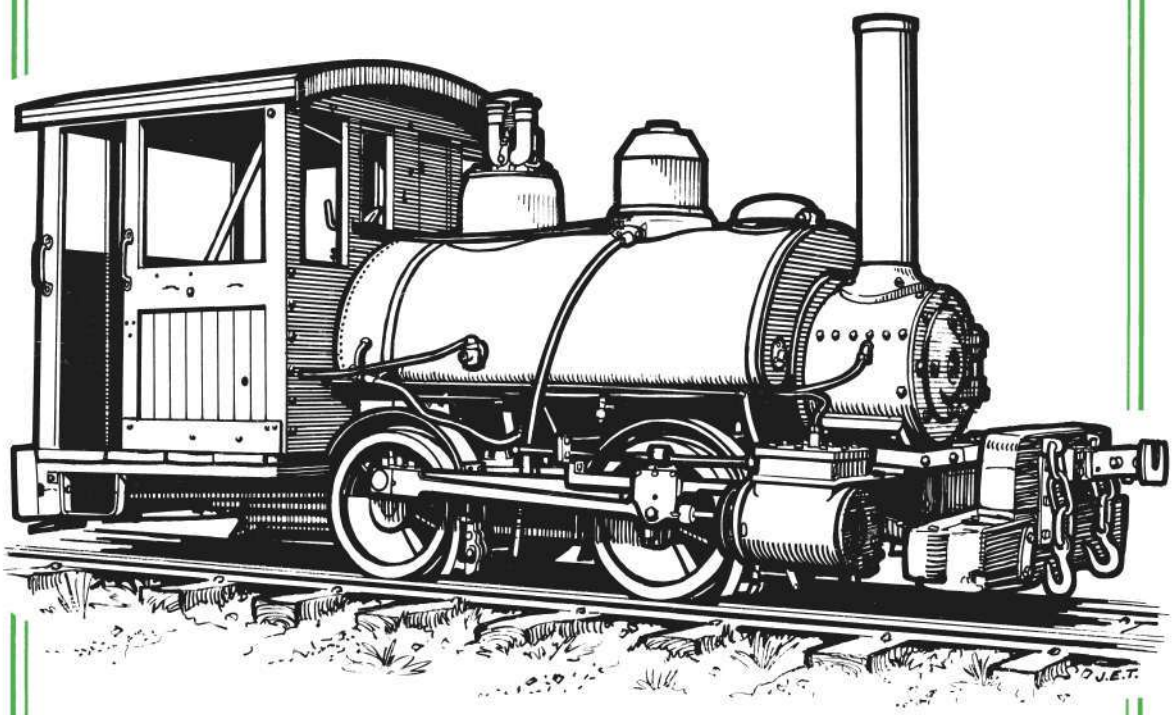
LIGHT RAILWAYS

NUMBER 33 SPRING 1970 50 ¢



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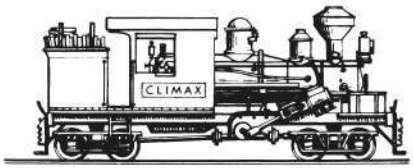

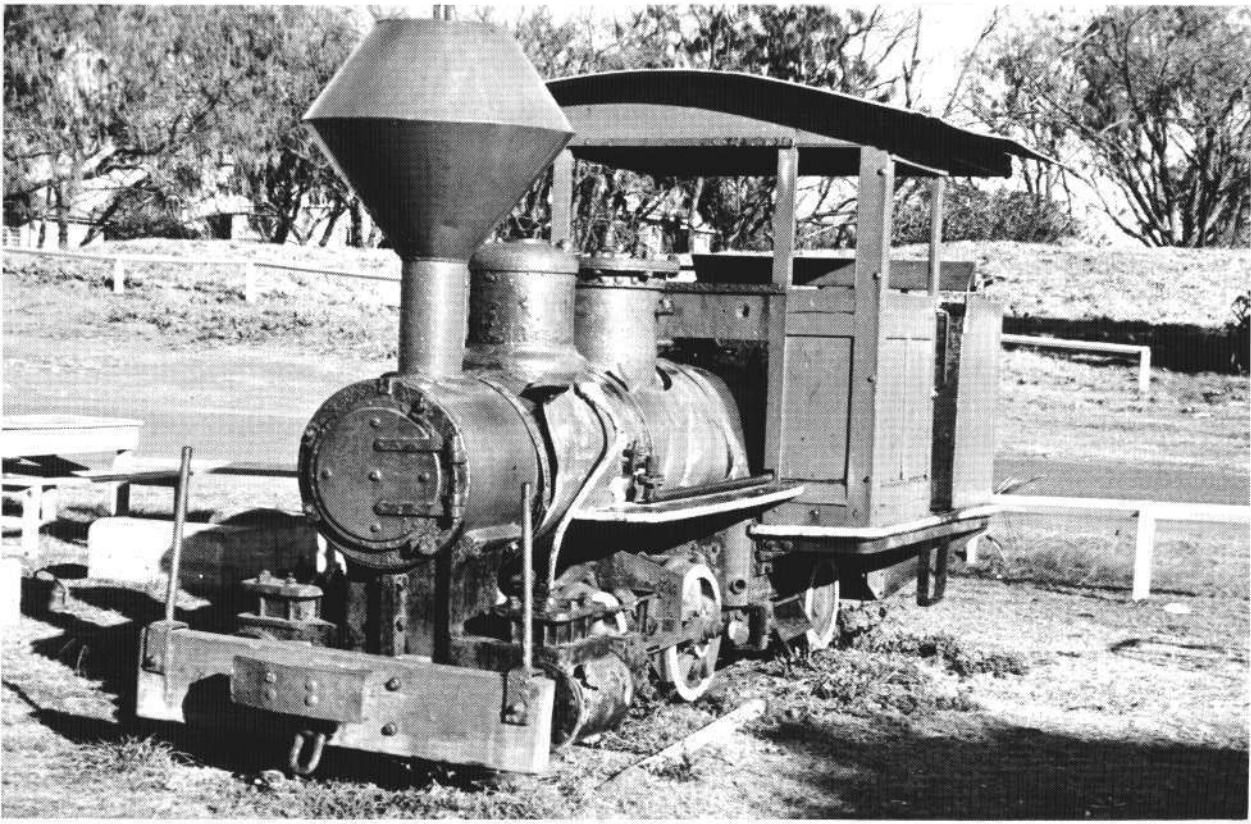

Typical of misguided preservation efforts in Queensland is this pathetic little Baldwin 2-ft. gauge 0-4-2T, ex Fairymead sugar mill, which has been dumped in a playground at Bargara beach, near Bundaberg. The locomotive has suffered heavily from the relentless destructive forces of children and rust. Many other significant and unusual locomotives are suffering from the same thoughtless neglect in Queensland. With jagged rusty boiler cladding, locomotives like the one above are a positive menace to children. (F. Stamford)

TO OUR READERS...

Whilst every effort is made to ensure the accuracy of articles published in "Light Railways", errors may creep in. Additional information is being discovered all the time, and this sometimes contradicts previous information.

If you see any errors, or can add information, please contact the Editor, and so help us to record the full history of Australia's light railways.

Articles and News, Notes & Comments items are always welcome.

Historical references to sums of money in "Light Railways" are in Australian pounds (£). One pound equalled two dollars on changeover to decimal currency in 1966.

LIGHT RAILWAY RESEARCH SOCIETY OF AUSTRALIA

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ANNUAL SUBSCRIPTION - $2-00 ($1-00 if under 17 years)for year ending 31st.May 1971.

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Cover - Baldwin 3-ft.6-in. gauge 0-4-0ST, B/No.7111 of 1884, stored at King's Cottage, Bunbury, Western Australia. It was originally built for the Melbourne Harbour Trust for swamp reclamation work on the south side of the Yarra. Between about 1895 and 1897 it was used by a contractor for excavation work for a sewerage pumping station being built at Spotswood, near Melbourne.

By November 1898 it was owned by Millars Karri & Jarrah Forests Ltd., and was used as a shunting engine at Yarloop, W.A. It was named "Beetle" at that time. It was out of use between December 1904 and August 1905, while being reboilered. It was then renamed "Kia Ora" and used at Jarrahdale sawmill.

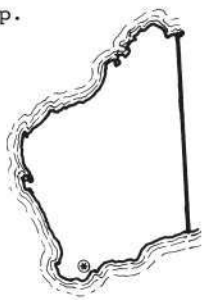
By April 1909 it was sold to the Western Australian Public Works Department for use on the Carnarvon tramway. By August 1949 it had been transferred to the State Engineering Works at Fremantle, and went to Bunbury for use on harbour works in May, 1950.

Between February 1951 and October 1953 it was used at Roclands quarry. It was then used on Bunbury jetty as a shunter until July 1962. The boiler certificate then expired, and it was donated to the ARHS for eventual preservation at Bassendean, near Perth.

(Drawn - John Thompson, historical details - Adrian Gunzburg).

Millars' Denmark Railway

By - C. W. Jessup.



Western Australia has had many privately owned 3-ft. 6-in. gauge timber railways. Most of these were very well constructed, using locomotives and rolling stock larger than those used on timber tramways in the eastern states. One of the earliest of these lines was Millars' Elleker – Denmark railway, described in this article. This line was subsequently taken over by the Western Australian Government Railways, extended, and finally closed in 1957.

The most valuable forests in Western Australia grow on the lower south-west coast, which is soaked by rain during the winter. Areas around Denmark average over ten inches in the month of July alone. Within these forests grow the giant karri trees, up to 280-ft. high, in pure stands. Scattered areas of Jarrah are also found. Until the 1880's no attempt was made to exploit the forests in the Torbay - Denmark - Nornalup area.

In 1881 a Mr. A. Lenard, representing Adelaide businessmen, enquired about taking out a licence for timber cutting in the Deep River area - west of Albany - however, an unfavourable report on the suitability of the Nornalup Inlet as a harbour stopped this scheme.[1] During 1883 Mr. J. A. Evans expressed interest in milling in the area, but nothing came of his ideas.[2]

On the 11th. June 1884 C. & E. Millar, famous for their railway contracting work in eastern Australia, had their agent apply for a timber lease over an area to the west of Deep River. They were advised that no special leases would be granted near Albany.[3] At this time negotiations were being finalized between the government and the promoters of the Great Southern Railway, which was being built by the Western Australian Land Co.. The Great Southern Railway, connecting Beverley with Albany, was to be a privately owned land grant railway (like the Midland Railway of Western Australia) and the Government did not wish to restrict the GSR's owners in their choice of land near the proposed line. Hence the government did not wish to grant Millars a huge timber lease. The government also wanted timber near Albany reserved for sleepers on the GSR. The Western Australian Land Company was being granted 12,000 acres of land for every mile of railway built.

Millars gain GSR contract

In October 1884 Hordon, the leading promotor of the GSR scheme, signed an agreement with the government for the railway's construction. Meanwhile Millars persisted in their attempt to establish a timber station, their agent applying for a timber lease over an area between Torbay and Forsyth Bluff. This application was also rejected.[4] Soon after, opposition to Millars establishing mills in the Albany area vanished, when they gained the contract to build the Great Southern Railway.

Photograph opposite

"Jubilee", a Baldwin 4-6-2 locomotive, B/No.15434 of 1897, shown when working on the Wokalup - Mornington Mills line of Millars. This locomotive previously worked on Millars' Denmark line.
Photo - Millars (Australia) Pty. Ltd., courtesy G. J. Higham.

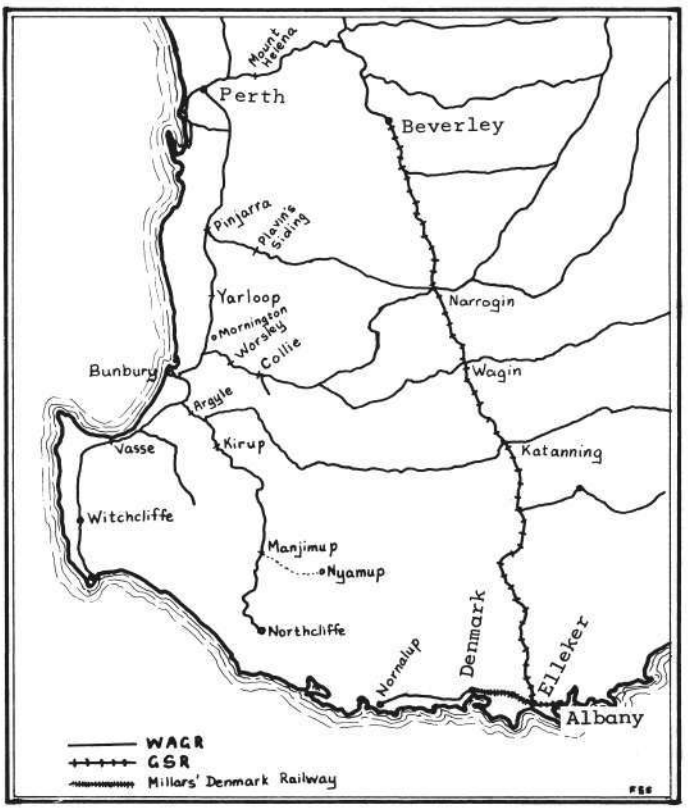
In November 1884 Millars gained a lease to enable them to cut timber over an area of 50,000 acres around the Nornalup Inlet between the West River and the Deep River. This lease cost only £100 a year.[5] Millars built two mills at Torbay to cut sleepers and other timber for the GSR contract,[6] bringing 200 navvies and equipment from Victoria to run the mills and complete the contract. In at least one publication it has been claimed that Millars built their Torbay railway to provide a means of getting sleepers from their mills to the GSR at Torbay Junction. This did not occur, as the Torbay railway was not built until after the opening of the Great Southern Railway. Millars used their steamer "Active" to cart sleepers and other timber between Torbay and Albany.[7] There is also no evidence that Millars had any horse tramways at their first Torbay mills; they appear to have used bullocks rather than tramways for getting timber out of the forest.[8] However a tramway may have existed to cart the cut timber from the mill to the ocean.

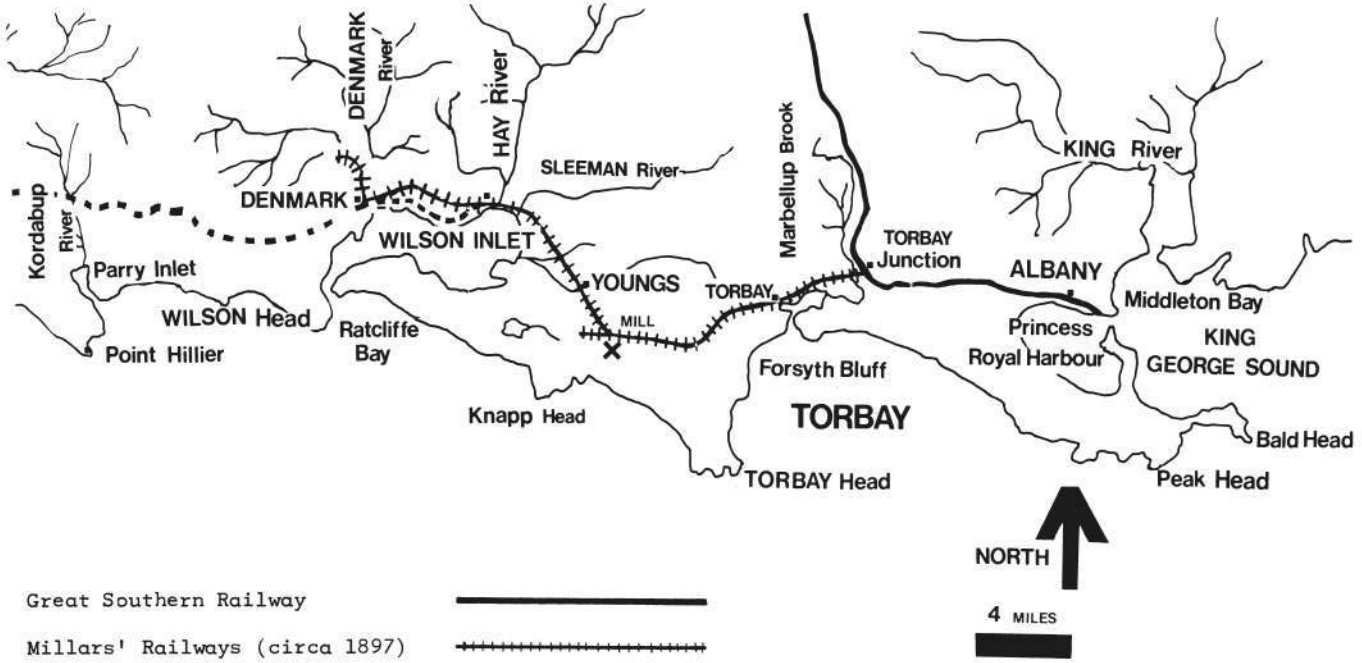
In 1886 Millars let their timber lease lapse.[9] Some time later they dismantled their mills and brought the machinery into Albany.[10] In 1889 more timber was needed for the completion of the GSR contract and a temporary mill was set up in Albany. This mill was closed in 1890[11] and the workers sent back to Victoria.[12]

Torbay railway proposals

Millars had discovered the potential of karri, but the markets were limited and far away. A lot of propaganda was needed before regular orders could be attracted.[13] Luck was with them, for they secured a karri contract for harbour works in Melbourne, which provided them with work for three years.

Even with a small steamer, the methods Millars had used to get timber out of Torbay had been risky. For the big ships that would be carting timber to the east, Torbay would be unsuitable as a loading place. To the east lay the port of Albany which could cope with the large ships and at which loading facilities existed. The GSR already stretched some miles towards Torbay, before swinging north towards Mount Barker. The most suitable method of removing timber from the Torbay area was by rail.





SOURCES

1. ALBANY 1942, Army Survey Map.
2. "South-west of Western Australia" c.1900, in the Battye Library, Perth.
3. Map in the micro-film files of Millars Timber & Trading Companies, in the Battye Library, Perth.

TORBAY AREA

Western Australia

Map drawn by C. W. Jessup, May 1970, and traced by S. Reynolds.

There was no question of the government providing entrepreneurs like Millars with railway facilities or ports. Millars had to provide all, sinking vast amounts of capital into their venture before returns could be expected. Under such circumstances they would wring from the government whatever concessions they could by all sorts of means.

Millars had to maximize their profits to justify their investment. There was no intention to rotate cutting through the forests, all trees in an area would be cut and that area abandoned.

In March 1889 a letter was received by the Western Australian Legislative Council from Millars.[14] This proposed construction of a 3-ft. 6-in. gauge railway to run off the Great Southern Railway about ten miles from Albany, and to run towards Torbay. The railway was proposed to be constructed on the land grant scheme - as such Millars were committing themselves to becoming common carriers. This would have given Millars a chance to build their line and defray costs. The scheme was worded as "one for utilizing the Torbay karri forests conjointly with the settlement of a tract of country bounded on the north by the Western Australian Land Company reserve,,and on all other sides by the coastline from Torbay Inlet to Ratcliffe Bay" - roughly 30,000 acres.[15]

As was the manner in those times, a Parliamentary Select Committee was appointed to inquire into Millars' proposals. Millars had angled to gain government approval by providing that - "at the expiration of seven years from the date of completion of the railway the government shall have the right of purchase of the same at the rate of £1,000 per mile. But if the government shall not exercise such right then on the expiration of 14 years....the line shall revert and belong to the government absolutely". Tossing in a free railway to the government after 14 years was a juicy piece of bait.

In fact at the end of 14 years the government - in the Select Committee's opinion - may have been required to take over a land cut out "of no immediate practical value", a railway running to nowhere with no traffic to support it.

Millars therefore agreed to bring one-twelfth of the area into cultivation during the first seven years, and another one-twelfth in the following seven years - the logic being that by the time the government took over, enough traffic would be generated to enable the line to pay.

Amid cries of "growing markets", "trade for Albany", and "settlers" (this word had some religious awe about it in Western Australia at this time) Millars' scheme was approved by the Select Committee.[16] For their troubles Millars were to receive 2,000 acres of land per mile of railway built, plus two acres per £1 rent paid for Torbay Special Occupational Leases. The Western Australian Land Company had not taken up the land Millars wanted at Torbay, and while it would be hard to prove that this was a deliberate decision on the part of the W.A. Land Co., it could well have been - their Great Southern Railway gained valuable freight by the establishment of Millars' mills at Torbay.

Torbay railway approved

An abortive attempt was made to have the Torbay Railway Bill passed in Parliament as a Public Bill, the Speaker having ruled it out of order as a Private Bill.[17] However, after some muddling, the legislation was passed and on 18th. November 1889 the agreement between the company and the government was signed.[18]

Erection of a timber mill five miles west of Torbay Junction was completed well before this date, as the first loads of timber were shipped through Albany on 2nd. October 1889.[19] During construction in September, work was sus-

pended on account of the wet weather. The railway was being built at this stage - "at a heavy cost to Millars on account of the swampy land it passes through".[20] By early December Millars had completed branch timber tram lines, and were pushing on with the construction of the main line between Torbay and Torbay Junction.[21]

About fifty men were working on the main line, which was about 12-miles long, with 45-lb. rails, and was said to have 20-chain curves and 1 in 60 grades.[22] It cost about £2,500 a mile to build.

As the railway neared completion the "Advertiser" in Albany lamented that "we cannot see that the Torbay railway, if it stops at the 12 mile post, will ever attain the dignity of anything better than a timber tramway".[23] It claimed that "when the scheme was introduced it was proposed to run a line, not merely to Torbay, but right through the south-west district to Vasse or Bunbury". The author has not uncovered any evidence to support this claim. Such a scheme would appear to have been beyond the capacity of Millars. As early as 1884[24] suggestions were made for the construction of a line to Bunbury from Albany on the Land Grant scheme. Right up until the closure of the line to Nornalup in 1957 Albany had always favoured numerous proposals to link Bunbury by direct railway.

Railway commences operation

The official opening date of the Torbay railway is given as 18th. November 1890 in the Western Australian Railways Annual Report for 1889! It appears to the author that Millars were using the line when they sent out their first shipment of timber on 2nd. October 1889. By the end of 1890 two mills were operating at Torbay,[25] and 25% of Western Australia's timber exports were coming from here.[26]

Early in 1890 Professor Brown from Melbourne, an agricultural expert, arrived in Albany to advise Millars about their estate's agricultural prospects.[27] His advice is not known. It appears Millars did spend between £8,000 and £10,000 in clearing bush for settlers' farms. This work was carried out during a period when it was almost impossible to get anyone with the money needed to settle.[28] Millars had originally canvassed the idea of their workers taking up blocks. This did not eventuate and their agricultural scheme was a failure.

Millars proceeded with optimism on their Torbay timber estate. During 1890-91-92 their agent in London had succeeded in arousing interest in karri amongst dock and railway contractors. To meet an increasing demand for their timber, a third mill was built 12 miles from Torbay Junction. Unfortunately soon after this, business slumped badly[29] to half the 1892 level.[30] Operations at Torbay halted,[31] and the closed mill was sold to J. McDowell, contractor for portion of the Eastern Goldfields Railway, who shifted the mill to Byfield.[32]

Early train services

Little information is available about railway working on the line between 1889 and 1894, no timetables or track diagrams having been found. It is likely that Millars' locomotive - and there appears to have been only one (named "Denmark") in the first six years of the railway's life - made numerous trips over GSR metals.

Extension to Denmark

During 1895 Millars secured 20,000 acres of karri forests, located around Denmark, from the Western Australian Land Company.[33]

About this time the Salvation Army unsuccessfully attempted to get Millars' Torbay Estate for land settlement. An Italian also tried to acquire the estate for Italian peasant farming.[34] But the estate remained in Millars' hands, to be used to good purpose in 1898. It was not worth Millars' trouble to continue to mill at Torbay, which had almost been cut out before Millars were forced to suspend operations due to lack of markets in 1893.

