshops.
The NG123 boiler was sent to Willis Engineering in March 2020 for re-tubing. After inspection it was decided to provide new tube plates and to re-configure the boiler to a saturated boiler. Some of the work has been undertaken by the railway's locomotive department. The boiler now awaits completion of the re-tubing and return to the railway. In the meantime, steel for the new ashpan has been sourced and cut to size in Victoria and has been delivered to the railway for bending, welding and fitting to the chassis.
In October 2020, the Dorman suffered a broken axle. Upon inspection it was discovered that one of the wheels has a crack which had been repaired prior to its arrival at BBR. The locomotive has been stored awaiting arrangements for its purchase. The locomotive is privately owned by two WALRPA members. In the meantime, the constant maintenance of the working passenger locomotives, Planet 7, *Ashley* and *Maylands*, occupies much of the remaining available time.
On the Fowler *Rosalie*, Key Source Rail is manufacturing an oven to heat the tyres to the approximately 400 degrees required to expand them on to the wheel centres. The chassis has been cleaned and painted inside and out. The Cummins motor and Allison gearbox are connected to the final drive with an overhauled driveshaft. The motor is ready to start when needed.
The Bennett Brooklet – September/October 2021

Top: Wee Georgie Wood *emerges from the forest near the end of the downhill run from Tullah station on 2 October.* ***Above:*** *Back in late April, as the previous season closed, the ex Lake Margaret Nicola Romeo petrol loco and* Wee Georgie Wood *were posed along with the passenger carriages for this shot before being put away until October. Both photos: James Shugg*

OVERSEAS

WALES
FFESTINIOG AND WELSH HIGHLAND RAILWAY, Porthmadoc
610 mm gauge
Beyer Garratt K1, ex North East Dundas Railway in Tasmania, is back on WHR rails, having arrived at Dinas recently. The locomotive has been away for a year at the Statfold Barn for restoration. Workers were busy getting the loco ready for its starring role on the weekend's special trains (for Society members on Friday, for the general public on Saturday and Sunday).
Ffestiniog and Welsh Highland Railway website post 15 September 2021

Brian Andrews took these two photos in November 1983 at the Stockrington No 2 Colliery not long before the haulage of coal by the electric trolley wire system and mine cars stopped. The photos show the Jeffrey electric locomotives 52 and 57 at the Buchanan and Buttai loading points. The trolley wire system was constructed in 1954 and full details of the operation are contained in an article titled "The trolley wire locomotive haulage system at Stockrington No 2 Colliery' by Brian Andrews that was published in Light Railways *No 108 of April 1990. That edition and most others are available for free on the LRRSA website (lrrsa.org.au). Brian worked for 20 years as a draftsman for Coal and Allied industries Limited and has an extensive photographic collection of the workings and light railways used at the colliery. Brian has also written extensively on the subject and has published several books.*