To reach new areas Millars built a 16 mile extension of their railway to Denmark. This appears to have opened in December 1895 or January 1896,[35] no date having been found in any official files or local newspapers. This was not a land grant railway. The works at Denmark were situated on the western bank of the Denmark River, and were of considerable size. Fifty four-roomed cottages were built for the workers, a store, a butcher's shop, a blacksmith's shop, engineering works, a feed mill and offices were erected by the company. The town was connected by telephone with the company's depot in Albany.[36] The company commenced operations with the construction of a spot mill,[37] which was later replaced by several permanent mills (probably three). The Denmark site was a great improvement on the Torbay site, which had been in a swamp, according to the Advertiser.[38]

Timber tramways

At the beginning of 1896 five miles of tramway had been laid into the forest, and more was in the course of construction. The Albany Advertiser of 23rd. June 1896 has some interesting comments on operation - by this stage two tramways had been built, leading out of the town (Denmark) into the forest. One ran straight west (no maps exist showing its exact route), the other followed the Denmark River for nearly four miles. "The route lay along the valley, the object in keeping the line... so that there shall be no hauling of logs up a rise". While the Advertiser's reporter had been present "the little engine working on the log hauling tramway had been coming and going all morning". Presumably the locomotive was Denmark. Logs were delivered at the top of a slope into the mill, where they were processed then dumped as sawn timber into rail trucks. The mills were working day and night producing karri beams, which would later be cut into blocks for road making purposes.

The Forests Report of 1896 states that the mill tramways were being worked by two Baldwin locomotives and eighty trucks, output at that stage being 350 loads of timber per week. Output expanded over the next two years, so that by 1898 the company was cutting 7,900 trees over 4,000 acres; 31,625 loads of timber being sent out. 450 persons were being employed at the Denmark mills, the total population of Denmark probably exceeding 1,000. 176 horses and 146 bullocks were associated with timber extraction. The company was operating 28 miles of railway and about 12 miles of tramway, and the total horsepower of engines used in the mills was 165.[39] Millars also owned a small steamer on the nearby Wilsons Inlet.[40]

On the 23rd. September 1896 the Western Australian Land Company and Millars signed an agreement giving Millars running rights over portions of the Great Southern Railway for £2,500.[41] Negotiations for a take-over of the GSR by the government had already commenced in February 1896. Reference to timber being

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Photograph opposite

A train of 10 karri logs totalling 34,000 super feet of timber, in the Denmark Hills, west of Albany, Western Australia. This photograph was probably taken on the timber tramway running north out of Denmark. The locomotive is a Baldwin 2-4-2ST & T, and the date is about 1896.

run over the GSR at a special rate for Millars is also made in the Western Australian Railways Annual Report for 1898. These special rates were to continue after government take-over of the GSR. By entering a running rights agreement with the GSR, Millars put themselves in a strong position to retain special rates when the government took over the GSR.

Stations

By 1898 stations on Millars' railway existed at Torbay, 347$\frac{1}{4}$ miles (from Perth); Youngs, 356$\frac{3}{4}$ miles; Hay, 361$\frac{3}{4}$ miles; and Denmark, 369$\frac{1}{4}$ miles.[42] From 1896 to 1903 Millars ran at least two trains a day into Albany.[43] It is not clear whether Millars had running rights over the WAGR, or locomotives were changed at Torbay Junction. This timetable provided the very few settlers along the railway with a good service.

In 1897 Millar Brothers formed themselves into a limited liability company - "Millars Karri & Jarrah Forests Limited". By 1898 nine years had passed since the company had commenced the Torbay line, and at the end of a further five years they would have had to hand the first twelve miles (Torbay Junction - Torbay) of their Denmark railway back to the government. Millars decided to renegotiate with the government, as they had tried to do at an earlier stage in about 1895.[44] The company wanted the freehold of the whole railway between Torbay Junction and Denmark, whilst according to Sir John Forrest, then Premier of Western Australia, the government did not want to have to take over the first 12 miles.[45]

As a concession to the government to amend the original agreement, the company agreed to hand back the land which it had been granted at Torbay, together with a block of 1,500 acres which it owned in that area. So by amending the agreement the people of Western Australia did not get a free railway - instead they got 23,500 acres of cut-out scrub! The government was to attempt to place settlers on this scrub where Millars had failed. Amendment to the agreement was passed through the Legislative Assembly on 12th. October 1898. In following years some very nasty things were said about this amendment.

Closure

Timber cutting around Denmark could not continue indefinitely at the hectic rate at which Millars were proceeding. During 1898 Millars applied for a lease over 60,000 acres near the Deep River which runs into the Nornalup Inlet, but some hitch occurred and their mills here did not materialize.[46] If they had it seems probable that Millars would have extended the Denmark railway still further west. Unable, or unwilling, to expand into timber areas in this region, it was only a matter of a few years before the Denmark mills, along with the railways, would be forced to close. On the 30th. September 1904[47] the Denmark mills closed, pending the result of a contract. They reopened a week or two later, finally closing around 28th. March 1905.[48]

In the six years prior to closure the government had persuaded a few settlers to take up blocks on the land Millars had surrendered in 1898. The only way these settlers could get their produce to Albany was along the railway line. During the winter and spring tracks were impassable. The settlers had a real concern in seeing that the railway service was maintained. Sometime before October 1904 a number of settlers in the area had petitioned the Minister (for Railways I believe) to come to some arrangement whereby the government would take over the railway. The Minister promised an investigation.[49]

Meanwhile at Denmark, closure of the mills meant collapse of the town. The mills had made the town and provided the railway with almost all of its

traffic. As early as Autumn 1903 the two trains a day out of Denmark had been made conditionals.[50] By the end of March 1905 about the only people still at Denmark were men employed to dismantle the tramways running into the forests.[51]

Albany was to suffer too. For ten years, the coming and going of a great number of sailing ships and deep sea steamers, loading timber, had kept the port of Albany busy while it struggled to retain other types of freight from Fremantle. In 1902 as many as 29 sailing vessels were employed in the Albany timber trade.[52]

On 14th. October 1904 a meeting of 200 people in the Albany Town Hall discussed the threatened closure of the Denmark railway. This meeting was attended by the Attorney General, his speech only incensing most of those present. He had sought a legal opinion on the obligation of the company to continue running trains - ... if the contractors (Millars) could show an Arbitration Board that the traffic is unpayable, that it would be unreasonable to call upon them to run it at a loss ... then the Arbitrators have the power to release the contractors from their obligations ... if it was unprofitable for the contractors to run a service ... then the government would not be justified to take the service over and run it at a loss.

Under Clause 32 of the agreement the government had a right to exercise safe running rights, meaning that the line had to be kept in such a condition that the government could safely run a train on it. Under its agreement, the company could not dismantle the railway.[53] During the first few months of 1905 a train service to Denmark was maintained by the company as it carted out material, but this service ended on 31st. May.[54] Settlers' attempts to get a tri-weekly service going failed.[55] Millars meanwhile had offered to give up their Denmark railway and 21,000 acres of freehold land if the government would give them a lease of 100,000 acres of timber in the Warren River district, rails and fastenings equal to those on the Denmark line, and government freight rates of a half-penny per ton per mile on their timber. The government was not prepared to accede to such demands.[56]

During the winter of 1905 the settlers along the line began to suffer from its closure. Their children could no longer get to school at Denmark by train, they no longer had mail delivered by train, and they could not get their produce out along the "slushways". Several settlers abandoned their holdings. A fish company that had been supplying all of Kalgoorlie's fish, folded up, unable to get its fish out along the roads.[57]

Government takeover

After their original offer to "trade" had been rejected, Millars attempted to negotiate a new deal, but their efforts were thwarted when the government they were negotiating with was thrown out at the polls.[58] The new government, under Mr. Moore, was willing to negotiate a purchase even if the line was to be run at a loss. Early in 1906 Millars submitted to the government a valuation of their Denmark railway, Denmark township and 21,000 acres of land.[59]

The remaining settlers were now desperate. They had almost succeeded in getting a rail service established during Spring 1905, the government having been prepared to run a train ... but Millars had threatened to sue them if they did! They were pressing the government with all their energy to have their latest offer approved.[60] However the government rejected it and several further offers were proposed, including Millars running the train bi-weekly for £1,750 per year.[61] All were rejected. By the end of 1906, Millars had been beaten down by £75,000 to £50,000 for railway, township and land.[62]

"Jarrah", Baldwin 2-4-2ST&T locomotive, B/No.14591 of 1895. The photograph is believed to have been taken on Millars' Elleker - Denmark line (Western Australia) in the first few years of this century.

Photograph -
Millars (Australia) Pty.Ltd.
Courtesy G. J. Higham.

Millars' Elleker - Denmark railway (Western Australia), showing a train hauled by a 2-4-2ST & T locomotive crossing the Denmark River. The date is about 1896.

Towards the end of 1906 a Mr. Dartnall from the Western Australian Government Railways was sent to value the Denmark railway. His valuation was - earthworks £250 per mile; railway £500 per mile; ballasting £150 per mile; bridges £1,500; culverts £125; and points and crossings £80. He claimed it could be kept in order by five gangers for £2,680 per year to allow a speed of 15 mph.[63] The railway department was completely against purchasing the line and having to run it at a huge loss. They produced figures to show that total revenue from the line would only be about £225 per year.[64] Their advice was ignored.

By early 1907 the pressure of the settlers along the railway, supported by many Albany residents, coupled with Millars' eagerness to sell and the government's favourable attitude to land settlement, had led to an advanced stage of negotiation.

In February 1907 the government announced its intention to buy,[65] and agreement over terms had been reached by 20th. April.[66] Millars agreed to allow the WAGR to run trains on the line at a peppercorn rental until parliament sanctioned purchase.[67]

First WAGR train

Gangers completed repairs on the line[68] which had only been used a few times in the previous two years - and at 8.00am on 4th. May 1907 the first bi-weekly train left Albany. It is recorded that the train returned to Albany with a total load of 11 bags of potatoes![69]

When parliament was asked to approve of the purchase in November 1907, a number of M.P.'s became rather upset when they realised that, besides paying for the railway, the government was also paying for about 60-70 worn out buildings in Denmark. The government was buying back land it had originally given away free to the Western Australian Land Company. One M.P. attempted to have the purchase price cut back to £30,000; but the purchase at £50,000 was authorized.

So ended Millars' association with Albany and Western Australia's third land grant railway.

Extension proposals

From 1884 numerous proposals had been made to link Bunbury with Albany, but nothing eventuated until November 1922 when the settlement-crazed Premier of the time introduced a bill for a line from Jarnadup to Denmark - 115 miles long through thick forest. This bill was defeated, but during 1923 an Albany - Denmark extension bill was passed authorizing a line to near Nornalup Inlet. This was the first stage in a proposed eventual link with Bunbury. Several miles of new track was opened around the shores of Wilsons Inlet, between Hay River and Denmark (see map p.7) to provide better grades than those on the old Millars' alignment. The ruling grades between Bunbury and Albany were to be 1 in 60.

The deviation was taken over by the WAGR on 4th. June 1929, and the 44 mile extension towards Nornalup Inlet was opened on 11th. June 1929. The next stage, a link between Northcliffe and Nornalup was never completed.

In 1956 the Torbay Junction (now Elleker) - Nornalup line was included in a list of lines to be closed. The activities which took place in an attempt to prevent this closure would make an interesting article in themselves, but I will not touch on them here. Rightly or wrongly the whole line closed on 30th. September, 1957. I would be interested to hear from any readers who could add more to the history of this line.

LOCOMOTIVES

(A tabulated list of locomotive dimensions appears on p.19)

"Denmark"

The first locomotive used on the line appears to have been an 0-4-0 saddle tank, named "Denmark", and built at the Baldwin Locomotive Works, U.S.A., in April 1890, builder's number being 10770. The locomotive was shipped to Millars at Albany via London. In February 1902 it was sold to Western Australian Firewood Supply Limited, and used on their firewood tramway at Kurrawang on the Eastern Goldfields Railway between Coolgardie and Kalgoorlie. It was then sold to Bunning Brothers in December 1905, and was used by Perth Jarrah Mills Limited at Lion Mill, later known as Mount Helena.

In September 1920 it was sold to C. Plavin & Co. and was used at Plavin's siding on the Pinjarra branch. By 1924 the locomotive was at Bowelling where it was owned by the Australian Timber Company. This company was in liquidation by June 1927, and the locomotive is believed to have been scrapped about this time.

"Jarrah"

This was a 2-4-2 saddle tank and tender locomotive, built at the Baldwin Locomotive Works, Philadelphia, U.S.A., in 1895, having builder's number 14591 and road number 1. Between September 1905 (or earlier) and some time in 1907 it is believed to have been stored at Albany. By June 1908 it was at Millars' Yarloop mill. Until January 1945 it worked on various of Millars' mill lines. It then worked on Bunning Brothers' Manjimup - Nyamup mill line. Later in 1945 it was at Lyall's mill near Collie. By April 1946 it had been returned to Millars' Yarloop workshops and had been cut up for scrap in August 1958.

"Karri"

This was a 2-4-2 saddle tank and tender locomotive, built at the Baldwin Locomotive Works in 1895 (B/No. 14580, road No. 2). It was slightly smaller than "Jarrah". "Karri" worked on the Denmark line until 1902. It subsequently worked for Millars Karri & Jarrah Company (1902) Limited at Worsley, Kirup, Canning Mills and Barton Mill. By September 1909 it was at the Murchison Firewood Company's line at Nallan, on the Mullewa - Meekatharra line. The Westonia Firewood Supply Company (a Bunning Brothers subsidiary) purchased it in November 1918, but by March 1921 it was at Lion Mill, Mount Helena. It was in use at Lyall's mill by November 1922, and Argyle mill by January 1925.

It was then leased to Western Australian Jarrah Forests Limited (now the Adelaide Timber Company) and was at their Witchcliffe mill by January 1927. It returned to Lyall's mill, near Collie, by July 1928. It was apparently out of use from then, and its date of scrapping is uncertain, although Machinery Department records give the date as 1956.

"Grafter"

This was a former South Australian Railways "X" class 2-6-0 locomotive, purchased from the SAR by Millars on 29th. December 1896 for use on the Denmark line. It was built at the Baldwin Locomotive Works in August 1880, being builder's number 5244 and SAR No.X 49. It was named "Grafter" by Millars, after a Melbourne Cup winner. By February 1906 the locomotive was at Millars' Yarloop mill, and was subsequently used at many of Millars' mills. It was scrapped by October 1942.

"Jubilee"

A 4-6-2 locomotive built at the Baldwin Locomotive Works in August 1897, builder's number 15434. It was called "Jubilee" as it was built in the sixtieth year of Queen Victoria's reign. By 1904 it had been transferred to Millars' Yarloop mill and subsequently worked at several other mills. It was involved in a bad accident in November 1920, but was repaired, finally being scrapped in 1958 at Yarloop, where its boiler may still be seen today.

"Swan"

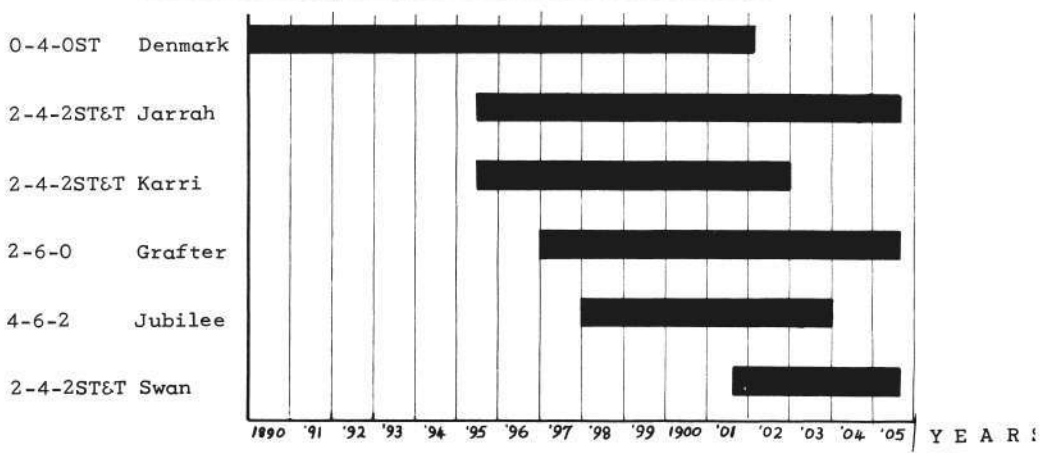
A 2-4-2 saddle tank and tender locomotive built in 1898 at the Baldwin Locomotive Works, builder's number 16313. In early 1899 it was at Millar's Mornington mill, but it had been transferred to Denmark by August 1901 where it stayed until at least February 1905. By August 1905 it had been transferred to Yarloop. "Swan" was used on various of Millars' mill lines. In September 1938 it was leased to Lewis & Stirk of Kirup where it stayed in use until September 1941, and out of use until May 1947. It was then transferred back to Yarloop, and by August 1958 it had been cut up and sold for scrap.

LOCOMOTIVES OF MILLARS' ELLEKER - DENMARK RAILWAY

Builders - All locomotives were built at the Baldwin Locomotive Works, Philadelphia, U.S.A.

No. & Name	Wheel Arrangement	B/No. & Date built	Driving wheel diam.	Cylinder diameter & stroke	Approx. weight, Tons	Boiler pressure P.S.I.	Grate area, sq.ft.
- Denmark	0-4-0ST	10770 1890	28-in.	8-in. x 12-in.	9	160	5.4
1 Jarrah	2-4-2ST & Tender	14591 1895	37-in.	14-in.x 16-in.	35	160	10.25
2 Karri	2-4-2ST & Tender	14580 1895	37-in.	14-in.x 16-in.	35	160	10.25
- Grafter	2-6-0	5244 1880	38-in.	14½-in.x 18-in.	38	130	15.62
- Jubilee	4-6-2	15434 1897	39-in.	16-in.x 20-in.	62½	160	14.5
- Swan	2-4-2ST & Tender	16313 1898	37-in.	14-in.x 16-in.	35	160	10.5

GRAPH SHOWING APPROXIMATE PERIOD WHICH EACH LOCOMOTIVE SPENT WORKING ON MILLARS' DENMARK - ELLEKER RAILWAY.



ACKNOWLEDGEMENTS

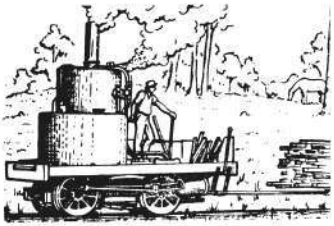
I would like to thank A. Gunzburg, G. Higham, and the staff of the Battye Library, Perth, Western Australia.

REFERENCES

1,2,3,4,5 J.R. Robinson B.A.(Hon), Thesis "A History of the Timber Industry of Western Australia", 1956, University of W.A.
6 Western Australian Historical Society Magazine, Vol.1, No.5, 1929, page 29, "Sawmilling in Western Australia" by W.C. Thomas.
7,8 Albany Mail and King George Sound Advertiser,13th. April 1887.
9 Robinson's thesis
10,11,12,13 W.C. Thomas' article,p.39
14,15,16 W.A.Votes & Proceedings 1889
17 Parliamentary Debates, 1889
18 Annual Railway Report,W.A., 1889
19 Albany Advertiser, 2nd. Oct.1889
20,21 West Australian,18th. Sept. 1889
22 Parliamentary Papers 1889
23 Albany Advertiser, 27th. Sept. 1889
24 Albany Mail and King George Sound Advertiser, October 1884
25 W.C. Thomas' article, p.39
26 Robinson's thesis
27 West Australian, 6th. March 1890
28 Australian Advertiser, 20th.June 1896
29 W.C. Thomas' article, p.40
30 Robinson's thesis
31 Albany Advertiser, 25th. Dec. 1893
32 W.C. Thomas' article, p.40
33 Parliamentary Papers, Report on the Forests of Western Australia, 1896
34 Australian Advertiser,20th. June 1896
35,36 as for 33
37 W.C. Thomas' article, p.41
38 Albany Advertiser, 20th. June 1896
39 Parliamentary Papers, Report of Woods & Forests Department, 1897-8
40 Albany Advertiser, 23rd. June 1896
41 Microfilm 1544A, Battye Library, Perth.
42 Annual Railway Report W.A., 1898
43 Albany Advertiser, 27th. Jan. 1906
44 Australian Advertiser, 20th. June 1896
45 Parliamentary Debates, W.A., October 1898
46 Robinson's thesis
47 Albany Advertiser, 1st. Oct. 1904
48 As above, 29th. March 1905
49 As above, 1st. October 1904
50 WAGR Weekly Notice, No.16, 1903
51 Albany Advertiser, 29th.March 1905
52 W.C. Thomas' article, p.42
53 Albany Advertiser, 15th.Oct. 1904
54 As above, 3rd. May 1905
55 As above, 31st. May 1905
56 As above, 8th. April 1905
57 As above, 28th. February 1906
58 As above, 23rd. December 1905
59 As above, 17th. January 1906
60 As above, 18th. November 1905
61,62,63,64,65 Parliamentary Debates, 12th. November 1907
66 Albany Advertiser, 20th. April 1907
67 As for 61
68 Albany Advertiser, 27th April 1907
69 As above, 4th. May 1907

The following books and files were also referred to -

"South-west Region of Western Australia" by Alex Kerr, University of W.A., 1965.
"Railways of Western Australia" by Trant Chambers, 1895
Microfilm records of the files of Millars' companies and the Western Australian Land Company. All the above are in the Battye Library, Perth.



News, Notes & Comments

NEW SOUTH WALES

Tarrawingee Tramway (3-ft. 6-in. gauge)

Further to the item in LR No.32, p.24; Andy Lyell has pointed out that this tramway was built and owned by the Tarrawingee Flux & Tramway Company, for the purpose of supplying limestone for use as flux at the Broken Hill smelters. Shortly after the opening of the line in 1891 some of these smelters began to close, and by 1898 all smelting had been transferred to Port Pirie, and the line was closed. Later the same year it was purchased by the New South Wales government, which entered into an agreement with the Silverton Tramway Company to operate the line on its behalf. This agreement was renewed during the life of the line, which finally closed on 1st. January 1929.

The Royal Australian Survey Corps map of the area describes the open cut workings at Tarrawingee as "Disused Tin", hence my comment in the last issue that the Tarrawingee tramway served a tin mine. Apparently official government maps cannot be relied on to accurately describe the geology of Australia.

(Frank Stamford)

TASMANIA

Tullah Tramway (2-ft. gauge)

The Electrolytic Zinc Company has decided that the 0-4-0WT Fowler locomotive, "Wee Georgie Wood" will be restored and put on display at Tullah. The engine's working life was ended in 1962 by the completion of the Murchison Highway, connecting Queenstown and Burnie. For a few more years it hauled ore trucks half a mile from the Mount Farrell mines to the flotation plant at Tullah. Since the EZ takeover of the Mount Farrell Mining Company in 1964 the locomotive has worked only once, to give joy rides to company officials and their families over the remaining half mile of track.

Although the EZ Co. has made a firm decision to preserve the locomotive, the exact method of display has not yet been decided.

(Saturday Evening Mercury, 26th. Sept. 1970)

VICTORIA

LRRSA Lal Lal Ironworks Tour, 20th. September 1970

A tour with a difference was held by the Society on Sunday, 20th. September. The destination was the old blast furnace site of the Lal Lal Iron Mining Company at Lal Lal, near Ballarat, where we intended to inspect the

remains of the workings and hopefully, to trace out the routes of the tramways linking the various parts.

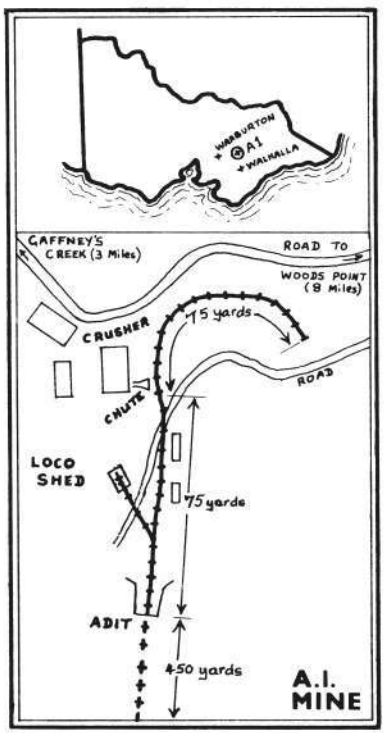
After assembling at Ballan the convoy of nine cars conveying 32 tourists set off for Lal Lal railway station to inspect this architectural gem (National Trust classification B) without the distraction of locomotives in the foreground, then proceeded to the Lal Lal falls picnic reserve for lunch.

Following this the business part of the day commenced. Arriving at the furnace site, to the consternation of a couple of picnic parties already in residence, we invaded the workings in force and for the next two hours the bush-land rang with "I reckon....." followed by "Yes, but.....". Material finds were slight (one dogspike) but a reasonably accurate survey of the field was made. Unfortunately the elusive tramway to Lal Lal itself, built in 1883, remains elusive.

Although the tour had less railway interest than usual, it made a pleasant day and provided the opportunity to become amateur archaeologists for a short time on the site of one of Victoria's lesser known industrial enterprises.

(Arthur Straffen).

Al Mine Settlement, Gaffneys Creek (2-ft. gauge)



Arthur Straffen recently visited the Al Mine Settlement - Victoria's last working gold mine - where he found a 2-ft. gauge four-wheel 48-volt battery-electric locomotive at work at the mine. The locomotive was built by Greenwood & Batley Ltd., of Leeds, England, in 1948, being their B/No. 2129. Rolling stock consists of 4 four-wheel tip wagons, and one four-wheel flat truck, all with link and pin couplings. 15-in. gauge hand trucks are also used inside the mine. The locomotive shed contains battery charging facilities.

Walhalla & Thomson River Steam Tramway Company Pty. Ltd.

Work on the formation of the Company has been completed, and the W.&.T.R.S.T. Co. Pty. Ltd. has now been registered. Much of the platform at Walhalla has been levelled and some of the coping has been put on. A vertical-boilered vertical-cylindered steam concrete mixer is being constructed.

The Company is at present building sleeping quarters for its workers. Before further construction of the railway is attempted, it is intended to build a sleeper sawmill, and recondition a front-end-loader and Albion truck which are already in the Company's hands. It is intended to cart the old NQ trucks from the Erica sawmill, and obtain some rail from Fyansford.

The Company is looking for a jack hammer for digging into rocks, the services of someone with a truck to cart short lengths of rail, and a 25hp motor for the air compressor. Any readers who can help should write to the W.&.T.R.S.T. C/- Ferris's General Store, Walhalla, Vic.3825.

(From W.&.T.R.S.T. News Letter, Spring 1970)

(The intention of the W.&.T.R.S.T. is to lay a stretch of 2-ft. 6-in. gauge track on the formation of the V.R.'s Walhalla railway at Walhalla. Permission has been granted to use the right-of-way for this purpose. The locomotive to be used is a 2-4-2ST built on the frames of an ex West Melbourne gasworks 0-4-0 Couillet locomotive, B/No.861 of 1886. We hope that we will be able to bring readers further news of this interesting project.- Editor).

Powelltown Tramway (3-ft. gauge)

On top of Mount Beenak, near Powelltown, a tourist shelter has fairly recently been erected. The roof is supported by six rails, three are grooved tramway rails with no apparent identification, the other three are "railway" rails with the name BLAENAVON 1875 MD (or MO) rolled on them. These rails are about 4-in. wide across the foot, 4-in. high, with a head 2-in. wide. The tram rails are also about 4-in. wide and 4-in. high.

(Arthur Straffen)

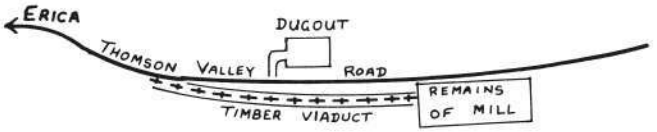
Thomson Valley Tramway (3-ft. gauge)

This tramway ran northwards from Erica to Bell's Camp, and most of it has now been converted to the Thomson Valley Road. However the Department of Lands and Survey map "Walhalla B" (or 851 B, zone 7) of 1952 shows the tramway located beside the road, although the South Cascades Creek was the northern extent of the road at that time. On the newer Forests Commission map (Walhalla 851) the road is shown on the tramway formation as far north as a location marked "Little Boys Camp". Here the road leaves the tramway formation, and this part might be worth investigating.

The following is a report on items of interest seen on several recent trips to this area.

Sharp's No.2 Mill

The remains of this mill (refer Forests Commission map "Walhalla 851") are on the eastern side of the Thomson Valley Road, opposite a fire refuge dugout. Here a long low timber viaduct with sleepers, leads into the mill below the level of the road.



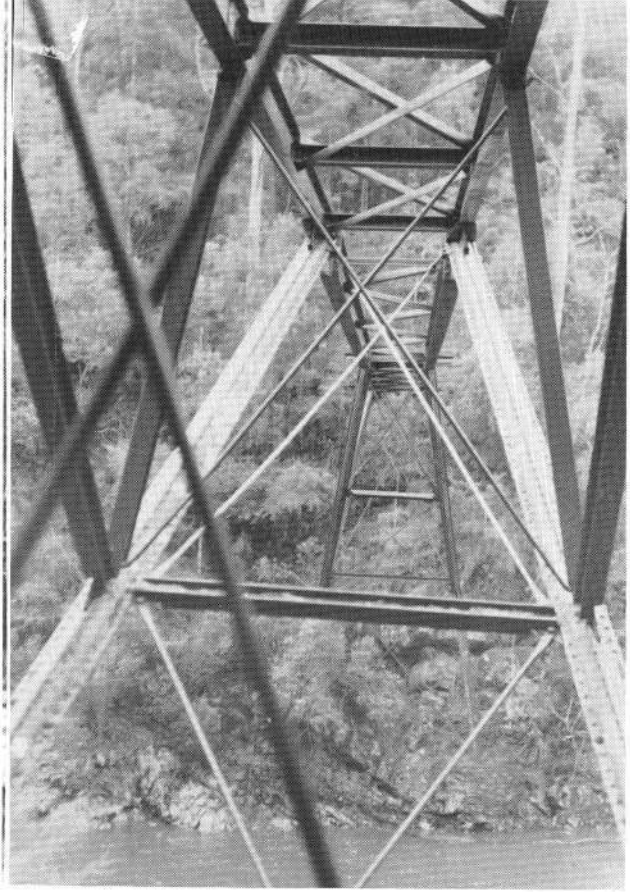
NORTH CASCADES

TRESTLE

Thomson Valley Tramway

19th. July, 1970.

(Photographs -
Ray Jude).



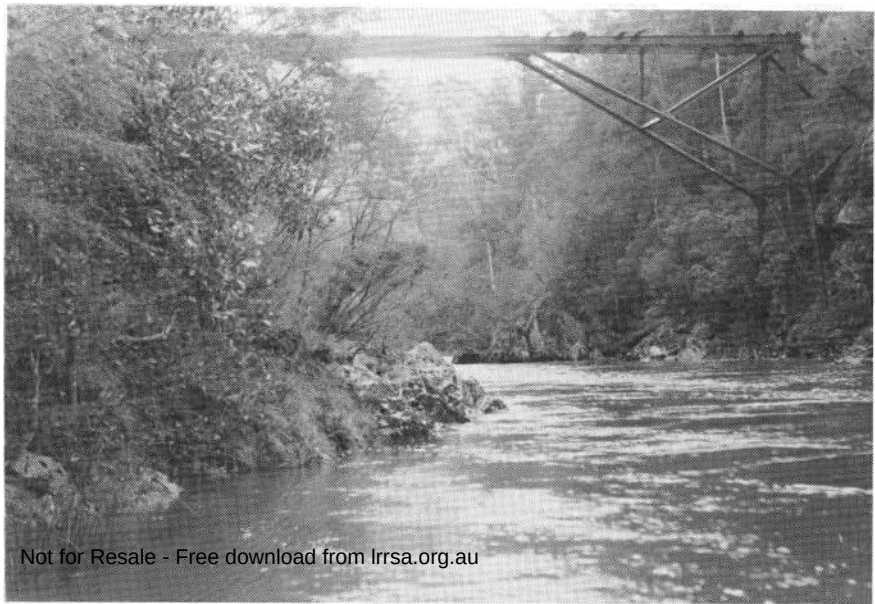
POVERTY POINT BRIDGE

Thomson River, Walhalla.

19th July,1970

This steel bridge was described in LR No.29, p.7, and carried a 2-ft. gauge horse-worked tramway over the Thomson River, about two miles north of the VR's Thomson River bridge. The bridge originally had wooden decking, side handrails, and gates at each end.

(Photo - Ray Jude).



Thomson Valley Tramway (3-ft. gauge), Continued from page 23.

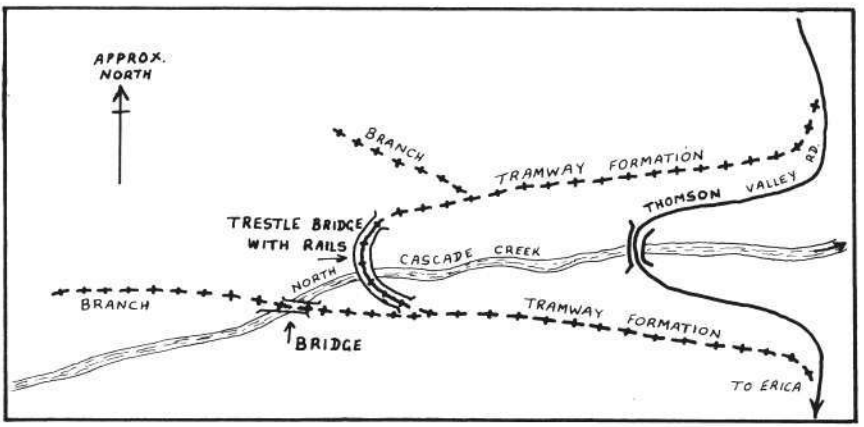
North Cascades Creek

On this location a curved timber trestle bridge, with most of its rails intact, still stands. This is a smaller structure than the South Cascades trestle and one trestle support has sunk slightly and slipped sideways a little. However it is still a worthy relic of the tramway. The road crossing at the North Cascades Creek is inside the curve of the tramway - the opposite situation to that at South Cascades. (See photograph, p.24)

Walking back in the Erica direction along the road from where it crosses the creek a point is reached where the road becomes level, this being where the tramway formation diverges to the right. Sleepers with dogspikes in them lying to one side of the formation confirm that it is an old tramway.

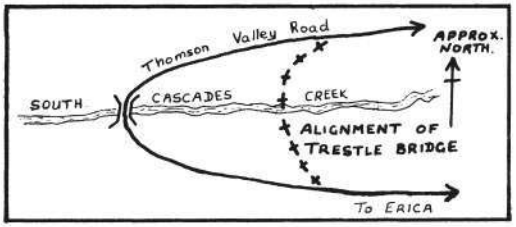
A branch tramway leaves the mainline on the south side of the trestle bridge and drops to cross the North Cascades Creek on a straight, low wooden bridge, now very much decayed. Beyond this is a mill site with what appears to be a trolley run-off, i.e. two short lengths of rail at right angles to the main line. These rails are of the grooved tramway type. The sites of two passing loops may also be discerned.

A wooden-rail branch tramway leaves the mainline and goes up hill on the northern side of the North Cascades Creek, approximately 200 yards from the curved timber trestle bridge.

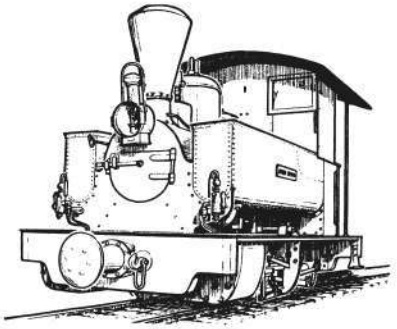


South Cascades Creek

The high timber trestle bridge was demolished a few years ago, and the wreckage lies in the valley. It is located inside the curve of the Thomson Valley road, which loses height and crosses the creek upstream from the tramway bridge. (See photograph, opposite).



(Ray Jude)



LETTERS

John Buckland writes -

"CAP'N 'ANCOCK'S 'PIG' "

(An 0-4-0WT locomotive used at Wallaroo & Moonta copper mines, South Australia; then used on Henry's timber tramway, Forrest, Victoria. See LR No.18, p.12 and 14; LR No.19, p.20, 21 and 22; LR No.20, p.27; and LR No.25, p.34).

The still unresolved (to my satisfaction anyway) question of the precise builder's number allocated by Beyer Peacock & Co., to the diminutive 0-4-0WT which rejoiced in the sobriquet of "Cap'n 'ancock's 'Pig'" came to mind whilst

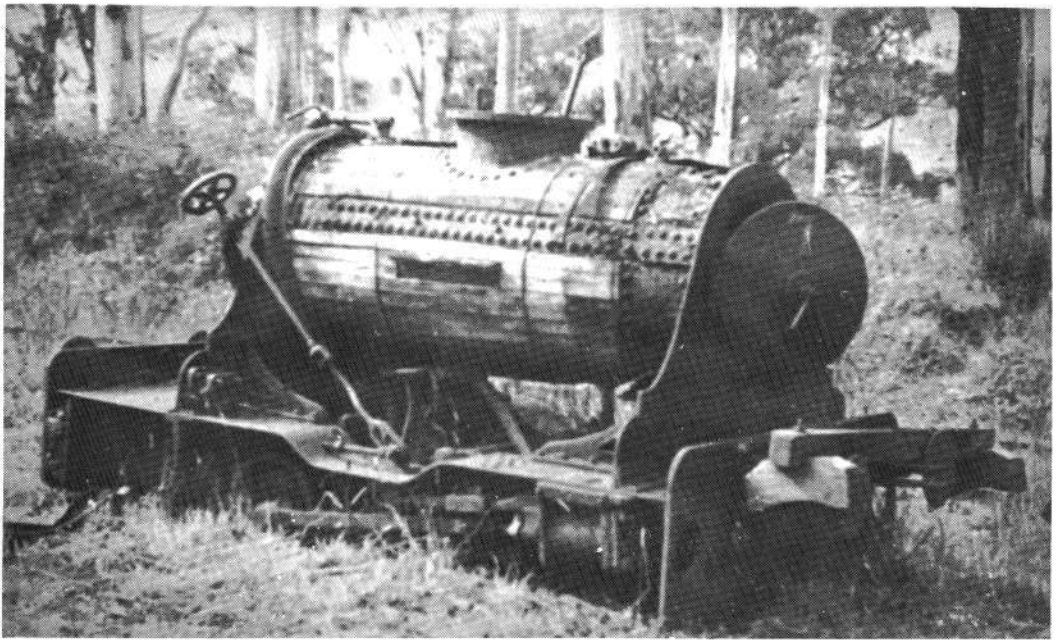
searching through a copy of the Beyer Peacock locomotive list looking for another "mystery" engine.

According to the list compiled by Mr. G.S. Moore of London, who is a recognized authority on all the early British built locomotives and their builders, there is an intriguing entry against B/No. 2158 of 1882, which is stated to have been supplied to "McLean Bros. & Rigg for South Australia."

There are regrettably no further details noted, as to gauge, cylinder dimensions or wheel arrangement, which leads me to speculate whether or not THIS could be the true identity of the 'Pig' at Wallaroo and Moonta, which later ended its days at Forrest, Victoria, particularly in view of the record which states it bore the name SAMSON!

Surely the diminutive nature of the 'Pig' would be just the sort of machine to be given such an inappropriate name?

I would be interested if any reader of Light Railways can offer any further information on this locomotive's identity and dimensions, and particularly its history and ownership in South Australia. McLean Bros. & Rigg I take to have been either the indentors or agents in Britain for the unknown (to this deponent) South Australian purchaser.



"Cap'n 'ancock's 'Pig' ", 0-4-0WT derelict on Henry's 3-ft. 6-in. gauge timber tramway at Forrest, Victoria. A photograph of the locomotive in use was published in LR No.18, p.14.
(Photo - LRRSA Archives).

LIGHT RAILWAYS

NUMBER 34
SUMMER 1970
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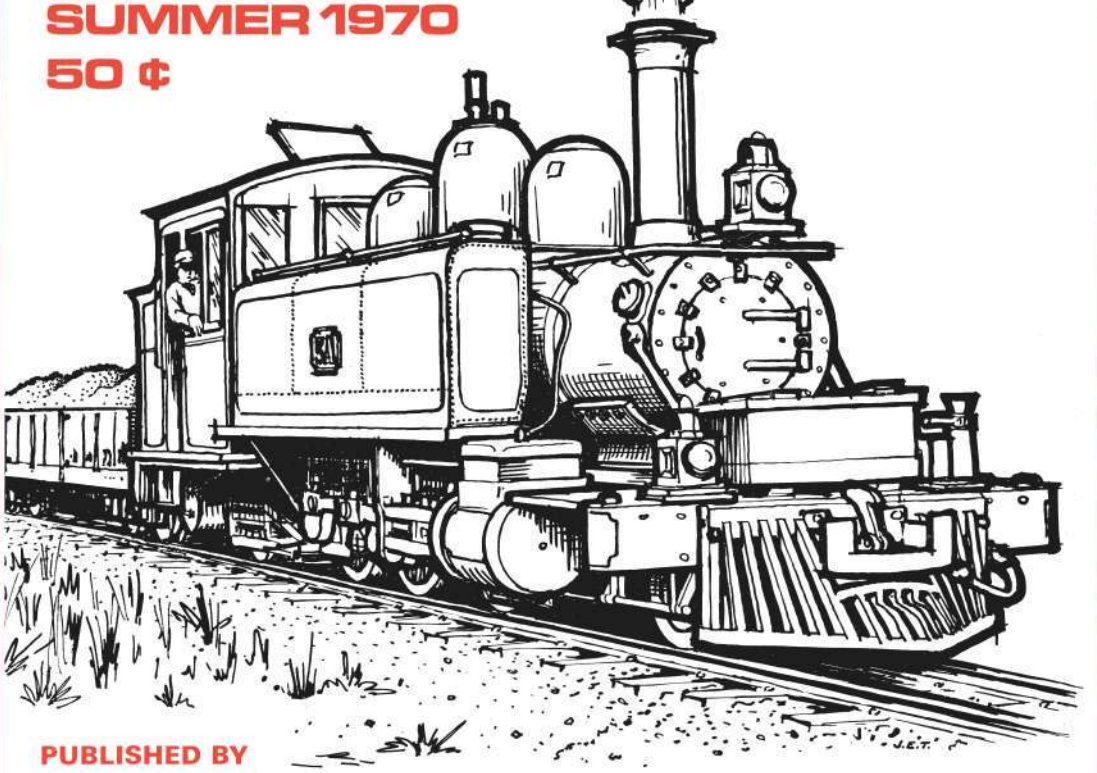

PUBLISHED BY
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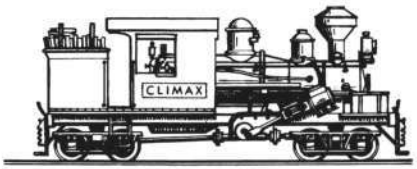
Light Railways

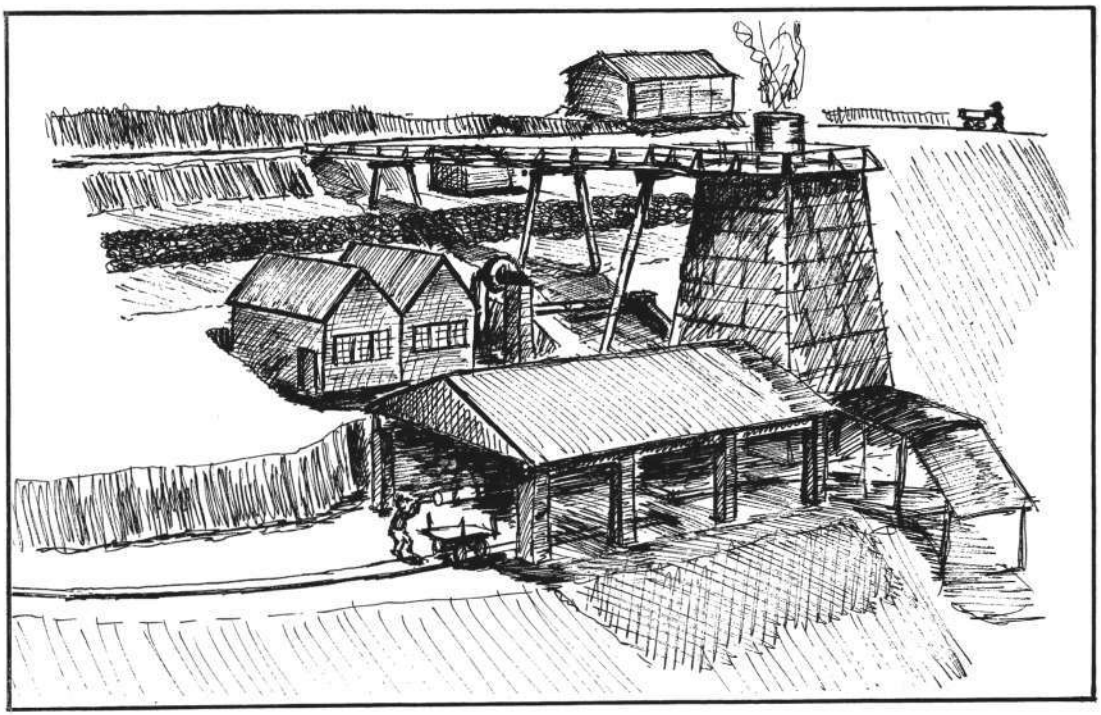
No. 34 VOL. IX

SUMMER 1970-71



Ten Years on...

This issue of "Light Railways" has eight extra pages to mark the tenth anniversary of our Society. The Victorian Light Railway Research Society, as the LRRSA was originally known, was founded in February 1961, with only five members. In the first five years membership never exceeded twenty, and it was not until late 1966 that the Society became more widely known. Nevertheless, the basic aims of the Society were established in 1961 and have not been substantially changed since. Membership has been steadily rising and now stands at over 310.



TO OUR READERS...

Whilst every effort is made to ensure the accuracy of articles published in "Light Railways", errors may creep in. Additional information is being discovered all the time, and this sometimes contradicts previous information.

If you see any errors, or can add information, please contact the Editor, and so help us to record the full history of Australia's light railways.

Articles and News, Notes & Comments items are always welcome.

Historical references to sums of money in "Light Railways" are in Australian pounds (£). One pound equalled two dollars on changeover to decimal currency in 1966.

LIGHT RAILWAY RESEARCH SOCIETY OF AUSTRALIA

COUNCIL

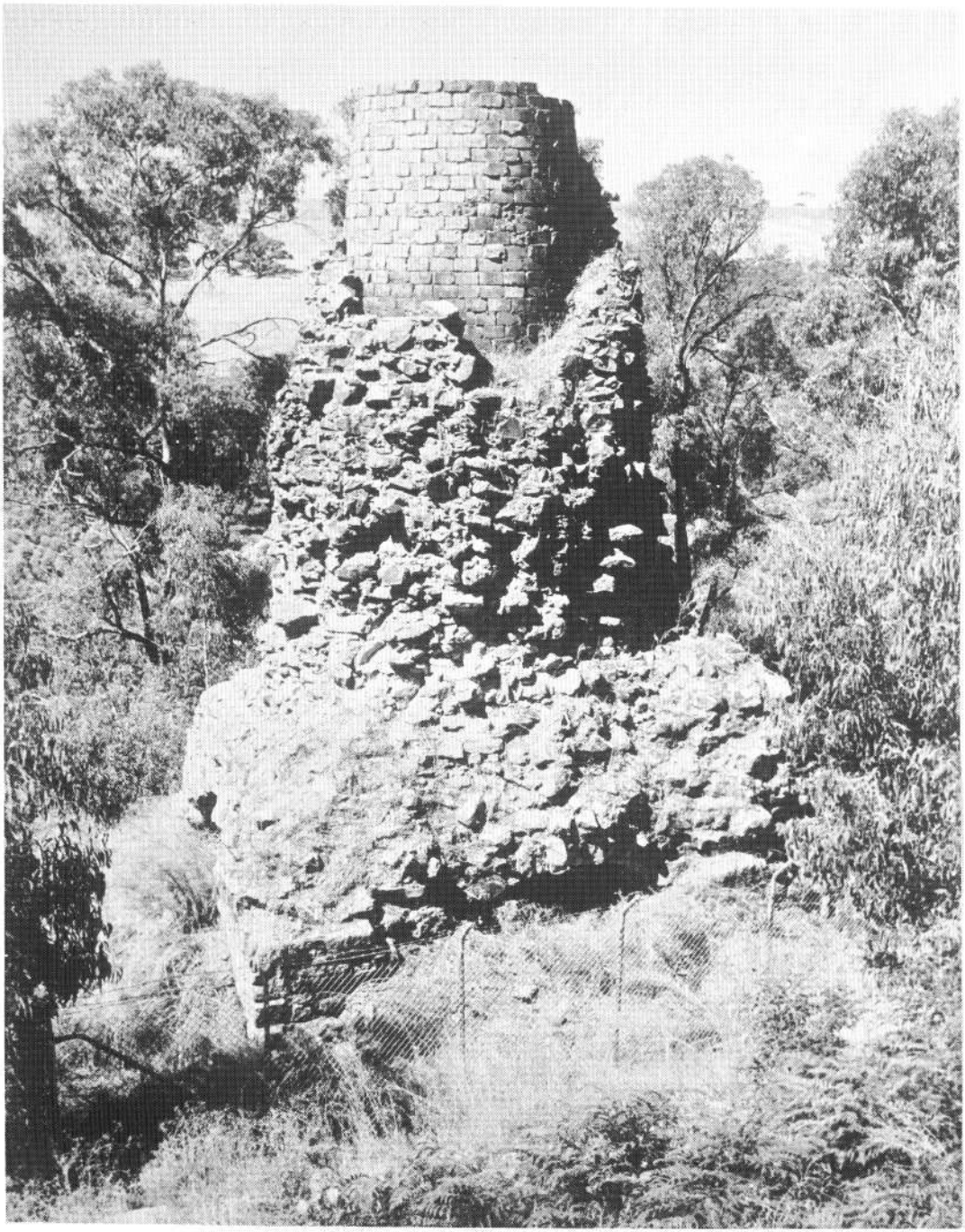
ANNUAL SUBSCRIPTION - $2-00 ($1-00 if under 17 years)for year ending 31st.May 1971.

MEETINGS - Second Thursday every second month at 8-00pm, room 11, Victorian Railways Institute, Flinders Street Station building, Melbourne. Next meetings 8th. April, 1971; 10th. June, 1971; 12th. August, 1971. Visitors welcome.

BACK NUMBERS of "Light Railways" - No.13 @ 15¢, No.14 @ 20¢, No.15 @ 10¢, No.25 @ 35¢, Nos.29 and 31 @ 40¢ each, Nos.32, 33, and 34 @ 50¢ each, available from the Sales Department, P.O.Box 21, Surrey Hills, Vic., 3127. Postage is extra - on one copy 6¢, two copies 12¢, 3 or 4 copies 18¢, 5,6,7 or 8 copies - 24¢. Also available "Narrow Gauge Review" No.5, published by Light Railway Research Club of Queensland, @ 36¢ incl. postage. Make remittances payable to the Society, not to individuals.

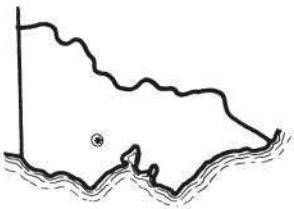
Cover - Victorian Railways "NA" class 2-ft.6-in. gauge 2-6-2T locomotive No.5A on a typical goods train in the very early years of the Gembrook line.
(Drawn - John Thompson)

Sketch opposite - Lal Lal Iron Company, Victoria. Artist's impression showing the works from the opposite side to that shown on p.8. The large building in the foreground was the casting shed. Because of the heat involved it is assumed that this shed was open, as shown. The large circular contrivance on top of the stone columns was probably involved in producing the blast. Also located here was a pump to bring water up from the Moorabool River, 125-ft. below. The area in the lower right-hand corner appears in the photo (p.8) to contain further moulds, but present remains indicate slag removal from this spot, by tipping it down the steep hillside towards the river.
(Drawn - Graeme Inglis)



The Lal Lal Iron Tramway

Researched by - Robert Ashley
John Blennerhassett
Andrew Lyell
Eric Sibly



High on a series of terraces overlooking the Moorabool river stands the crumbling remains of the Lal Lal blast furnace, classified "A" by the National Trust (to be preserved at all costs). This was the location of Victoria's only pig iron industry. A series of tramways served the works, and a well surveyed narrow-gauge tramway connected the blast furnace with the Victorian Railways' main line about 3½ miles away.

Introduction

Some of the historical data in this article has been published previously. Whilst repetition of this information has been avoided as far as possible, some of it by its very nature is exactly the same as that contained in other articles, but most of what you are about to read is original unpublished research.

Some geological details derived from several unpublished reports by Victorian Mines Department geologists, covering the period 1877 - 1949, are given here for the technically minded.

The orebody, which covers an area of 14.9 acres, comprises a siliceous limonite of sedimentary origin, containing 68-70% iron oxide. Unfortunately, the deposit is too limited (about 700,000 tons) for local smelting, and it appears likely that the bulk of the best ore has been removed; so the chances of promoting a second Hamersley are most unlikely.

The Company - a brief history

By the early 1870's Ballaarat had become a busy engineering centre requiring large quantities of pig iron for its many foundries, which were turning out mining machinery, ornamental cast iron, railway locomotives and a host of other things.

It is not surprising, therefore, that local businessmen in Ballaarat should consider utilizing the deposits of iron ore discovered in 1857, on the west bank of the Western Moorabool river, about 3½ miles from Lal Lal and about 16 miles south-east of Ballaarat.

One early step in this direction was taken on 3rd. January 1874, when the "Courier" published a prospectus to form a company to work this deposit; no doubt the locals were given a small amount of prodding by the Victorian Govern-

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Photograph opposite

The major remnant of the Lal Lal iron mining enterprise is this blast furnace, which produced 2,260 tons of pig iron from 4,492 tons of ore, during the years 1881 to 1884. It has been classified "A" by the National Trust - "to be preserved at all cost". Photo- F. Stamford.

ment, which was intensely envious of the successful iron and smelting industry in New South Wales.

After several meetings of prospective investors, the Lal Lal Iron Company Limited was registered on 18th. February 1874, the nominal capital being £48,000 in 480 shares of £100 each. Crown Lease No.397 over 320 acres was granted and Mr. E. H. L. Swifte appointed Manager, charged with the responsibility of finding the best method of building a blast furnace to smelt the ore, and the erection of rolling mills on the site.

Mr. Swifte, like everyone else in the company, knew little about ore smelting and running iron works, so he was sent overseas soon after his appointment to study these things and report back to the Board of Directors.

On his return, work commenced in earnest on the site to open up the ore quarries and build an experimental blast furnace - which was simply a modified upright boiler standing 28-ft. high, tapering outwards from 28-in. at the mouth to 42 in. at the bosches, with a 30-in. hearth. Some of the fire-bricks in the lining were made locally in Ballaarat, the rest, for the hearth and bosches, being imported from England.

At the second half-yearly meeting of shareholders, on 30th. January 1875, the directors reported upon the progress made in opening up the deposit, preparing the plant etc... and that a Mr. John Marshall had been engaged to superintend operations, as he allegedly had considerable experience in iron smelting. They also stated that a sample stamphead cast from the company's iron by Messrs. Walker & Company, for one of Ballaarat's largest gold mining companies - the Temperance Company - was found to outwear two ordinary stampers.

The report also stated that a deputation of directors saw the Minister for Mines in December 1874, for the purpose of having the government offer a bonus for the production of iron from local ore. This deputation must have put a very strong case, for the Government of Victoria very soon offered a bounty of £10,000 to the first company to produce 10,000 tons of iron in Victoria; the Lal Lal company eventually benefited from this bounty to the extent of one or two payments, each of £1,000. Evidence exists of the first payment in 1881.

On Saturday, 20th. February 1875, Mrs. Goller, wife of one of the directors, was enthusiastically cheered by a crowd of directors and their wives, shareholders and workers, when she placed a light in the first locally built furnace for smelting iron ore in Victoria.

In 1876, the old company was deregistered and a new "No Liability" company formed with more modest financial ambitions; the number of directors was reduced from seven to five and Mr. E. H. L. Swifte was appointed manager. Mr. Swifte was later replaced by Mr. A. L. Gilliland in 1881, the former gentleman having gone to the Tamar Hematite Iron Company, in Tasmania.

During the years 1875 - 1878 the company was experiencing teething troubles with the smelter and much time was spent in finding the best fuel for the furnace, using at different times, charcoal because timber was plentiful in the lease, brown coal because there was a large deposit then being mined nearby, and coke, but this would have had to be brought from either Geelong or Ballaarat.

Finally all was ready for an official opening. Accordingly, on the afternoon of 26th. October 1878, the Chief Secretary of Victoria, Mr. Graham Berry accompanied by Major W. C. Smith who was the Minister for Mines, six other Members of Parliament, Ballaarat businessmen and their respective wives, arrived at the works.

Mr. Berry performed the opening ceremony by breaking open a special clay seal in the furnace with an iron bar, to release the molten metal which then flowed out into the moulds in the floor. These moulds are called "pigs" because the iron runs along a main channel with small moulds running off at right angles, rather like a sow feeding a litter of suckling pigs.

After everyone inspected the works, and being duly impressed with what they saw, they adjourned to a hut nearby which had been specially prepared for the occasion, to partake of a grand luncheon presided over by the chairman of the company, Mr. Kelly.

After a further $1\frac{1}{2}$ years of production, it was found that the furnace capacity was too limited, so the directors - acting on the recommendation of the furnace manager, Mr. Bewdarick - had plans drawn up for a new furnace to be erected at the same works area, on the west bank of the Western Moorabool river.

Tenders were called for construction of the furnace, which stands today, but all tenders were rejected by the directors as being too high. Work then commenced late in May 1880, with day labour under the supervision of a Mr. Boswarrick, who was at that time a highly recommended member of the building trade in Ballaarat, using locally quarried stone, from a site within the company's lease, for the shell; and fire bricks imported from Harris & Pearson of Stourbridge, England, for the lining.

The new furnace was 56-ft. tall, exactly twice the height of the old, and 25-ft. square at the base. The furnace was completed in early 1881 and after allowing several months to dry out, was fired and blown in, and the first iron - about four tons - drawn off on 26th. March 1881. The company then looked forward to a programme of constant production and a bright future.

In July 1883, Mr. William Little, a Ballaarat broker, floated a new company - The Lal Lal Iron Company Limited - to take over the old "No Liability" company which had been formed in 1876. A local newspaper report on this event described it..."as an attempt to answer the expectations of its (the company's) many friends and the supporters of local industries..." The directors of the new company were Messrs. A. H. King, J. J. Goller, C. B. Rettallack, Josiah Glasson and Mr. Little, all of whom were well known Ballaarat businessmen. The Secretary was Mr. A. L. Gilliland, and the consulting engineer Mr. Peter Matthews. Paid up capital of the new company was increased to £22,500 by the issue of 5,000 new shares each paid up to £1/10/-.

One of the reasons why the new company was formed could have been that as a "No Liability" company, it had difficulty in raising money in calls from its shareholders; most of the shareholders were not wealthy, some were farmers, one was an engineer, another a policeman, there were even several "gentlemen", and to most of them a call of 5/- a share was a large sum to pay out. If a call was made, the shareholder under the "No Liability" company was not obliged to take up the call, the amount already paid on the shares was simply forfeited. However, as a "Limited" company, the shareholder had to take up the call; he or she could even be sued for the money by the company.

Right from the very first meeting of shareholders in the old company, there was the difficulty of raising enough capital for the venture and quite possibly the directors took this action, to try and plug the leak of money lost to the company in forfeited shares.

The works area

The works were set out on five terraces hand cut out of the side of a

The Lal Lal Iron Company's work site in 1882 showing the bridge across from the second level to the blast furnace, upon which two-wheeled carts can be seen. The large building on the lowest level, behind the blast furnace, is the casting shed. In the bottom right hand corner can be seen part of the formation of the tramway on the top level. The large building, on the right, stored charcoal, coke and limestone.

hill, the lowest of which was about 125-ft. above the level of the Western Moorabool river. On this lowest (fifth) terrace stands the blast furnace, next to which was built the casting shed, the walls of which were constructed of locally quarried stone. Because of this it may have been unique, as all other buildings shown in the photograph taken of part of the works in 1882 are of timber construction. There was also a large crane erected on this level as the company eventually intended to enter the pipe manufacturing business. This venture was a short lived reality at Lal Lal, and it is known that pipes were also cast at the company's foundry in Urquhart Street, Ballaarat, in 1883.

The next terraces upwards (the fourth and third) were the machinery levels; here large stone pillars supported the steam engine of about 50-h.p. which was used to drive -

(a). A plunger type pump which drew water from the river below in a vertical lift of 230-ft., then through more than 500-ft. of piping to all parts of the works, including two boilers which provided steam for the engine.

(b). A form of air blower which provided the necessary blast for the furnace at a pressure of about 15-lbs. per square inch.

The second level held the shed in which was stored charcoal, coke, limestone and possibly ore which had been reduced to a suitable size for smelting. A small bridge was built out from here to enable small skips loaded with these materials to be discharged into the furnace.

Two small pockets of ore were worked on the first level, the width of which was wide enough to take the internal tramway which connected up all the ore quarries.

Because the works were situated in the bush approximately 16 miles from Ballaarat and about $3\frac{1}{2}$ miles by road, east of Lal Lal - which was a small township at that time - the company ran a general store for its employees and contractors on the works area. In 1884 there were up to 160 men, mainly iron workers, ore miners, and charcoal burners, working in the lease. In addition to the store the company built blacksmiths' and carpenters' shops in the general works area, and also built a number of houses and huts on its lease for the workers. One of these houses, the caretaker's cottage, was built of bricks manufactured at the Lal Lal brickworks, which were situated west of the Melbourne - Ballaarat railway line and about half a mile north-west of the Lal Lal Hotel.

The tramway story

By early 1882 there is evidence that the company was having considerable financial difficulties, due primarily to the fact that English steel mills were able to ship out pig iron to Australia as ballast in the wheat and wool clippers and sell it to the foundries in Ballaarat, at a price far below that which was smelted by the Lal Lal company. Another reason was the enormous cost of transporting the raw material to, and the finished products from, the works.

The only way of transporting supplies to the smelting works was by bullock wagon along roughly formed roads put down by the local shire council, to the foot of the range; then along a rough track, just wide enough for the wagons, which had been cut through the bush by the company. In the dry weather these hardy beasts managed quite well, but whenever it rained the rough track into the works became impassable. The result of this situation was that continuity of supplies of coke and limestone was lost, so the works had to shut down. In 1883 the smelter was only worked for four months of the year due to these circumstances.

On 2nd. June 1881 the first of what was to be many such deputations from the directorate approached the Minister for Railways (Mr. Patterson), requesting freight concessions on limestone supplies which were quarried at Leigh Road (Batesford), and on the pig iron sent to Ballaarat and Melbourne. In return for these concessions the company offered to purchase from the Railways sufficient old rails to build a tramway to the works. In 1874 a tramway route had been surveyed to link the works site with the railway; it skirted the lignite swamp on the north side, whereas the line as built in 1883-84 was south of the swamp. The report of the directors for the half-year ending July 1881 states that to the time of preparing the report, the Minister had not replied to their submissions and that they would have to restate their case at a later date. In November 1881 the company again wrote to the Railways Department asking for the concessions and also for a siding to be built near Lal Lal station. No concessions were given, but the Railways Department did agree to build a siding.

No record could be found of any approaches to the Railways in 1882, but there was a change of government in Victoria in March 1883, and this probably prompted the directors of the new company to once again press their claim for freight concessions etc.

The next deputation met the new Minister for Railways, Mr. Duncan Gillies M.L.A., on 22nd. August 1883. This time they had enlisted the help of the local parliamentarians, the Hon. Peter Lalor M.L.A. and the Hon. Henry Cuthbert M.L.C.. Other local M.L.A.'s present included Major W. C. Smith and Messrs. John Rees, John James, James Russell, Alex. Young, David Davies, and William Uren.

Mr. Little apparently had prepared a strong case for the company and opened up the proceedings by pointing out, first of all, that the company had great difficulties from the start but now appeared to be overcoming them. Furthermore the directors had recently increased the paid up capital of the company and had registered it to conform with the Companies Act of 1864. Mr. Little also stated that about 17,000 tons (this figure appears to be a mistake in both the Ballarat Courier and Ballarat Star - a more correct figure would be 1,700 tons) of pig iron had been smelted from locally mined ore, most of it having been cast into stamping shoes etc., for the mining trade, which had found that the quality of the hard limonite was superior to the imported varieties. Furthermore over £19,000 had been spent in prospecting, winning the ore, and erecting the necessary plant to smelt it and cast the finished product.

Other facts and figures put forward by Mr. Little were that during the previous 12 months 600 tons of pig iron, 300 tons of castings, 400 tons of limestone, 600 tons of coke and 30 tons of other materials for the company had been shipped with the Railways, but when the plant was put into full production it was estimated (most liberally) that 200 - 250 tons of materials would be shipped weekly by rail to and from the works; in view of this the directors felt the government should give the company some railway freight concessions.

It was also explained that due to the impassability of the bush tracks in the winter, production was often held up for several months, so the directors had also come to ask the government for the use of, gratis, or purchase on easy terms, about $3\frac{1}{2}$ miles of old rails weighing about 280 tons, to enable a tramway to be built to connect the smelting works with the government rails. Permission was also sought to enter crown land to make a temporary breasting of the tramway with the siding granted by the previous government.

The directors explained further that with the increased capital, the

company intended to enter extensively into the casting of 4-in. to 6-in. water pipes - an agreement had already been made with an English pipemaking company - and the works were currently being extended for this purpose. Although capital was available for this venture, the company did not have the money to pay for the entire cost of laying down the tramway, hence they were seeking government aid for this project as well as the freight concessions.

Several of the Members of Parliament present also spoke on behalf of the company and advocated liberal treatment by the government.

The Minister's reply to this submission, as reported in the Ballarat Star (23rd. August 1883), was ... "While sympathising with the objects of the company, he could not indefinitely lend the rails but he would consider and name a price at which he would be prepared to sell secondhand rails in various quarters, and would be able to supply the company. The exact price he would name after he had received the written request from the company stating precisely what they were prepared to do."

The company duly applied in writing to the Minister offering £4/-/- to

One of the ironstone quarries at Lal Lal in 1882, showing the type of skip and portable track used in the internal tramway system. The main tramway, to the VR main line, was probably of a narrower gauge than that of the temporary internal tramways. This quarry is probably the northern one (No.2 on the map on p.14/15).

£4/10/- per ton for the rails.

The next deputation, on Wednesday, 3rd. October 1883, did not succeed in getting freight concessions, but the Minister offered them old 50-lb. rails at £4/10/- per ton with three years to pay. This offer was readily accepted by the deputation and on 23rd. October 1883 tenders were advertised in "The Ballarat Courier", the contract was let by 5th. November and construction commenced almost immediately.

As the need for earthworks was minimal (the road bed was only about 5-ft. wide and 18-in. high), the contractor was able to have the line completed up to the company's boundary in just two weeks. However, in those days, even though paid annual leave was non-existent, everyone knocked off work for the Christmas season and by early January work had ceased on the tramway due to a shortage of labour. Work recommenced after about a week and the line was completed about sometime during the week ending Saturday, 19th. January 1884. The actual gauge is unknown, but local opinion puts it at between 2-ft. and 3-ft.

At approximately 87* miles on the then main Melbourne - Ballaarat line, and about $\frac{3}{4}$-mile south-east of Lal Lal railway station, there was a turnout from the "up" line for a siding down to the lignite mine; a short distance after leaving the main line the siding split into two, the outer one for the iron company, the inner for the lignite company.

The iron company's siding was very short, and due to the first few chains of it being in a shallow cutting, the tramway most probably was laid so that empty skips to be filled with limestone and coke would have been below the floor level of the VR wagons, and skips loaded with pig iron etc., from the works, would have taken advantage of the slope of the land and been slightly above the floor level of the VR wagons.

The tram line was only on railway property for the length of the siding and after leaving there it crossed the road, turned south-east into the crown leasehold of the lignite company and ran roughly parallel to the road for about eight chains, keeping to the highest contours; it then continued in a south-easterly direction, still in the crown leasehold of the lignite company and after a series of sharp curves and straights, the line then ran straight for about 25-chains up to the boundary of the lignite company's lease. Due to the very nature of the area, the line was surveyed to avoid the large swamp in this paddock, even then there would have been need for at least one culvert.

Upon reaching the boundary, the line turned in an easterly direction to run almost due east for about 100-chains to the southern boundary of the iron company's leasehold.

From here the line turned north-east into the leased area and started to climb the hill, at first on a slight incline, then gradually rising to a grade of about 1 in 30 to the passing loop on the top of the hill; after passing through this loop the line ran flat for a short distance, then down the hill on a grade of about 1 in 30 to the south of the main ore quarry, and on to end at the charcoal shed on the second level.

On the map, in the south-western corner of lot 18, there is a small triangular area, the hypotenuse of which was excised from the allotment. Originally it was intended to divert the line here and take it through the middle of lots 14 and 15 to the government line. Permission to run through

*Present day mileage 83 (via North Geelong loop).

these properties was sought in 1882 from Mr. Phyland and Mr. Healey, but it is thought that the former gentleman declined and the line was rerouted along the southern boundaries of those allotments. The proposed route is shown on the map.

There was another passing loop, which can still clearly be seen today, situated in lot 24 almost at this proposed point of divergence.

When the company's lease was cancelled by the Lands Department for non-payment of rent, all the landholders along the route applied to have the easement, in which the line ran from lots 23 to 27 included in their properties. This situation evidently set the Lands Department a problem, which seems to have never been legally settled as no titles appear to have ever been adjusted, or new titles ever issued for the half-chain (approx.) width of tramway land shown on the parish plan. When the allotments on the south side were purchased about 1904-10, the survey did not include the tramway ground although today the fencing of allotments 23 and 24 does include it. It is also included within the fencing of lot 18. A walk along the route today will show that the fence line varies from one side of the old easement to the other and back again.

The route of the line can still be followed today for most of the way. It can be picked up from lot 21 and be driven along up to the fence of lot 24, the fence of lot 23 having long been gone. By following the fences right along one can clearly see the formation, particularly in the area formerly leased by the company, which starts on the eastern boundary of lot 18 and the northern boundary of lot 16. Once inside this area the formation can be followed, by looking very carefully in parts, right through to the works.

There were two main methods of locomotion on the tramway - haulage by horses was one, and gravity was the other. Horses were used for the first two sections of the down journey to the works, and for only one section of the up journey to the rail siding.

As mentioned earlier, the siding on the government line was set in a cutting, and left the main line at a high point just north of the present 83 mile post. When trains on the iron company's tramway were ready to depart, the chocks under the wheels would be removed, the brakes released and the horses would start to walk down the hill, around the curve to the south - a slight application of the brakes might be made here, as the curve was fairly sharp; then away they would move down the hill gathering momentum all the time, around the swamp, across the flat, then up one side of a small hill, down the other side and up another hill in lots 21 and 23, along the top and into the loop in lot 24; here if the line was clear, the team would start off for the climb up the hill to the other loop on the top. At this point, if the line was still clear, the trucks, with brakesmen, were released to roll free down the hill to the works.

For "up" trains from the works, horses hauled the load up the hill to the passing loop on the highest point; here they were taken off and if the line was clear the train would be allowed to roll down the hill through the loop in lot 24, down and up the next two hills where it would probably lose a bit of momentum, then down the hill to the curves and straights around the swamp (the brakeman would have slowed the train here) and on to stop at the company's siding on the railway.

Mr. Frank Diamond, a life-long Lal Lal resident, informed us that he was told that the horses used for the trams were worked in two teams, each probably of four or six draught horses. In each team, two or three horses were probably attached each side of a central pole by collars, hames and chains.

Lal Lal Ironworks in the 1880's. The tramway can be seen on the first level - note the relatively heavy rails on the narrow-gauge track. To the left of the picture the tramway continued onto ironstone quarry No.2 (see map, p.18, and sketch plan p.16). This is the only picture we have been able to find showing the tramway.

One reporter who visited the site with a party of ironworkers in 1884, was told by the company's guide ... "that they would reach speeds of a mile a minute ... whilst their train was running down the hill"; at this remark he also reported ... "that quite a few people looked as if their livers were out of order" . After a walk in October 1970 along the formation and seeing the length of the hill they traversed in the iron company's lease, the authors can understand both statements.

This recent walk along the line also revealed that when it was surveyed, it was a job carefully done, so that there was only one large curve on the hill in the iron company's lease. This would have required some braking of the trains on the downhill journey to the railway siding. The curves on the works side of the hill were tighter, but not as long.

Despite the fact that the above method of working was quite common on timber tramways, there was a minor form of safeworking on the iron company's line

to prevent accidents, this was the train staff system; a train was held in the siding at the highest point on the line until the "staff" arrived on the train from the opposite direction, the "staffs" would be exchanged and the trains would then proceed to their destinations.

After reading that account of the method of working the line, one would think that there would have been a surplus of horses at the loop on the top of the hill; this did not happen, as each team of horses, after being unyoked, went away for another load by, most likely, walking along the bush tracks. The loads that the horses pulled were in wagons that were described in "The Ballarat Courier" on 21st. April 1884, as "small, and set on low wheels." It is thought that they could each carry about one ton. The brakes were described as "very powerful." One or two men travelled on each tram trip to manage these brakes.

The actual location of the siding on the highest point was difficult to locate exactly, but it was most probably somewhere on a flat spot which starts at a point roughly one mile north-west of the furnace. This measurement was taken from a car speedometer as the tramway formation disappears after leaving the flat area; however, the most suitable way down the hill would have been along what is now the road into the works area. The road originally cut into the works site by the company entered from the north of the present road.

At the same time that the Lal Lal Iron Company was pursuing its claims with the Railways Department (1883) there were many other groups in the state (generally called railway leagues) pressing the government for tramways to be constructed in their respective districts, for many varied purposes. Some were for hauling firewood and timber from the forests, others for both timber and passenger tramways to link up with the government line at large country towns. One example of the latter was a proposal for a light tramway from Ballaarat to Buninyong, this was being considered by both the Shire and Borough Councils of Buninyong and eventually was laid as a broad gauge branch line which closed some 60 years later in 1947.

When a tram line was authorised and the Railways Department supplied the necessary rails and fastenings etc. on terms, it was normal practice for the Department to hold a mortgage over the line as security for the loan, whether this happened in the case of the Lal Lal Iron Company is not known for certain.

We thought it was strange that no record was found of any correspondence passing between the Railways Department and the company between the years 1884 - 1887, asking for money to be paid off the debt owing on the rails, even though the company was known to be in financial difficulties.

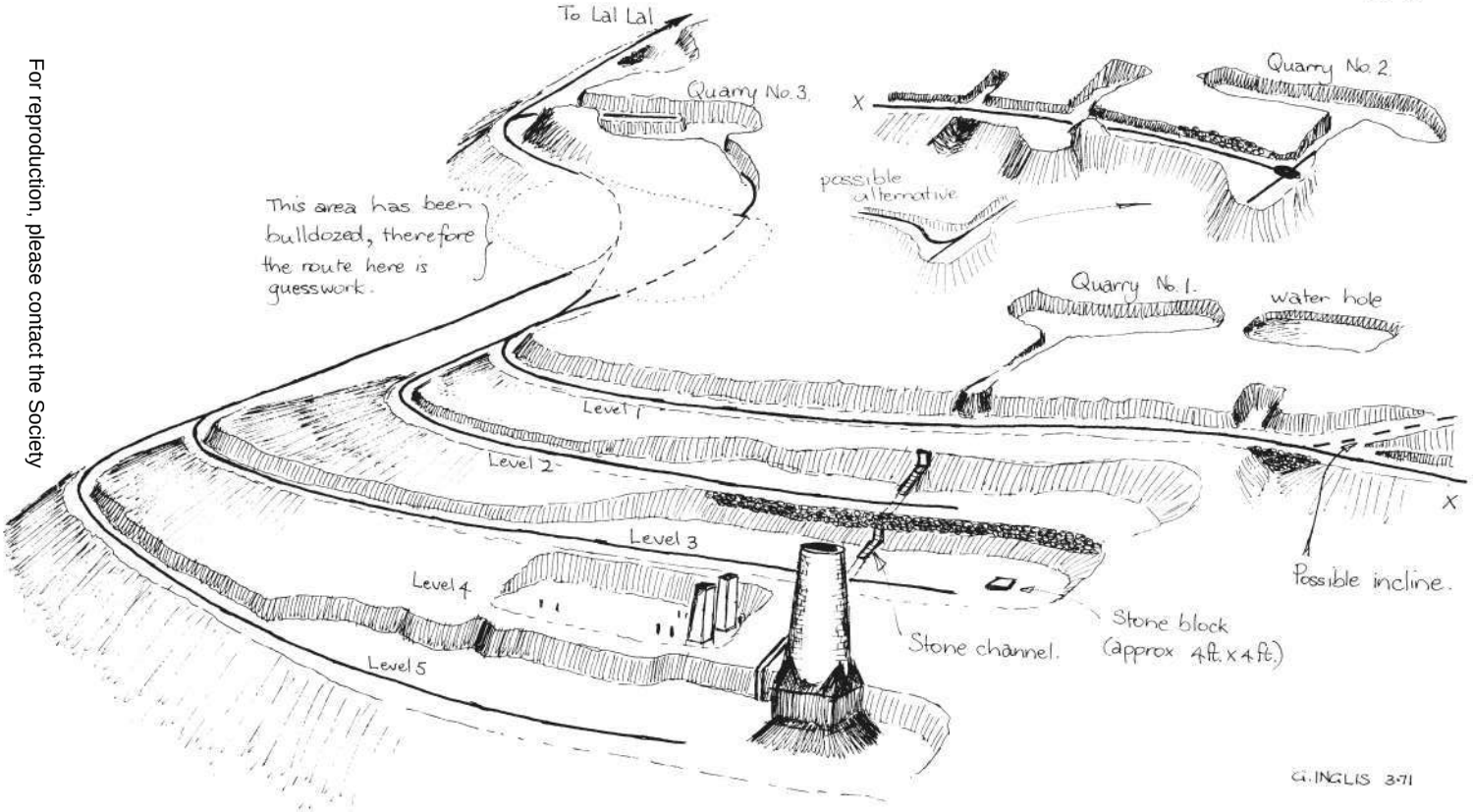
To strengthen this possibility that the loan was not due until late 1886, a search was made of the register of letters received by the Secretary for Railways between the years 1887-1892; this revealed that the first letter was received from the company in November 1887 ... "asking the Commissioners to let the matter regarding the amount due for rails stand over for a while..."

This letter was the first of sixteen letters which were recorded as received from the company over the years 1887-1892 on the subject of a balance of £1376/14/11 owed for rails, which the Department was pressing the company to pay.

There were letters requesting, either straight out or in various forms, time to pay; letters asking the Commissioners to receive deputations; others stated plainly that the directors did not know when the company would be in a

LAL LAL IRON COMPANY

Sketch plan of the site as it is in 1971, showing the probable location of the tramways.



position to pay. One letter received on 18th. May 1891 from the Lal Lal Iron Company In Liquidation, requested freight concessions on pig iron sent to Geelong for use as ships' ballast.

On 15th. December 1891 the company requested the Department to take back certain rails; time evidently moved very slowly in those days as it was not until April of 1892 that the Department moved on this, and requested the official receiver of the company (Mr. William Phillips) to arrange with the owner of the land involved, for the Department to enter his property and remove the rails.

A letter was received on 19th. May 1892, from a Mr. Geo. Ewbank ... "requesting that rails connecting Lal Lal Iron Works with the Ballaarat line be allowed to remain pending attempt to revive Company".

This request was most likely ignored by the Department, as the Engineer for Existing Lines recommended to the Commissioners on 12th. July 1892 ... "that amount (£1,376/14/11) due for rails be pressed for and failing settlement within a fortnight, the balance of rails belonging to the Department be removed".

Today, "three years to pay" means that regular payments must be made over that period, so that the debt is fully paid by the end of the term - could it be presumed that the term "three years to pay" as granted by the Railways in late 1883, meant that the debt was payable in full at the end of three years? Let us examine the deal in detail and see if this could be true.

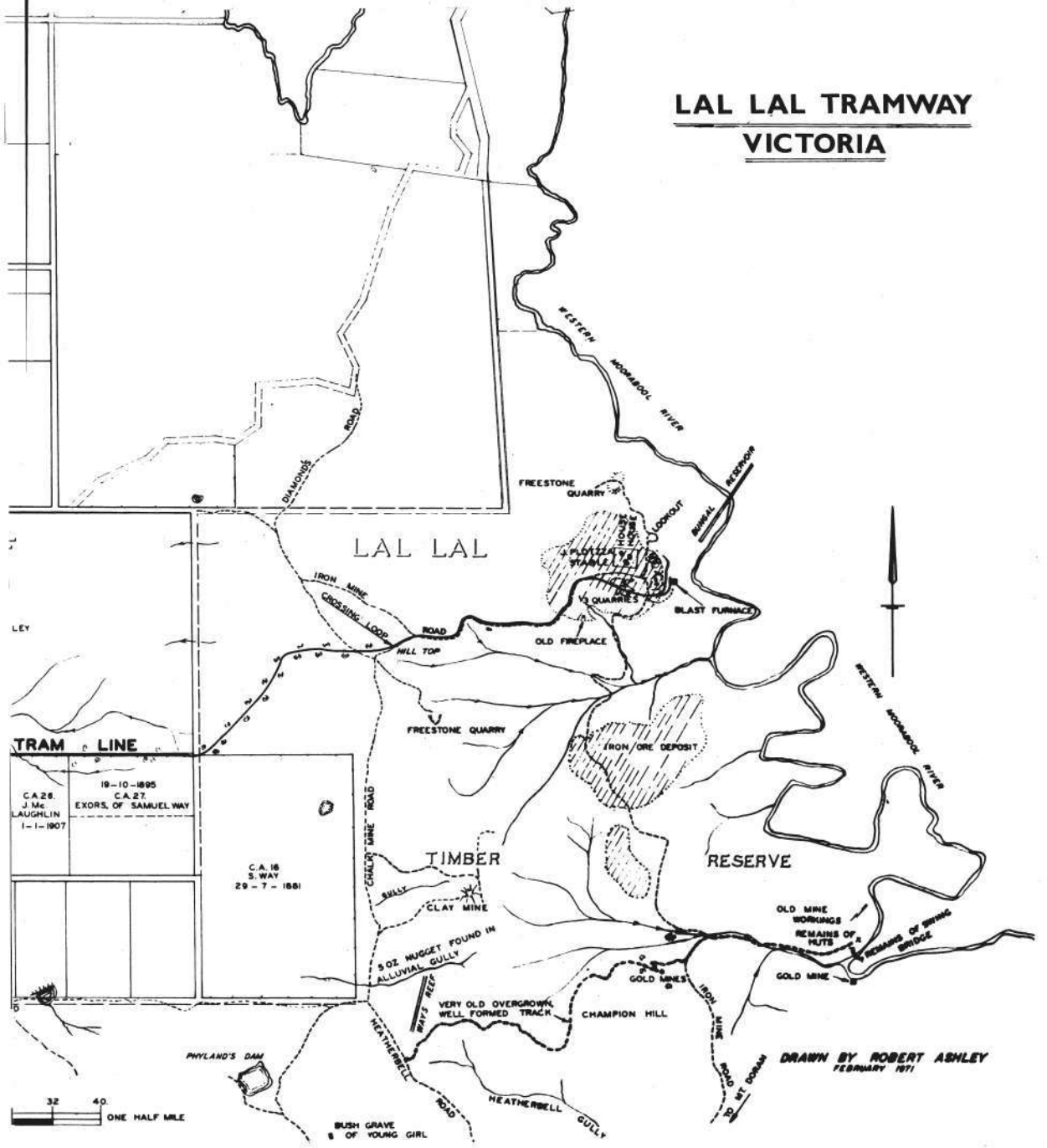
The company purchased sufficient rails and fastenings for a tramway of $3\frac{1}{2}$-miles in length at a price of £4/10/- per ton. The rails supplied would have been either 50-lb. per yard, iron "A" section 23-ft.10-in. long, 4-in. high, 1-7/8-in. head with a 4-in. flat bottom; or steel "B" section, 22-ft. 6-in. long, 3-5/16-in. high, $2\frac{1}{4}$-in. head and $3\frac{1}{2}$-in. flat bottom base.

We have not been able to ascertain which type of rail was supplied but for the purpose of this exercise, which it must be clearly stated here is purely speculative, Mr. R. L. Abbott has estimated that a tramway $3\frac{1}{2}$-miles long using the "B" section steel rail would require 275 tons of rail (1,650 rails), 11 tons of fishplates and bolts, plus six tons of dogspikes, making a total overall of 292 tons of rails and fastenings.

292 tons multiplied by £4/10/- ($4\frac{1}{2}$)	= £1,314/ -/-
Add interest @ 5.5% per annum for three years	216/16/ 2
	£1,530/16/ 2
Subtract 10% of total as a token deposit	153/ 1/ 8
Theoretical balance owing	£1,377/14/ 6

Theoretical balance (as above)	£1,377/14/ 6	
Subtract actual amount owed by company	1,376/14/11	
	£ 0/19/ 7	

Through this exercise we tried to see what materials could have been included in that figure of £1,376/14/11 which the Department was trying to



collect; by using very rough tonnages we were able to get within £0/19/7 of it theoretically, so it could safely be presumed that the term "three years to pay" in the case of the Lal Lal Iron Company meant that the debt was due for payment in full in late 1886.

Sleepers were not included in that exercise because we felt that they could have been purchased from local sources at a much cheaper rate than what the Railways Department would have charged. There was a request for sleepers received by the Railways Department in 1882, but this was 12 months before the rails were purchased for the tramway.

Company history - finale

The year 1883 was the best year the company ever had; as well as producing a then record tonnage of pig iron (600 tons) from the smelter in the bush, and obtaining approval for the much needed tramway, the company's foundry became well established in Urquhart Street, Ballaarat, producing castings mainly for

the mining trade, but quite possibly other work was done there too. This foundry, sometimes called the Tubal Cain or more commonly just The Lal Lal, had a very short life, just about four years and it closed in 1886 or 1887.

1884 started to be a much better year - 800 tons of pig iron were produced up to May, when the decline in the company's activities began.

One example, in which Lal Lal iron was allegedly used, is the fence which today still surrounds St.Patrick's Cathedral in Sturt Street, Ballaarat; it was also used in wrought iron lace verandah decorations and miles of iron fencing, for many hotels and private houses in Ballaarat. In addition to these activities, locally produced iron was allegedly used in many railway locomotives built in Ballaarat.

As previously indicated, in the early 1880's the price of imported pig iron fell from £10 to about £4/10/- per ton, which was a price the local company could not compete with - the best price the company could get down to was about £5 per ton. Furthermore, it is thought that the local foundries which had been supporting the Lal Lal Company took exception to the company operating its own foundry and reverted back to buying imported pig iron.

On 25th. February 1889 Mr. W. C. Phillips, the new secretary (and liquidator) of the Lal Lal Iron Company Limited, lodged an application for a 15 year mineral lease, to mine ore from an area of just over 320 acres of land on the west bank of the Western Moorabool river. This was exactly the same area leased and worked previously.

In its application, the company proposed to employ four men initially, subsequently rising to 20 men when in full production. The company further proposed to spend £10,000 in developing the lease.

After the necessary survey of the area was completed, the Chief Warden of the Mining Court of Ballaarat opened a Court Inquiry into the application on 3rd. April, 1889; it was closed a month later on 4th. May, all papers being sent to the Mines Department for consideration.

Evidently the case put forward by Mr. Phillips was satisfactory, for Mineral Lease No. 937 was granted on 8th. August 1889.

As the old lease had expired, this was most likely a last ditch attempt by Mr. Phillips to try to keep the lease alive, in the hope of revitalizing the company. However, it was once again unsuccessful and "The Ballarat Courier" for Thursday, 2nd. July 1891, advertised an auction sale to be held on Monday, 6th. July 1891, of the company's mining lease, machinery, tools, plus the right to run a tramway over private property up to 15th. August 1893, with the right of extension for a further five years for the total cost of £61. On Wednesday, 8th. July, the same paper carried another news item stating that the sale was never held, because no one turned up for the auction. What eventually happened to the plant and equipment remains a mystery.

In June 1969 the National Trust in Victoria classified the remnants of the furnace with its highest classification - "A" - which means the Trust con-

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Photographs opposite

Left - View of the Lal Lal tramway formation, about one mile from the blast furnace, looking west. 28th. Feb.,1971. Photo - F. Stamford.
Right - Looking east along the tramway formation - which parallels the fence - in Lot 24. Eric Sibly is standing on the formation of the crossing loop. November 1970. Photo - J.Blennerhassett.

Looking west along the tramway formation, on which Graeme Inglis is standing. Quarry No.3 (see map p.18/19, and sketch plan, p.16) is to the right of the tramway. A little further along, the formation is obliterated by the present Iron Mine Road. 28th. Feb. 1971. Photo- F.Stamford.

siders that the furnace, like 58 other relics of Victoria's history, should be preserved at all cost. The Buninyong Shire Council, in 1968, erected an 8-ft. high chain wire fence around the furnace, as a limited form of protection against vandalism.

This grading is in itself very unusual, as all but one of the other relics with "A" classification are buildings of character - such as Como House in South Yarra, the E.S.& A. Bank building on the corner of Collins and Queen Streets, Melbourne, and Anderson's flour mill at Smeaton near Ballaarat. The Lal Lal blast furnace is the second "non-building" to be classified "A", the first being the Malmsbury railway viaduct.

Today little remains to be seen at the iron works site. Apart from the furnace, the two stone pillars which supported the steam engine still stand, a few of the small ore quarries have subsided, but the largest one can still be seen in the bush on the right hand-side of the road entering the site. The

whole of the top level of the works site has been cleared as a picnic area and also to allow vehicles to enter the Bungal dam site nearby.

After the 1884 closure of the iron works, the tramway was used to transport several hundred tons of excellent quality kaolin clay from Mr. J. N. Dunn's workings, for shipping to England. The profit was small, and with the removal of the rails, left nothing to pay for carting by road. About a mile south, near the road at the foot of Champion Hill are the remains of iron skip trucks - according to local legend these were used on the Iron Company's tramway.

Acknowledgements

The authors wish to acknowledge, with thanks, the very valuable assistance rendered by Mr. Keith Patterson, Miss. J. Conroy and other members of the staff of the La Trobe Library, Melbourne. Sincere thanks are also extended to the following people for their assistance -

Mr. R. L. Abbott
Mr. Graeme Cope
Miss E. Guenther and staff, Camberwell - Waverley Regional Library.
Mr. Sam Haywood and other residents of Lal Lal.
Mrs. W. Jeffrey.
Mr. J. Knight, and Miss J. Hindle, Mines Department, Melbourne.
Mr. Keith Turton.
Officers of the Shire of Buninyong.
Officers of the Department of Crown Lands and Survey, Melbourne.

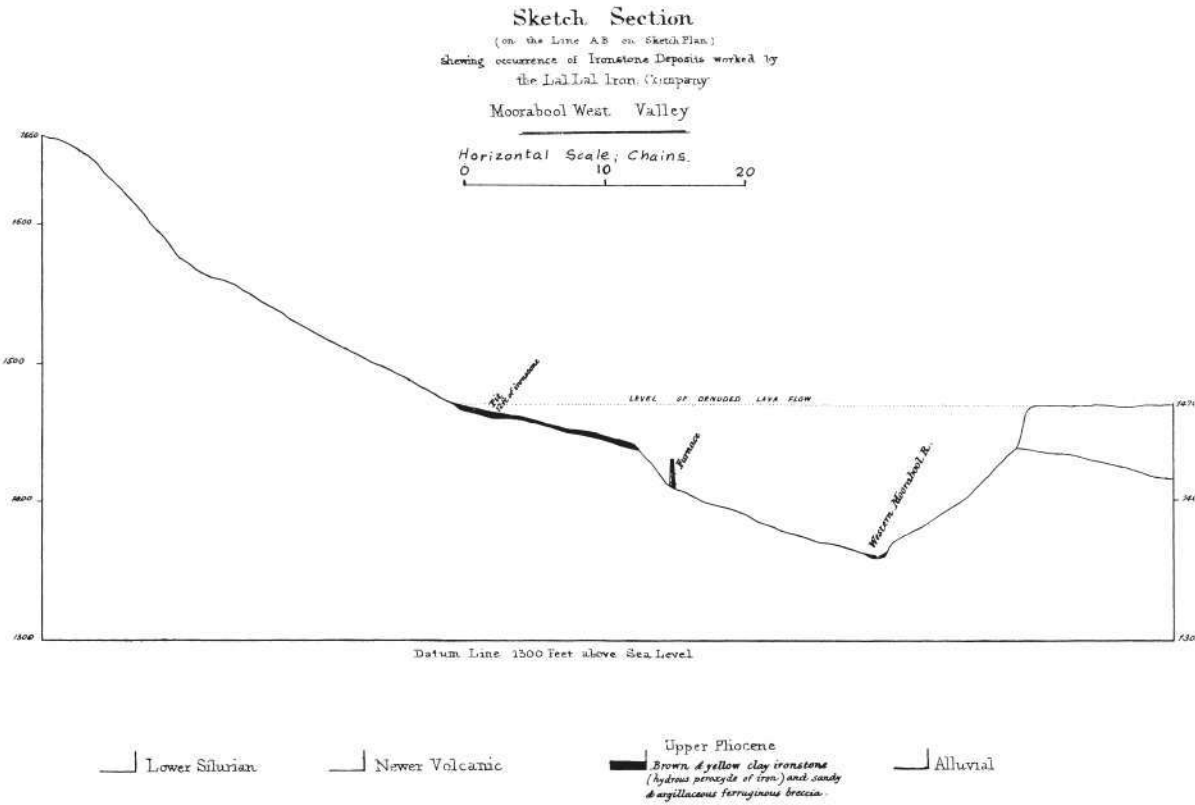
Right - Near the blast furnace these two stone pillars, about 10-ft. high, still stand at the site of the stationary steam engine. In the foreground four threaded steel rods can be seen embedded in the solid rock foundations, in which there is also a semi-circular excavation - presumably to accommodate a flywheel, which must have been about 9-ft. in diameter. The steam engine had two cylinders, each 42-in. x 54-in., working 20 strokes a minute. It pumped water from the Moorabool River for use throughout the works, and provided the air blast for the furnace.

Photo- F. Stamford.

Bibliography

All sources of information and reference are too numerous to detail, however the main ones are -

The Ballarat Courier 1874 - 1892
The Ballarat Star 1874 - 1892
The Gordon,Egerton and Ballan Advertiser 1883
The Newcastle Morning Herald 1963
The BHP Review Autumn 1968
Department of Mines (Victoria) Reports 1862 - 1910
State Library of Victoria Archives

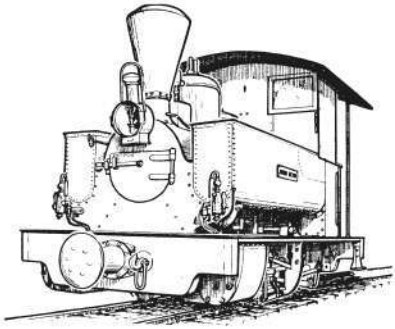


Cross section of line A-B on sketch plan on p.25, prepared by F. M. Krause, 13th. August 1877.
(Reproduced by courtesy of Mines Department of Victoria)

LAL LAL IRON COMPANY

Copy of part of plan prepared by F. M. Krause, 13th. August 1877, showing location of the first blast furnace.

(Reproduced by courtesy of Mines Department of Victoria).



LETTERS

Mr. W. Pearce writes -

LOCOMOTIVE PRESERVATION IN QUEENSLAND

Your photograph and comments on misguided preservation in Queensland (LR No.33, p.2) are only too true. Generally I think we can say that in most states preservation is in a reasonable way, but in Queensland it is certainly done in a haphazard and thoughtless manner. Admittedly the Redbank Museum is a well done project, but this is due to the State Government, and the local enthusiast groups do not have to do much to keep it going. Thus one would think that there could be no reason why a narrow gauge museum could not be set up and operated by enthusiasts.

I know that the population, and thus the number of enthusiasts is smaller up there, but from my experience I feel that a good narrow gauge museum could be set up by only five or six people. From the restoration point of view they would only be dealing with little locomotives - one A2 class probably being equal to six sugar cane engines - and certainly it is possible for one person to restore an A2 in 18 months, working at weekends. So, if five or six people were available it would not take long to restore half-a-dozen locos. Similarly the space required is much less, and it should be possible to get a suitable undercover area without having to spend too much money.

I fear that the big problem in Queensland is that no-one there is really interested. This is unfortunate as there are many interesting small locomotives that could still be salvaged and restored, but in a very few years time the Queensland weather will have destroyed them if nothing is done.

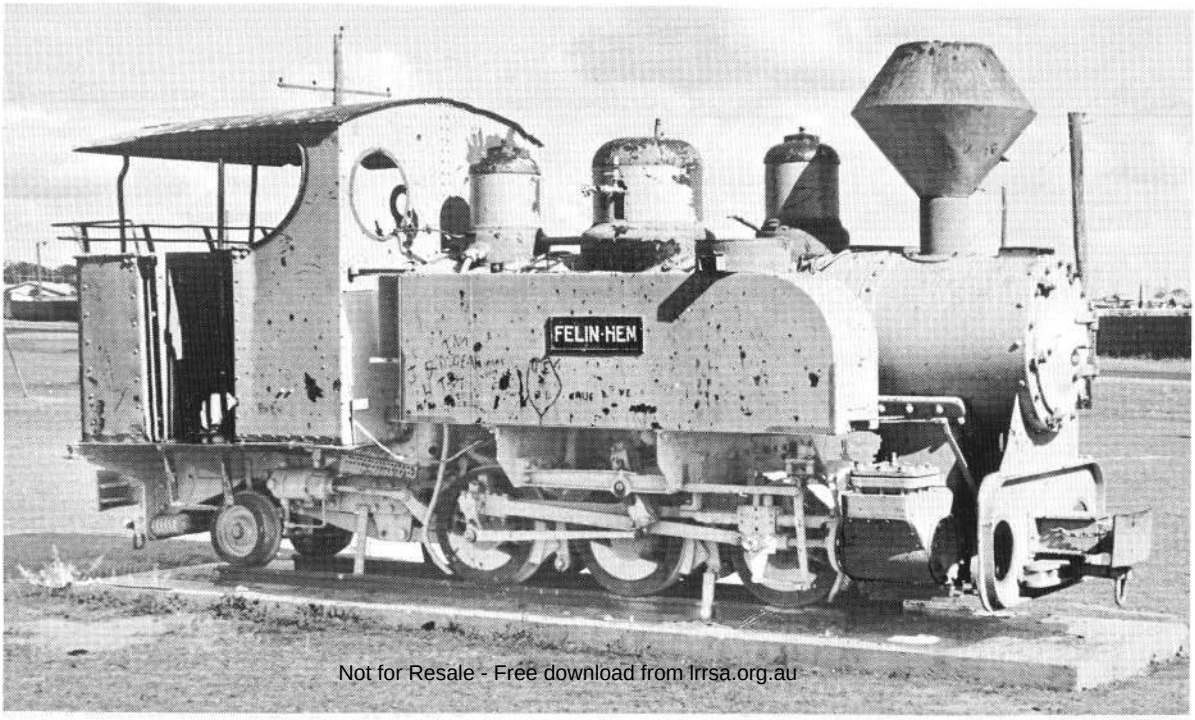
Is there any way in which we could get something going to preserve narrow gauge locos up there? Could the LRRSA organize something through the Light Railway Research Club of Queensland? I would be prepared to help in any way I could. Having been associated with the North Williamstown Museum, I know that there are problems in preserving locomotives, but I still feel that some effort should be made to set up some sort of narrow gauge museum in Queensland, before it is too late.

Photographs opposite

Top - "Felin Hen", Baldwin B/No.46828 of 1917, 2-ft. gauge 0-6-2T at work at Fairymead sugar mill, Bundaberg, Queensland, in August 1964. This locomotive previously worked on the Penrhyn railway in Wales, where it failed in service in 1927. After being out of service for 13 years it was overhauled and sent to Queensland in 1940.

Bottom - "Felin Hen" preserved in a park at Bundaberg, August 1971.

(Photographs - F. Stamford)



Mr. C. W. Jessup writes -

References in "Light Railways"

Most railway historical magazines do not encourage the use of references and footnotes, and it is unfortunate that they do not follow LR's lead in this field. Confusion of railway historical fact with legends, folktales and misconceptions must surely result. Hours of work go into the writing of railway historical articles, and it takes only a little more time to prepare a list of references.

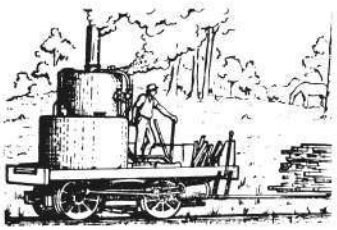
For an editor to request references is not to doubt a research worker's honesty or to imply his research work is faulty. It is simply a means of allowing others to benefit from his work to save them time and effort, to lead them to sources of material which otherwise may have remained obscure.

It is not valid, as I have heard some research workers say, that one can request a list of references personally from an author. This is not always possible - the author may be dead, or not easily accessible. What about research in 10, 20 or even 50 years time? Will railway research workers be forced to rely on massive amounts of unsubstantiated material propped up by hearsay?

The railway historian of the future, if he wants to be sure of his facts, will have to research areas that are already being researched today. This would be a tremendous waste of time and effort.

References need to be precise. It is worthless to provide a reference such as " X tramway facts came from Y newspaper between the years 1880 - 1920". The research worker of the future is left to work through 40 years of papers for a few facts. Most likely he would consider this a waste of time and use the facts - or otherwise - provided in the earlier article. If precise details are given of the references used, this situation is avoided.

Some might claim that a page of references takes valuable space. But provision of such references should enable more accurate and penetrating histories in the future, and lead to an eventual reduction in the pages of dispute over facts in "letters to the editor".



News, Notes & Comments

NEW SOUTH WALES

Commonwealth Steel Co., Waratah, Newcastle

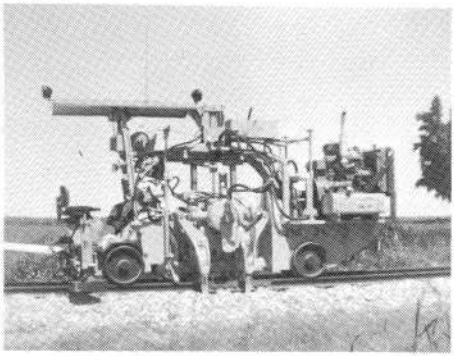
While I was in Newcastle early in January of this year, I noticed that the Commonwealth Steel Company's locomotive "Juno" was dismantled. The saddle tank and cab were alongside the boiler and all cab fittings had been removed. The frame and wheels were not about.

Commonwealth Steel Co. advised me by letter that the loco was undergoing a "major overhaul." They advised that "It is anticipated that this overhaul will be completed in the near future and Juno will return to active duty."

Referring to LR No.28, p.20, it seems that Juno is the Andrew Barclay 0-4-0ST loco. The other loco at the works (H.K.Porter 0-4-0T) was in service shunting. (Andrew Reynolds)

QUEENSLAND

Victoria Mill, Ingham (2-ft. gauge)



Some sophisticated equipment is now being used here. The CSR now has a Matissa tamper for their mill lines at Victoria Mill, although I also saw it at Macknade. The driver told me that it can travel between jobs at 20-25mph. It was delivered by Conquip, and it can lift, pack and cant the line, a small gang following to take the kinks out. Victoria Mill has also built a new bogie hopper wagon, with Willison coupler, hauled by Simplex diesel B/No.10381. The photograph at left was taken on 27th. November 1970 at Sunnybank on the Nyanza line of Victoria Mill. It takes a lot of hard work out of the game, dials and levers do the work now. (Gerry Verhoeven)

SOUTH AUSTRALIA

ICIANZ Ltd., Osborne, Dry Creek, and Penfield (5-ft.3-in. and 2-ft. gauges)

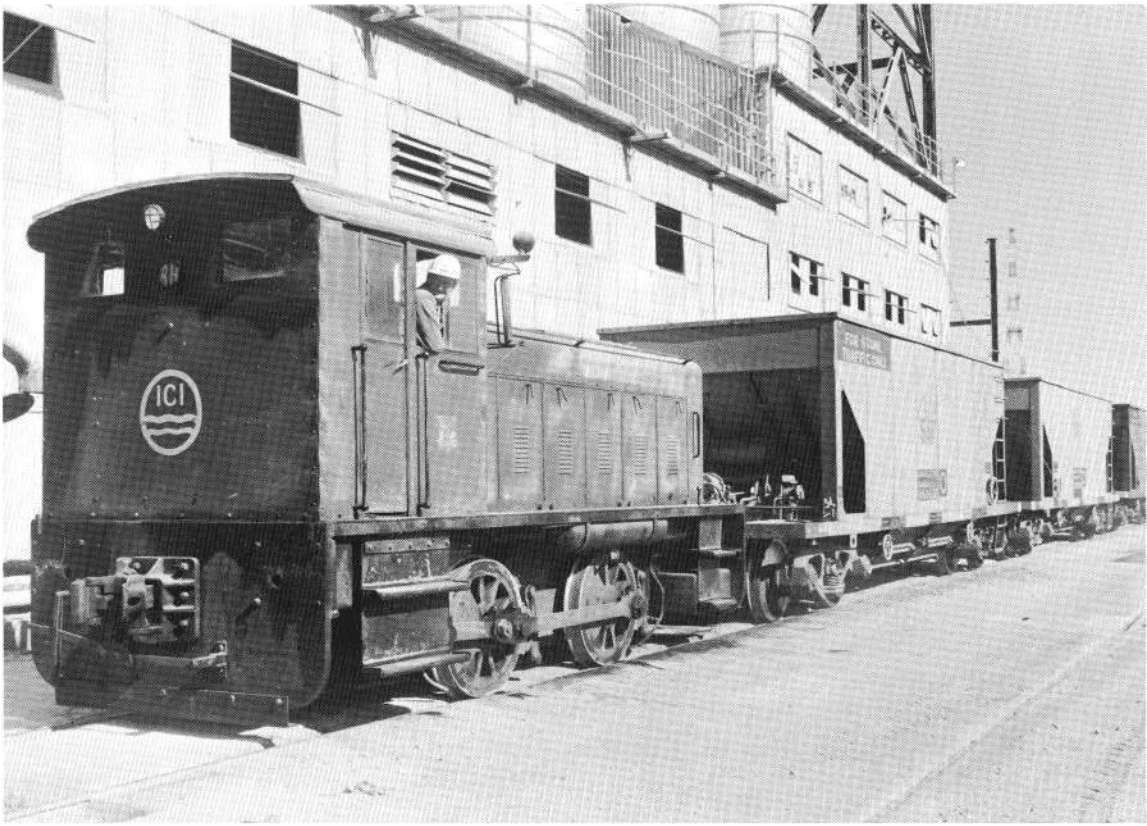
A four-coupled jack-shaft drive Ruston Hornsby diesel locomotive is in use at the alkali factory of ICIANZ Ltd., at Osborne, 12 miles north of Adelaide. The locomotive, which is painted dark blue, is about twenty years old and is named W.L.Raws, after Sir Lennon Raws, first managing director of ICIANZ. It weighs 29 tons, has a four-speed gearbox and develops 165 h.p. In 1969 the SAR fitted the loco with a new set of tyres, these being imported from England.

This locomotive is used on $3\frac{1}{2}$-miles of 5-ft. 3-in. gauge sidings at the factory, mainly in hauling SAR bogie hopper wagons from the factory boundary. These wagons carry limestone - an essential raw material in alkali manufacture - from the Company's limestone quarry at Penrice, near Angaston. When the locomotive is undergoing maintenance at the factory a rubber tyred tractor is used to do the shunting.

The factory has been established about 34 years, and when originally built also had an internal system of 2-ft. gauge railways for plant maintenance, and ash removal purposes. A Malcolm Moore rail tractor with a Ford V8 engine worked on this system but whether this was the only motive power is not known. On a visit to the factory in November 1970 it was noticed that some 2-ft. gauge track is still in situ, including a few sets of very sharp points.

Dry Creek Saltfields

Another essential raw material in alkali manufacture is salt, and ICIANZ have extensive saltfields at Dry Creek. This salt is pumped as brine along a seven mile pipeline to the Osborne factory. Until about 1954 a 12-mile long 2-ft. gauge



Ruston Hornsby 5-ft. 3-in. gauge diesel-mechanical locomotive "W.L.Raws" shunting SAR limestone hoppers at the ICIANZ alkali factory, Osborne, South Australia. Photo - ICIANZ Ltd.

tramway served these saltfields. This line included a one-mile long timber viaduct, which was combined with a flume. This impressive structure still stands, with sleepers still in place, but the rails have gone. An earth road has been built on the rest of the tramway formation, effectively obliterating most evidence of its existence. However, remains of a few bridges and some rails can be found, if one is observant.

Details of locomotives used on the saltfields are by no means clear to this writer, but as at 1st. October 1952 they were -

a. Malcolm Moore (with Ford V8 engine, ex Osborne).
b. Ford V8 loco. (Whether this was another Malcolm Moore is not clear)
c. Fordson-engined loco.
d. Diesel loco with Perkins diesel engine.
e. Ruston Hornsby diesel loco.
f. Ruston Hornsby diesel loco.
g. Inspection cars Nos. 1, 2 and 3.

The two Ruston Hornsby locos came from the Penrice quarry (see below). One of these locomotives, B/No.179876 of 1936, was sold to the Fairymead Sugar Mill in 1956. This was an 18-22 h.p. type, weighing three tons. Rolling stock included flat top and passenger cars, as well as side tipping wagons.

Penrice quarry

A short stretch of 2-ft. gauge track existed here to carry limestone from the crusher to the 5-ft. 3-in. gauge SAR wagons. This was replaced by a conveyor belt around 1952. Two Ruston Hornsby diesel locos were used here, these being transferred to the Dry Creek saltfield on closure of the quarry tramway. The 5-ft. 3-in. sidings at the quarry are worked by cable, dummy trucks being used to grip the cable, and couple to the hopper wagons. (Frank Stamford)

TASMANIA

Kauri Timber Co. (Tas.) Pty. Ltd., Leesville,near Smithton (3-ft.6-in.gauge)

A visit to the Leesville sawmill of this Company on 8th. February 1971 revealed that the small yellow-painted V8 engined rail tractor is still in use shunting around the mill area. Rolling stock consisted of unsprung timber bogies with the usual tramway profile wheels, and some sprung trucks on ex South Australian Railways axleboxes. Presumably all the running gear of these wagons is ex-SAR.

CATASTROPHE AT WELCOME SWAMP

F.Jaeger & Sons., Welcome Swamp, near Redpa (3-ft.6-in. gauge)

In LR No.27, p.22, Mark Plummer reported on the various remains of locomotives which could then be found at this location. These included a Hudswell Clarke 0-6-0ST (B/No.380 of 1891) with boiler removed and internal combustion engine fitted in its place; a Baldwin 0-4-0ST frame fitted with a car chassis and engine; and the remains of two "A" class Climax geared locomotives. These remains had been lying undisturbed since 1963 when Jaeger's timber tramway closed.

A visit to Welcome Swamp on 7th. February 1971 revealed that the Hudswell Clarke 0-6-0 was still there, but most of the other parts were missing. The Baldwin chassis had gone, along with practically all the "A" class Climax parts.

The burnt wooden frame of one Climax was lying upside-down, with the shell of the vertical steam engine attached, but the gearbox was missing. Various steel fittings were attached to the frame, and it appeared as if it had been not very successfully burnt in an attempt to retrieve these parts. The only other Climax remain was a head stock. Fresh wheel tracks of a heavy vehicle revealed that the other parts had only recently been removed.

Subsequent inquiry has revealed that these parts were carted away by scrap merchants to Bell Bay, where they will be exported to Japan as scrap metal. The bogies of the Climax locomotives were used to construct an internal-combustion loco for use on the Britton's Swamp sawmill tramway. These have also been sent to the Bell Bay scrap yard. The remains of the Marrawah tramway locomotive "Spider" have met the same fate. "Spider" was an ex-Bendigo steam tram motor built by Phoenix Foundry, Ballarat in 1892, and underwent many conversions, finally ending up as a timber bogie.

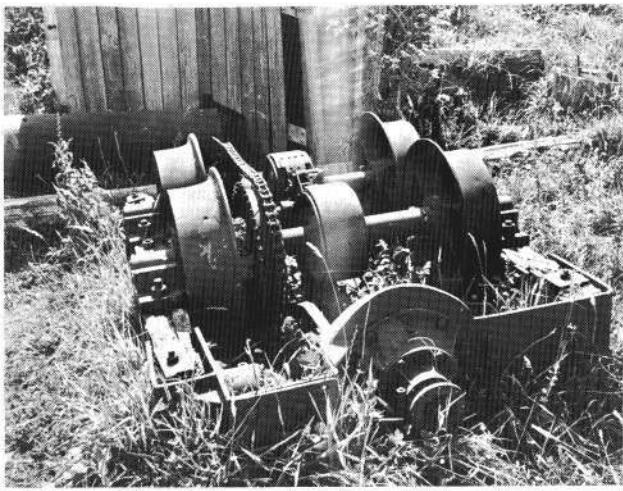
The loss of the "A" class Climax locomotives is regrettable, to say the least. The remains at Welcome Swamp were believed to be the last examples of this type of locomotive in the world. The "A" class Climax was quite different in principle and appearance to the "B" class, of which there are many still in existence, including two in Australia. Had the scrap merchants delayed a few more months the

story would probably have been much happier, as plans were underway to retrieve the Climax parts for restoration purposes. (See LR No.24, p.9 for an article on Climax locomotives.)

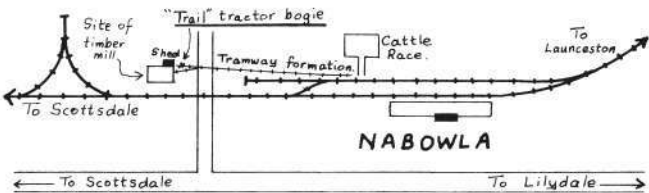
The Baldwin locomotive at Welcome Swamp may have come from Sanderson's timber tramway at Forrest, Victoria; and the Hudswell Clarke was identical to "Tom Cue" (B/No.378 of 1891) which also worked on Sanderson's tramway. Both these Hudswell Clarke locomotives were originally used by the contractor who built the Midland Railway of Western Australia.

Nabowla tramway remains (2-ft.6-in. gauge and others)

At Nabowla - about seven miles west of Scottsdale on the TGR's North Eastern Line - are the remains of a 2-ft. 6-in. gauge "Trail" tractor, consisting of a bogie (illustrated at right). The wheels, of tramway profile, are about 18-in. in diameter.



This bogie is lying outside an old concrete shed, inside which are various parts of stationary boilers - governors, safety valves, etc., and two pairs of 22-in. diameter tramway wheels with con. rod holes. These looked to be of quite ancient vintage, although I suspect they must have been used on some sort of tractor. The wheel tread was not as wide as on the usual tramway type wheels. At the side of the shed, near the railway, were the foundations of a timber mill, and an old stationary boiler, hidden under blackberries.



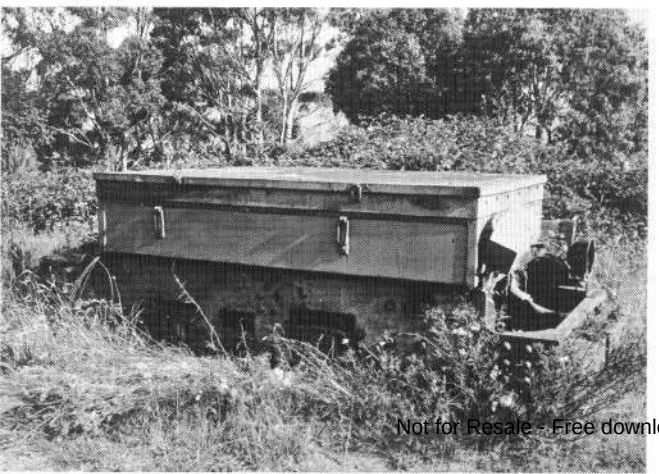
Having found this tractor I made enquiries in Nabowla in an effort to find out what it was used for. An elderly resident (Mr.Smith) who used to work at various sawmills in the area told me this tractor was only used to cart sawn timber from the mill across the road into the station yard. He did however, also tell me of a number of other timber tramways which worked in the area around the turn of the century, all wooden railed and horse-worked. They were -

Gill's Mill tramway, running from Blumont to Nabowla, about four miles long, and closed by 1904.

Gofton's Mill to Nabowla, about six miles long, closed about 1920.

Peddle's Mill to Greta Siding, about four miles long, operated around 1910. Hudson's tramway, which was seven miles long, connected with Peddle's line.

This information, although sketchy, does indicate that the Nabowla area was once well served with tramways, and is probably worthy of more detailed research.



Cornwall Coal Co. N.L.,Cornwall,near St.Marys (2-ft. & 3-ft.6-in. gauges)

Participants in the TGR's excellent centenary celebrations probably saw the mine buildings near Cullenswood station, about three miles west of St.Marys. The triangle at Cullenswood was used to turn the locomotives which ran the steam specials to St.Marys. Passengers on the trains, at least the ignorant mainlanders, got the impression that the mine was still working, and it seemed that the TGR siding running off the triangle was still in situ.

An inspection of the mine site on 16th. Feb. 1971 revealed that the mine was very much defunct, and an elderly gent who is employed as caretaker of the remains told me that it had closed about nine years ago.

There was much more to this mine than met the eye at first sight, and

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Photo captions - Cornwall Mine

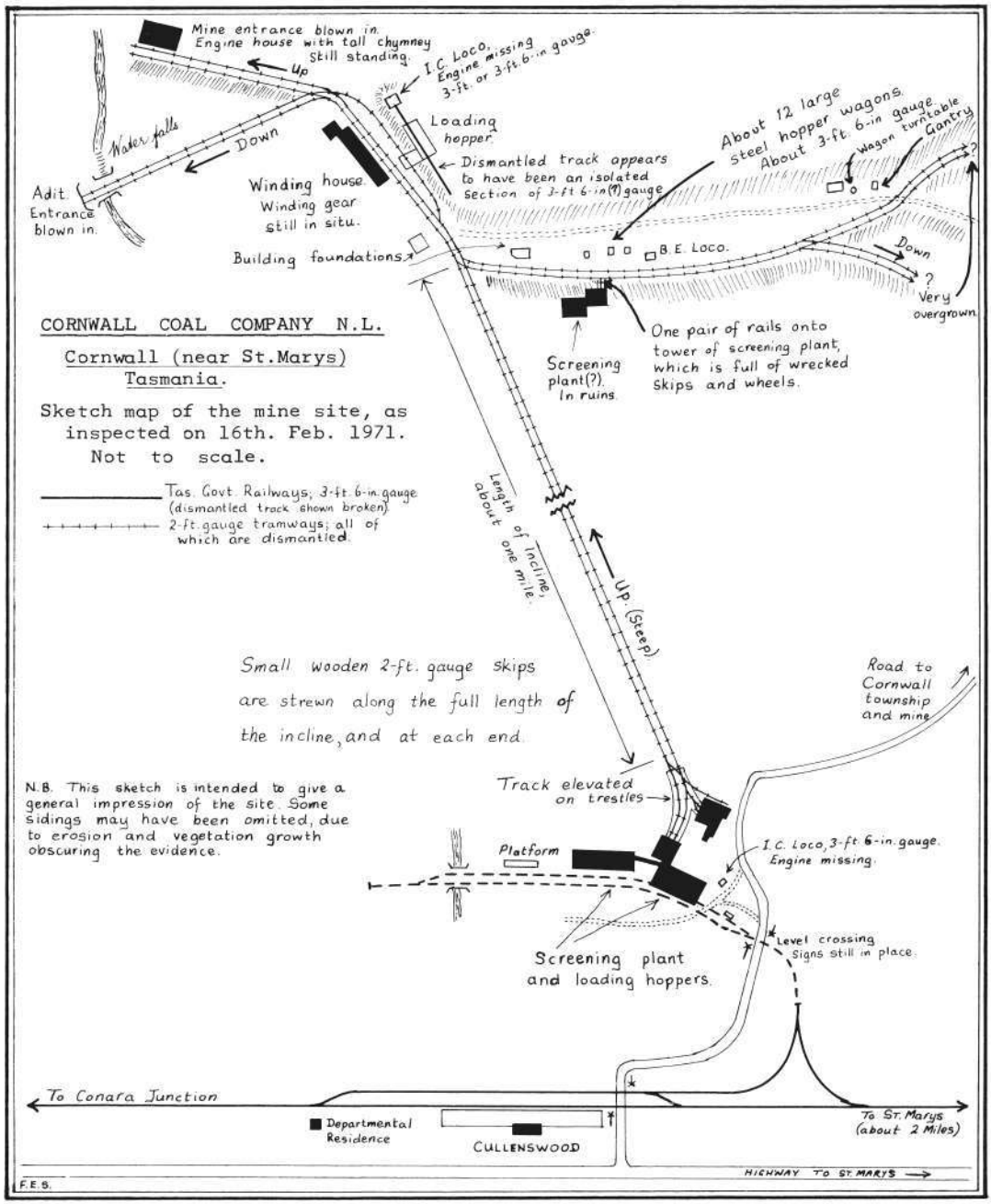
Top - The frame of a four-wheel chain coupled internal-combustion loco which is lying derelict at the bottom level, near the screening plant. This is 3-ft.6-in. gauge.

Centre - A 2-ft. gauge skip at the bottom level. The wheels are $11\frac{1}{2}$-in. in diameter; wheelbase $24\frac{1}{2}$-in.; outside dimensions of body - width 38-in.; height $29\frac{1}{2}$-in.; length 54-in..

Skips of this type are strewn along the full length of the incline, there would be at least 100 on the site.

Bottom - This battery-electric locomotive is derelict at the top level. The builder's plate reads "The Jeffrey Manufacturing Co., Columbus, Ohio, USA. Trade Mark Armorplate Reg. U.S. Pat. Electric Locomotive Serial No.8169. Type B.D.M. Class 20. Volts 93. D.B. Pull 2000 lbs. 5 MPH."

This locomotive is presumably 3-ft.6-in. gauge, although it could have been 3-ft.. It was not possible to measure the gauge.



the diagram on p.34 roughly indicates the layout of the place. The screening plant at the lower level was in good condition and securely locked, but the remains at the top level of the long cable incline had been fairly thoroughly stripped, although it was quite surprising what remained.

Although most of the rails on the 2-ft. gauge system had been removed most of the rolling stock remained. The long incline had been deeply scoured in places, as a creek seems to have diverted itself down it.

I have annotated the sketch in fair detail, and with detailed captions to the photos, this should give a fair idea of the site as it is today. At the top right hand side of the sketch, the two tramway formations are shown as "very overgrown", and I did not have time to investigate these. They appear to have been closed a long time, but the caretaker did tell me that the tramway once continued several miles in that direction.

(All Tasmanian items - F. Stamford)

Photographs opposite

Four-wheel internal-combustion loco, (engine missing) at the top level of the Cornwall mine workings, opposite the winding house. The locomotive, which appeared to be of 3-ft. 6-in. gauge, apparently operated on an isolated stretch of track at a loading hopper, at the top of the main incline. (See diagram opposite)

VICTORIA

Geelong Steam Preservation Society, Belmont Common (3-ft.6-in. gauge)

A motorised gangers' trolley of the "Casey Jones" type, No.T122, ex South Australian Railways, arrived at Belmont Common on 1st. December, 1970.

The Spring issue of the Belmont Common Railway Magazine reports that good progress was being made on the swamp embankment when torrential rains flooded the Barwon River. New work on the embankment, which was devoid of weeds, was badly affected, almost all the ballast and some of the earth being washed away. At the

height of the flood there was a few inches of water in the depot, but very little damage resulted. The older work on the embankment was undamaged. The Society feels, that with proper planning and care it should be virtually unaffected by these floods.

The railway operates every Sunday, and most Saturdays and holidays, the fare being 20¢ Adult, 10¢ Child, and 50¢ family. Half a mile of track has been laid and authority has been given to lay five miles of track on the Common. The State Government has agreed to give a 2 to 1 grant on all funds used for acquisition of working exhibits (you donate $2, the government gives $4, total $6). While this will provide the bulk of the funds needed in the near future, it is of no use without direct contributions from those who will benefit .... railway enthusiasts and the general public.

Members of the LRRSA who would like to make a donation to this worthwhile scheme should write to the Treasurer, Belmont Common Railway, C/- Town Hall, Geelong, Vic. 3220.

In LR No.32, p.16 to 19, we published some information about, and photographs of, Baguley 0-4-0T locomotives. Since then John Thompson has found in his collection this photograph showing one of the Baguley locomotives at a construction site. From the information published in LR No.32, it would be reasonable to assume that the picture was taken at Goolwa barrage works, South Australia; but John was told that it was taken somewhere in the Redcliffs/Mildura area. Can anyone identify the site?

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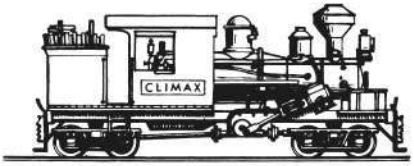
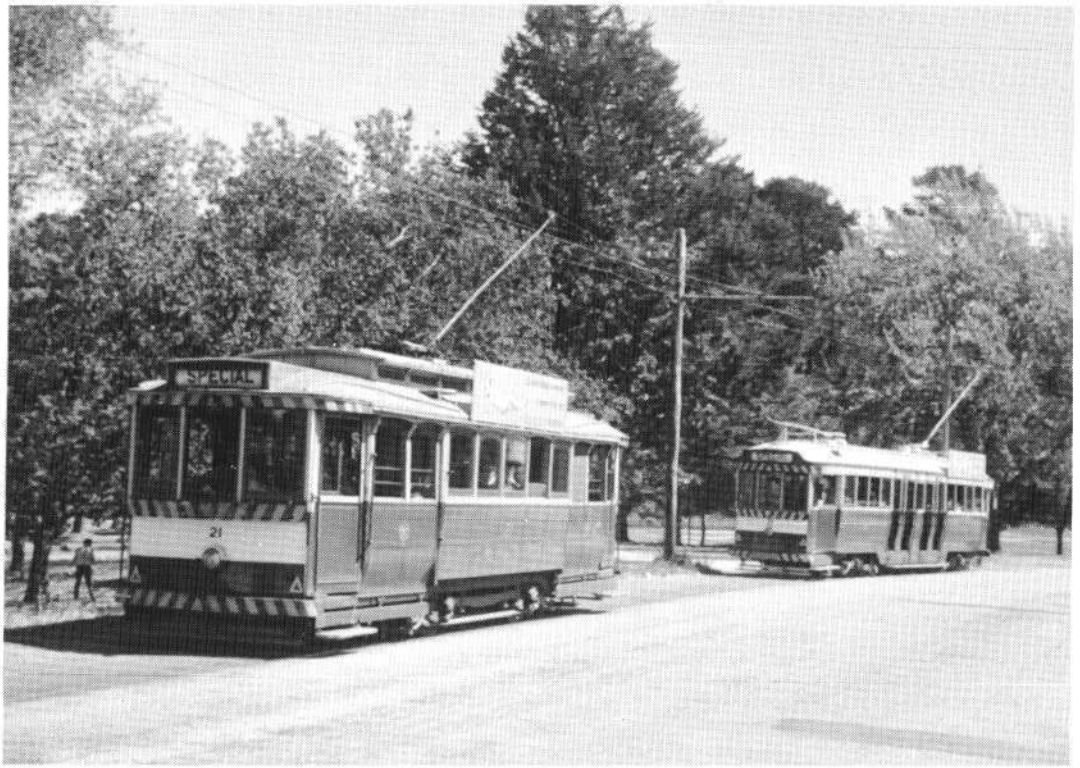
AUTUMN 1971





Vintage trams at Botanical Gardens on the Lake Wendouree route, Ballarat, Victoria. The leading car was a VLRRS special, the rear car an ARE special, on 3rd. March 1968. The Ballarat and Bendigo systems - the last surviving provincial electric tramways in Australia - are to close in a few months. In an effort to preserve the Lake Wendouree route the Ballarat Tramway Preservation Society has been formed. The SEC has agreed to sell the BTPS several trams, permanent-way, overhead gear and spares etc, for a nominal price, subject to the Ballarat City Council's approval. Members interested in this very worthwhile scheme are urged to write to Bill Jessup, 34 Kulnine Avenue, Heatherdale, Vic.3132, for further details.

TO OUR READERS...

Whilst every effort is made to ensure the accuracy of articles published in "Light Railways", errors may creep in. Additional information is being discovered all the time, and this sometimes contradicts previous information.

If you see any errors, or can add information, please contact the Editor, and so help us to record the full history of Australia's light railways.

Articles and News, Notes & Comments items are always welcome.

Historical references to sums of money in "Light Railways" are in Australian pounds (£). One pound equalled two dollars on changeover to decimal currency in 1966.

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MEETINGS - Second Thursday every second month at 8-00pm, room 11, Victorian Railways Institute, Flinders Street Station building, Melbourne. Next meetings 12th. August 1971; 14th. October 1971; 9th. December 1971. Visitors welcome.

BACK NUMBERS of "Light Railways" - Nos.13, 14 and 15 @ 15¢ each (or the three, posted for 50¢). No.25 @ 35¢, Nos.29, 31, 32, 33, 34, and 35 @ 65¢ each, plus postage. Postage on one copy is 6¢; two copies 12¢; 3 or 4 copies 18¢; 5,6,7 or 8 copies 24¢. Also available "Narrow Gauge Review" No.5, published by the Light Railway Research Club of Queensland @ 36¢ incl. postage. To avoid delays please make remittances payable to the Society, not to individuals, and address orders to Stephen Martin, LRRSA Sales Officer, 7 Talaskia Road, Upper Ferntree Gully, Vic.,3156.

PRICE INCREASE - The past few issues of "Light Railways" have benefitted from the Commonwealth book bounty, by which the federal government paid 25% of our printing costs. The book bounty was suddenly withdrawn from all magazines printed after 30th. May 1971, as part of the government's efforts to control inflation. We can not possibly absorb the resulting 25% increase in printing costs. With the likelihood of further increases in postage we have had to raise prices and subscriptions (including back number prices). New subscription rates include 20¢ to finance the establishment of archives. Retail price is up 50%, as in the past we have made very little profit on book shop sales.

Cover - Mount Lyell Mining & Railway Company 3-ft. 6-in. gauge Abt rack 0-4-2T locomotive hauls an ore train up the 1 in 20 grade on the way to Regatta Point, Tasmania. This railway was closed in 1963. (Drawn - John Thompson)

The Lune River Railway

Written by - F. Stamford
Assisted by - R.W. Chynoweth
G.L. Maynard

About 65 miles south of Hobart can be found Australia's most southerly railway – a very active seven mile long 2-ft. gauge line which has been operating for about fifty years, carrying limestone from a quarry to a jetty.

Unlike most leading articles in "Light Railways" this one is not intended to be a history, but rather a description of the railway as it can be seen at the present time. The line has attracted remarkably little attention from railway enthusiasts, due to its rather remote location. It has been working in a quietly efficient manner for about fifty years, and as such has had a longer life span than such well known Victorian lines as the Powelltown tramway, or the Moe-Walhalla line.

The headquarters of the railway are located at the southern end of the Lune River township, about one mile south of the Lune River post office, which is the southernmost post office in Australia. The railway is owned by the Australian Commonwealth Carbide Company, who use the high grade limestone as a raw material in the manufacture of acetylene gas at its plant at Electrona, near Snug, about 17 miles south of Hobart.

Description of route

From the Lune River headquarters, which is the approximate midway point of the railway, the line runs generally easterly for about four miles to a jetty at "The Deep Hole"; and westerly for about three miles to a limestone quarry.

Originally the line ran due easterly from Lune River to a jetty at Ida Bay, a distance of about one mile. However this jetty was found inconvenient for ships to enter, so the present line was built out to "The Deep Hole". As a result of this alteration about half a mile of track was abandoned at Ida Bay, but this was adequately compensated for by the extra three miles of track, which in many places is almost on the shoreline, affording magnificent views across the bay to the heavily timbered land on the other side. Between Lune River and the jetty there are no crossing loops or sidings, but the disconnected abandoned trackage to Ida Bay is of interest, as there are several old Zeehan & North East Dundas Tramway bogie flat wagons dumped on it. There are no roads between Lune River and the jetty terminus, and the scenery mostly consists of second rate timber. On this section there are no bridges, but the track is generally very good for a line of this character. Rails appear to be mostly 40-lbs. per yard or heavier, but in some places lighter rail can be found.

The section between Lune River and the quarry runs through heavily forested and fairly rugged country. There is one level crossing on this section, about a mile

Photograph opposite

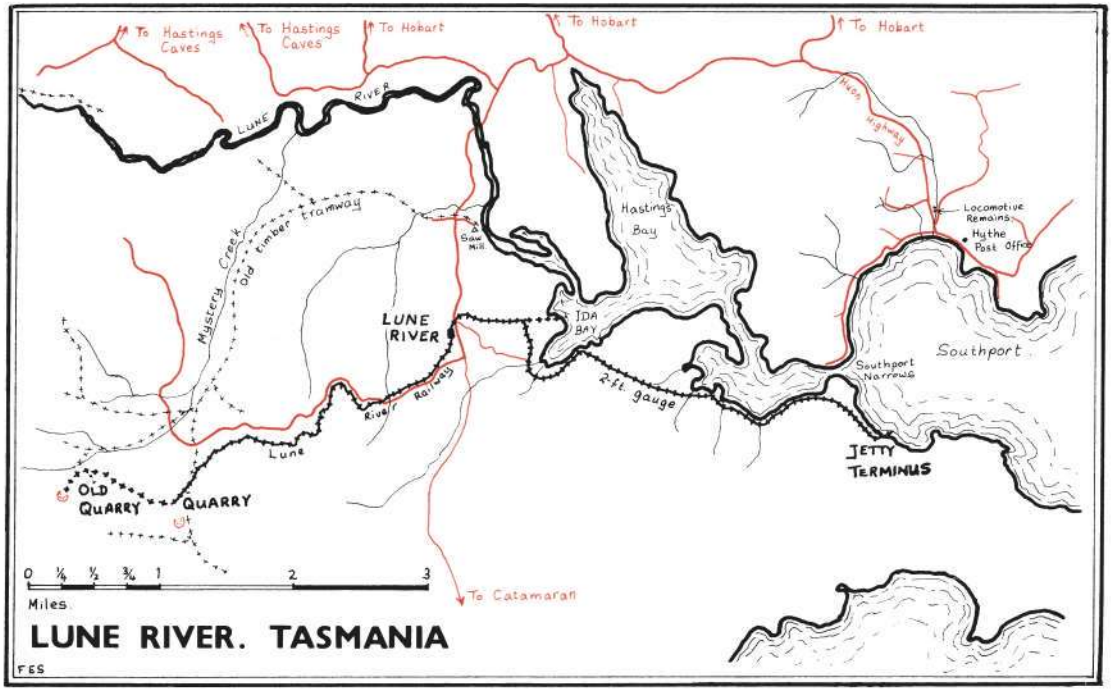
Locomotive No.3 heads a loaded train from the quarry to Lune River, through the typical forest scenery on this section of the 2-ft. gauge Lune River railway. Note the telephone line strung on the tree trunks at the left of the picture, and the mixture of steel and wooden "tubs" on the train. 6th. April 1971. Photo - F. Stamford.

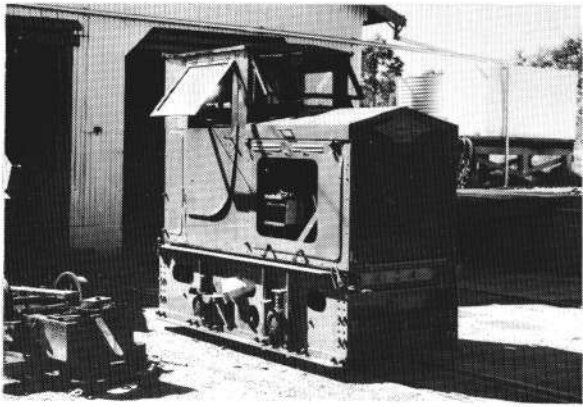
from Lune River, which is protected by locally made "Railway Crossing" signs. About half way to the quarry there is a galvanized iron gangers' shed, which bears a remarkable resemblance to a typical VR station of the "Nobelius" variety. A little beyond this shed there is a single blade point leading to a little used siding. On this siding there is a short turntable for turning the rail-motor - a delightful vehicle which is described later.

The quarry which is being worked at present is not the original quarry. The first quarry was about a mile and a quarter further west, and the line used to terminate there. The rails have been removed on this abandoned section, but it can still be easily followed, and includes a number of crib-work trestle bridges, which over the years had been filled in with limestone. It is believed the old quarry has been abandoned about 20 years.

Track layouts (see pages 9,10 and 11)

Lune River has the most impressive track layout, and a large well built galvanized iron shed houses the four petrol locomotives, and is also used as a workshop for general repairs. One siding is raised on an embankment (marked "railway ramp" on sketch) to allow rolling stock to be loaded on to road vehicles. This would probably be to enable locomotives to be taken to Electrona for major overhauls. Another siding makes an end-on connection with a road ramp. This was to enable all road vehicles used in the quarry to be loaded on to a special flat wagon provided for this purpose, as, until last year there was no road access to the quarry. (The map on p.6 does not show this new road to the quarry). Transporting some of the large earth-moving machinery to the quarry must have been quite tricky, as the overhang on the





Above - 2-ft.gauge Malcolm Moore petrol loco at Lune River.
Left - The jetty, showing loco No.2, with its open cab.
Below - A loaded train at the jetty run-round loop. (Both jetty photographs were taken with a 135mm. telephoto lens, which has exaggerated track faults.)

crude flat wagon provided for this purpose would have been somewhat alarming.

Lune River also has a short siding with a turntable and a small galvanized iron shed, in which is kept the rail-motor. The Hunslet steam locomotive, described later, is standing inside a lean-to shed on a disconnected siding. The whole place is very clean, well kept, and freshly painted, and the corrugated iron architecture is not of the rusty eye-sore variety so common in such establishments. The level crossing over the main road is protected by well made "Railway Crossing" signs, but no cattle grids or flashing lights are provided.

The quarry terminus is located a short distance from the quarry, there being a short connecting road. There are two loop sidings,and a dead-end siding terminating in a loading ramp where road vehicles were driven off the flat wagon. One of the loop sidings is effectively used as a dead-end to stand the rail-motor, as it is partially buried under stone. At the extreme end of the line is a turntable for the rail-motor, and the abandoned formation to the old quarry continues through a deep cutting. The most notable things at the quarry are the single blade points, over which fully loaded trains are shunted with complete success. At other locations conventional points are used.

The old quarry was quite different from the new quarry, as temporary tracks came right up to the working face, road vehicles not being required. The track layout on p.10.is partly conjectural, as most of the track has been removed. Of interest is the trestle bridge carrying the high level track over the low level, this bridge is still standing.

The jetty terminus has a siding with a rail-motor turntable, a run round loop, and a number of sidings to store loaded trains waiting the arrival of a ship from Electrona. The actual jetty is a short timber structure with two tracks. A number of abandoned North-East Dundas Tramway flat wagons lie on some of the sidings here. A loco is always kept at the jetty for shunting when a loaded train, or a ship, arrives. The only building is a galvanized iron shed with fireplace and water tank for the shunting crew, which consists of a driver and assistant. From the jetty one can look across the water to the town of Southport (also known as Hythe), which is directly opposite, but some twelve miles away by rail and road.

Unfortunately the old Ida Bay terminus was not visited, so at this stage it is not possible to publish a track layout. The old jetty is still standing, and can be seen from the newer jetty line. Should any reader contemplate visiting Lune River, I hope they will make a point of seeing Ida Bay and reporting their findings, to help complete the story.

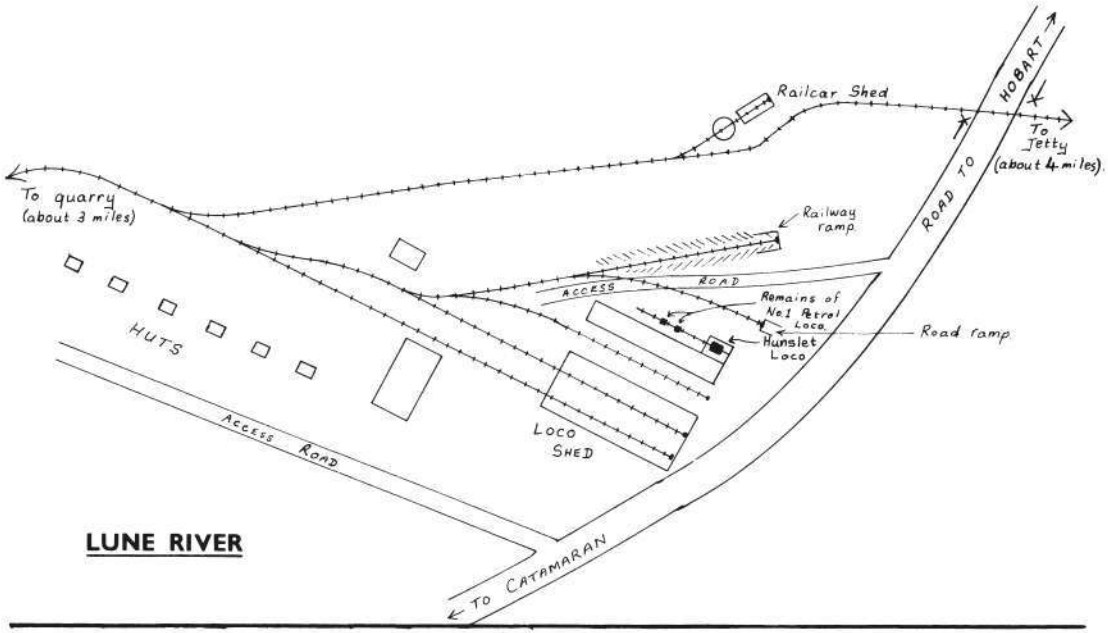
Locomotives

Apparently nine locomotives and one rail-motor have worked on the line. The original steam locomotives are recorded in various sources as follows -

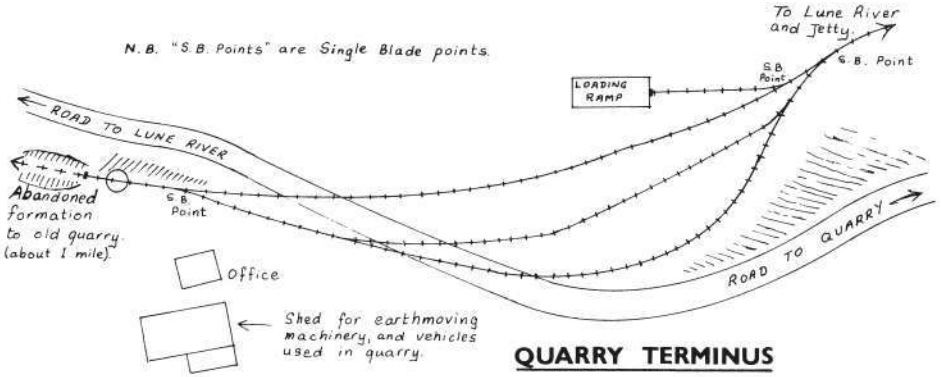
Krauss 2-4-0T B/No.5682 of 1907
Krauss 0-4-0WT B/No.2640 of 1892, 6-in. x 12-in. cylinders.
Hunslet 0-4-2T B/No.1844 of 1936
Krauss 0-4-0T B/No.5988 of 1908,$7\frac{1}{2}$-in. x 12-in. cylinders.

Krauss B/No.5682 is said to have been purchased from the Sandfly Colliery at Margate, Tasmania, in 1921. (See LR No.25, p.13 for description of Sandfly tramway). It would be the Lune River line's first locomotive, meaning that the line is therefore fifty years old. It was most unusual amongst Australian Krauss, as it had outside frames. It was written off in 1946.

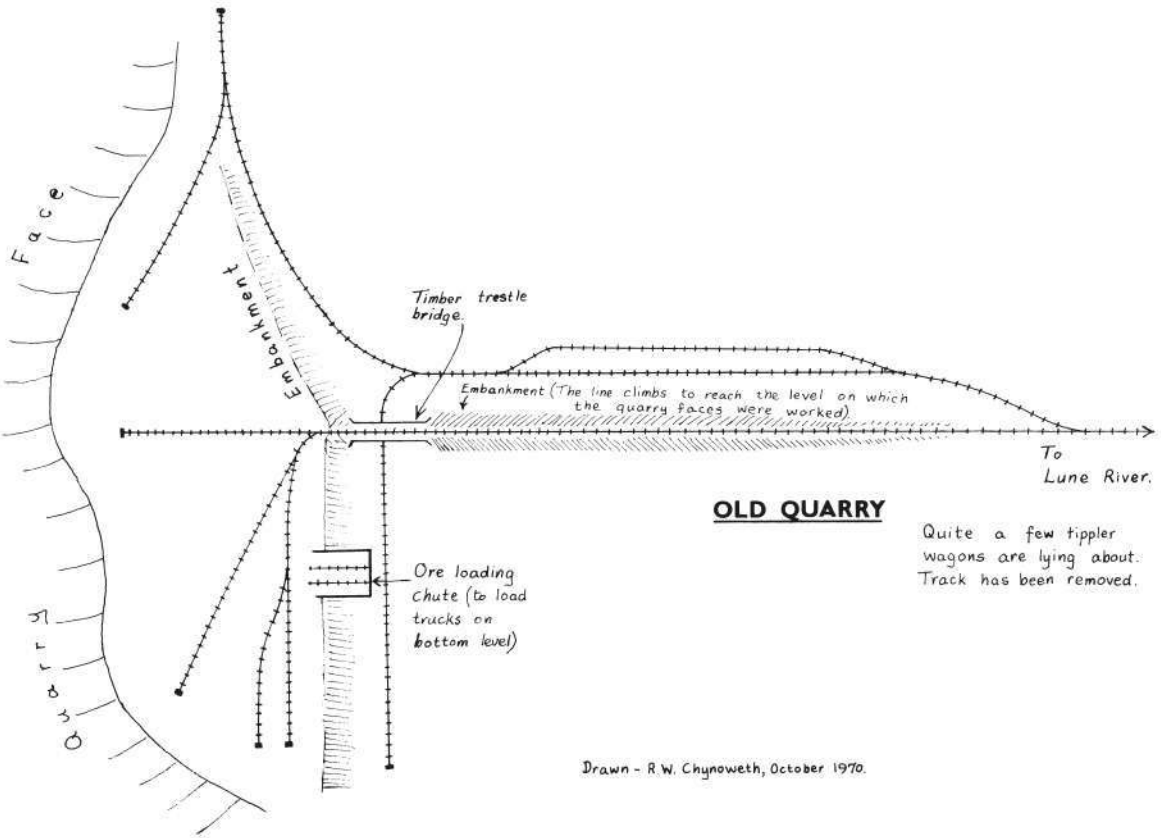
Krauss B/No.2640 is said to have arrived at Lune River in 1930, having originally been used by the Zeehan Western Mine, and possibly been used on the Tullah



Below - Lune River, from the quarry end. The loaded train on the left is standing on the main-line. The train on the right is an empty which has backed into the engine-shed road, to allow the full train to pass. 6th. April 1971. Photo - F. Stamford.



QUARRY TERMINUS



OLD QUARRY

Quite a few tippler wagons are lying about. Track has been removed.

Drawn - R.W. Chynoweth, October 1970.

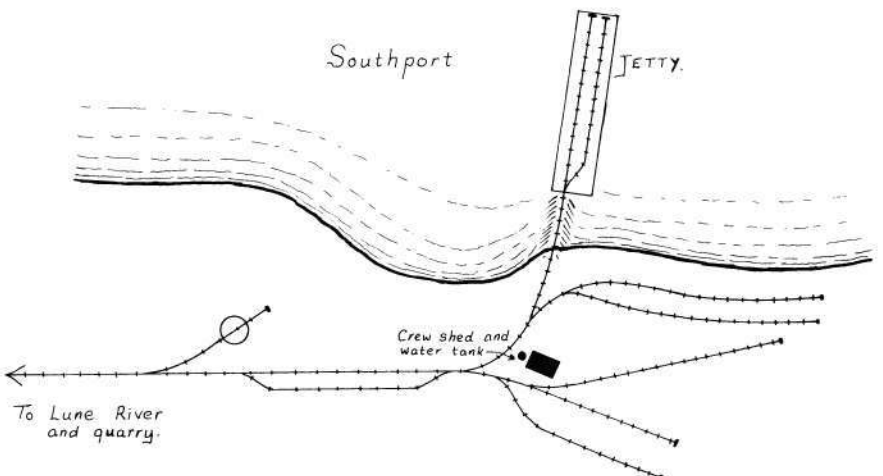
tramway and Dunkley's Duck River line before coming to Lune River. It was scrapped in 1938. This was a $5\frac{1}{2}$ ton engine.

Hunslet B/No.1844 was apparently obtained new in 1936, but is said to have been out of service since about 1950, although it is still serviceable, and was steamed some years ago when some Tasmanian enthusiasts visited the line. For some reason its cab roof has been extended forward to cover the boiler.

Krauss B/No.5988 was formerly Mount Lyell Mining & Railway Company No.9, and is said to have been obtained in 1948, but being a ten ton engine was too heavy for the track. It was sold in 1949 to the North Mount Farrell Mining Company for use on the Tullah tramway, which closed in 1962. The locomotive was still in the engine shed at Tullah in April 1971. According to one source, this locomotive was sold to the Australian Commonwealth Carbide Company by Mount Lyell in 1948, but never actually operated at Lune River.

At some stage, probably between 1945 and 1950, the Company obtained five Malcolm Moore four-wheel petrol locomotives with Ford V8 engines, which for the past 20 years have handled all the traffic. According to a locomotive list prepared by our member Keith McDonald the builder's numbers of four of these units are - 1010, 1017, 1038, and 1056. The builder's number of the fifth loco is not known. The same source records that the locomotives came from the War Department, and have 24-in. diameter wheels.

The Malcolm Moore locos are numbered 1 to 5, and four are in service. Unfortunately I cannot tie in the builder's numbers with the running numbers. No.1 has been dismantled and cannibalised to provide parts for the others. No.2 has an open cab and is usually used as the jetty shunter (see photo p.7.). Nos. 3 to 5 have enclosed cabs and are used on the main line. Normally two locomotives are needed to work the main line service, the third acting as a standby. These petrol locomotives are well kept and painted dark green.



JETTY TERMINUS

There is one other item of motive power - a most delectable rail-motor, illustrated on p.13. This bears road No.7, and appears to have been converted from a car of pre-1930 vintage. It has four small wheels and a tremendous overhang of the bonnet at the front end. It carries the quarry workers from Lune River to the quarry in the morning, and returns them to Lune River in the evening.

No item of motive power was seen carrying road No.6. I do not know if there was another loco or rail-motor which has vanished. However, road vehicles used at the quarry carry number plates of the same style, and presumably in the same series as the locos, so No.6 might be a road vehicle.

Rolling Stock

The most ubiquitous items of rolling stock are simple, wooden framed, unsprung four-wheel wagons, which support removable open-topped boxes. They are fitted with wooden brake blocks, which operate on the top of each wheel. The removable boxes are, in effect, sea/road/rail limestone containers. They are filled at the quarry, taken by road the short distance down to the railway, and placed on the wagons. They are then hauled down to the jetty, and transferred to the boat which takes them to Electrona. There they are transferred to rubber tyred trailers hauled by a road tractor to the works. There must be at least fifty of these wagons.

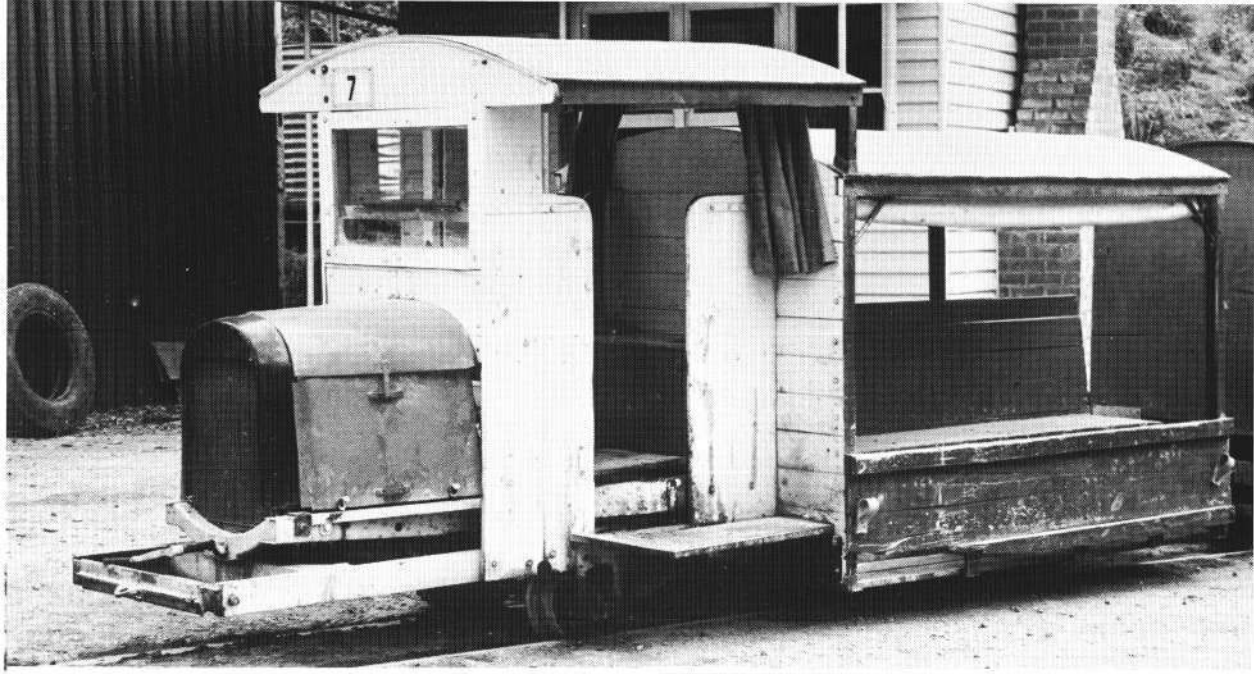
The old North East Dundas bogie wagons are almost all out of service. They are of course, properly sprung, and for this reason they apparently require too much maintenance to be worthwhile. At a guess there are probably about twelve of these vehicles, only one or two of which are still used.

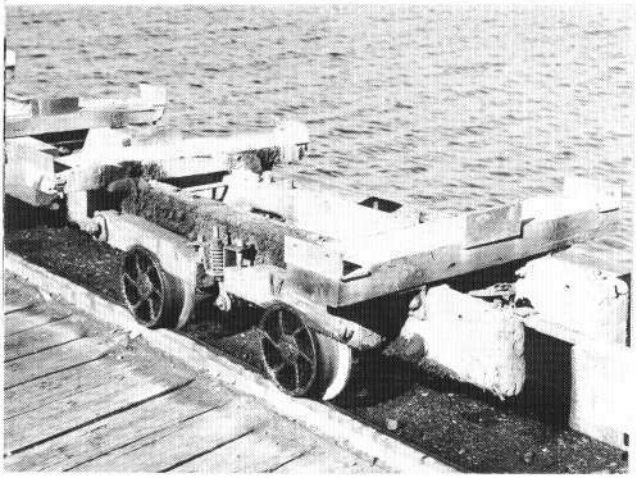
A special flat wagon made of timber with steel framing, is used to carry road vehicles on the railway. It has unsprung wooden-framed bogies of an extremely primitive type.

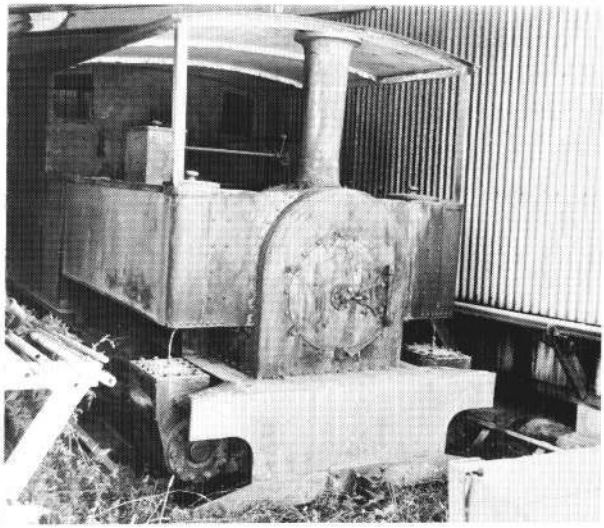
A wooden four-wheel rail-motor trailer with longitudinal seats facing outwards is used to augment the passenger accommodation on the rail-motor.

At the old quarry a number of four-wheel tippler wagons have been abandoned. There do not appear to be

A loaded train about half-way between Lune River and the jetty, on the Australian Commonwealth Carbide Company's 2-ft. gauge railway in southern Tasmania. 8th. April 1971.







Top - The Lune River railway's distinctive railmotor at the quarry.
Above - Hunslet 2-ft. gauge 0-4-0T, B/No. 1844 of 1936 at Lune River.
Top left - Limestone wagon chassis with body removed, at the jetty.
Bottom left - The bogie flat wagon used for carrying road vehicles.
All photographs taken 6th./7th.April 1971.

any of this type of wagon still in service.

The North-East Dundas wagons have centre buffer link and pin couplings. All the other vehicles are coupled by steel bars and pins.

Train operation

At the time of my visit five trains were being run each day. "Empties" to the quarry, crossed "fulls" to the jetty at Lune River. To do this it is necessary for the full train to wait on the quarry side of Lune River until the empty arrives from the jetty. The empty then reverses into the engine shed road, enabling the full to pass. Each train consists of 12 wagons. With such a frequent train service it is worthwhile for the enthusiast to walk along the full length of the line. By doing this he should see a number of trains, and get some good photographs. "Knock off" time is about 4-30pm and it is best to spend two days at Lune River to do the line justice.

Although there are no immediate plans to replace the railway, it seems likely that some alternative method of transport will take over. Road freighting the limestone to Electrona would be too expensive, and as long as there is no road to the jetty the railway is safe. The amount of traffic does not warrant large investment, however the locomotives are about thirty years old and spare parts are a problem.

Other railways in the far south

At the heading of this article the Lune River line was described as the most southerly in Australia. But it was not always so. The map on p.6 shows a number of abandoned timber tramways, as well as the Lune River line. These served the Lune River sawmill (some writers have managed to confuse the limestone line with the timber tramways, but they were never connected, and the timber lines were probably of a wider gauge). Like many parts of Tasmania, the far south once had many long-forgotten tramways. At Southport (where the post office is called Hythe) is the boiler of a vertical boilered timber tramway loco which once worked in this area - see LR No.27, p.13 and 35; and LR No.30, p.17 for further details.

Beyond Lune River the road continues further south in a teeth-jarring manner to Leprena and Catamaran, which are abandoned timber milling and sawmilling townships. At Catamaran, about 17 miles south of Lune River, two Krauss 0-4-0WT's operated on a 2-ft. gauge colliery line. This area is worthy of careful examination, as the huge blackberry growths at Catamaran and Leprena could hide anything. At a spot 6.9 miles (per car speedometer) south of Lune River the writer found a row of sleepers crossing the road and heading through a shallow cutting to the shoreline. The dog spikes were still in position, so I got out the tape measure and made a startling discovery. The gauge was 4-ft.8½-in. What would have operated on that?

References

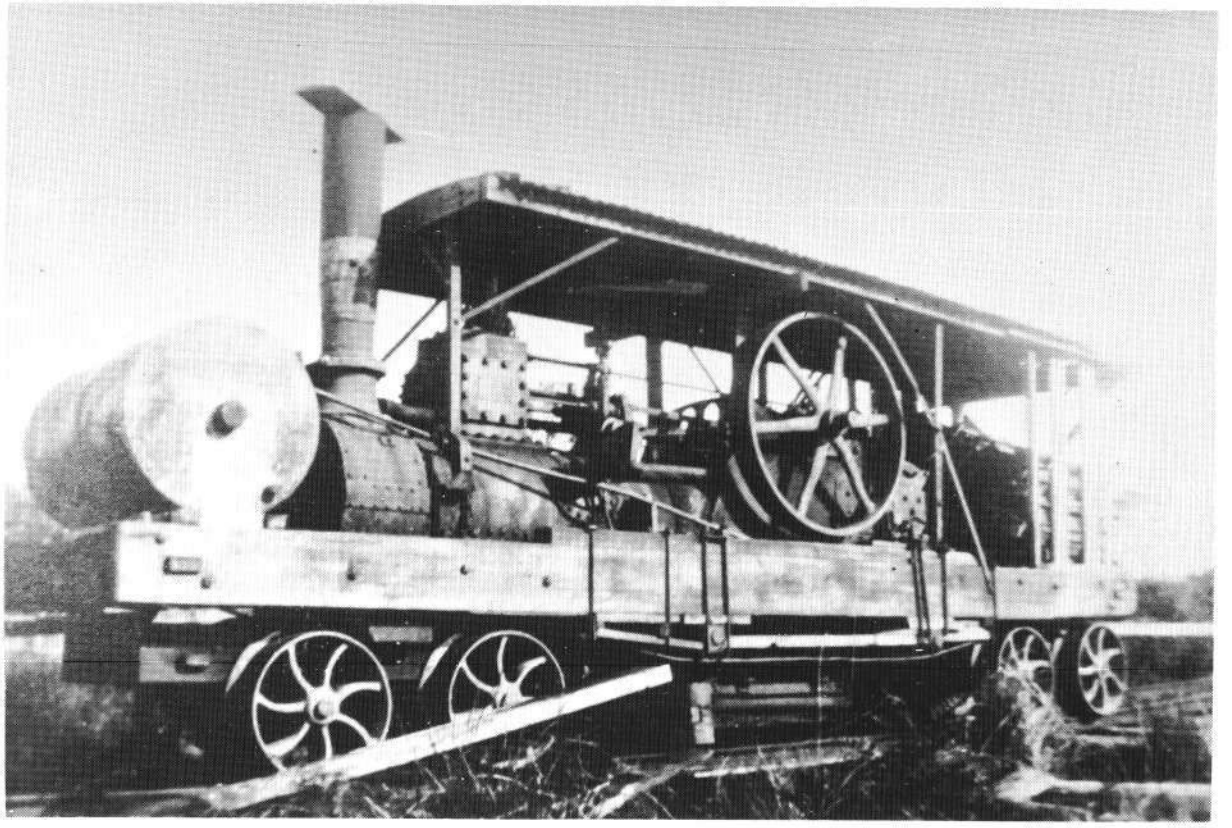
Practically all the material for this article was derived from the personal observations of Wayne Chynoweth, Geoff. Maynard and Frank Stamford on visits to Lune River in October 1970, February 1971 and April 1971. However, the following sources provided some additional information -

H.J.W. Stokes, The Ida Bay (Lune River) Railway, in "Divisional Diary", Feb. 1965.

C.S. Small, Locomotives of the Railways of Tasmania (unpublished, in LRRSA archives)

K.McDonald, Tasmanian Private Railways (Locomotives) (unpublished, in LRRSA archives)

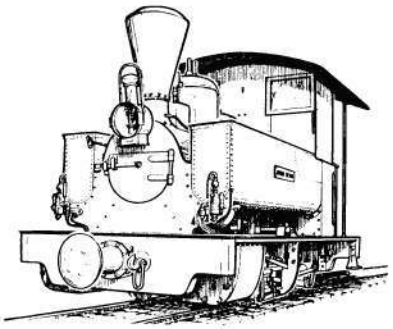
B.T.Macdonald & C.S.Small, Krauss Locomotives in Australia, ARHS Bulletin No.391.



Gems from the Archives

Or an engineer's nightmare? Our gem/nightmare is a 3-ft. 6-in. gauge home-made timber tramway locomotive using a single-cylinder Marshall traction engine, with chain drive to the bogies. This, and a similar locomotive built with an American Buffalo Pitts traction engine, were used in the north-west of Tasmania. Two years ago they could still be found under a blackberry growth, and may still be there. We will not publish their precise location, as scrap dealers are active in the area, but would like to hear from anyone volunteering to visit the site and report the locomotives' condition back to us.

Photo – Winter's Studio, Burnie.



LETTERS

Mr. D. J. Mewes, Secretary, "The Queensland Narrow Gauge Railway Museum Society" writes -

LOCOMOTIVE PRESERVATION IN QUEENSLAND

I have pleasure in announcing the formation of a new railway enthusiast group in Australia. The name of the group is "The Queensland Narrow Gauge Railway Museum Society".

The aims of our Society are to establish in Queensland a museum for the preservation of various types of sugar cane locomotives, colliery locomotives, and various other types of private and industrial locomotives and rolling stock. We eventually intend to have an operating 2-ft. gauge railway using a couple of representative types of sugar cane steam locomotives, as well as having a static museum.

The Society has acquired twelve acres of land for the purpose of establishing the static museum, locomotive shed and workshops, and a caretaker's residence. This land is at present in the names of the seven Society councillors, as at present the Society is not incorporated and cannot legally own land.

The Society was formed in January of this year after the Queensland Division of the Australian Railway Historical Society decided, at an extraordinary general meeting in December 1970, not to continue with their proposed narrow gauge museum. The ARHS (Qld. Div.) had been working on the project for six or seven years and very little had been done, so our Society is virtually starting from scratch.

If any of your members are interested in knowing anything further of our group or are interested in joining they can write to me at 8 Churchward Street, GREENSLOPES, Qld.,4120.

Mr. E. R. Godwin writes -

RAILWAYS AND TRAMWAYS AT WENSLEYDALE, VICTORIA.

I am currently conducting some research into some former VR branch lines, one of these being the Moriac to Wensleydale line. During a recent inspection of this line I discovered the remains of a former 2-ft. gauge tramway which ran between the railway and a gravel pit. In the vicinity of the quarry the track formation is rather hard to trace due to more recent bulldozing, but once clear of this it ran through a cutting for a short distance and then onto an embankment which finished abruptly about 20-ft. above the broad gauge siding. Presumably there would have been chutes of some description to enable the gravel to be transferred to the VR vehicles. The tramway was about a quarter of a mile long, and the VR siding was known as

Gravels Limited Siding, located between Gherang and Wormbete, and was open during the late 1920's.

An aerial tramway also served the Wensleydale line at Otway Coal Company's Siding. If any reader knows any further details of these tramways, or the Wensleydale line itself then I would be glad to hear from them. (The writer's address is 1 Montclair Court, BENTLEIGH, Vic.3204).

Mr. P. L. Charrett writes -

There are a number of items which I would like to comment on in past issues of "Light Railways".

TRAMWAYS OF THE STATE RIVERS & WATER SUPPLY COMMISSION (LR No.28, p.17)

The articles originally published were never meant to include all the SR & WSC tramways, but those researched more thoroughly than others. Mr. F. Stamford is correct in saying there were other SR & WSC tramways. On most dam construction projects, even those of recent years some sort of rail transport was used, mostly in tunnel construction. I do not think that these tunnel tramways come within the scope of light railways, but would be more of a construction machine and normally did not have locomotives. Apart from those lines mentioned in previous "Light Railways", horses or man power were used on rails, and there are very few references to these tramways.

COMMONWEALTH PORTLAND CEMENT COMPANY, PORTLAND, NSW. (LR. No.29, p.20)

Locomotive No.2605 was purchased from the NSWGR on 12th. January 1967. (Reference - NSW Locomotive List 12.1966, published by Association of Railway Enthusiasts)

COAL & ALLIED INDUSTRIES, HEXHAM, NSW (LR No.29, p.21)

My records show that the builder's numbers for the ex Mersey tank locomotives were:- No.5 - B/No.2601, and No.8 - B/No.2604 and these are the numbers referred to by most lists and articles. There does appear to be a bit of controversy about these locomotives, so the numbers published may be correct, but I would like confirmation of this.

FARLEIGH SUGAR MILL (LR No.30, p.15)

The builder's number for "Lacy" is 65-439. (65-409 is Victorian Railways "Y.143".)

BAGULEY STEAM LOCOMOTIVES IN SOUTH AUSTRALIA (LR No.31,p.6;No.32,p.17;No.34,p.36)

The Murray Barrage Works, at Goolwa, were not the only construction sites on the Murray River in South Australia to have steam locomotives, and I believe that the Baguley locomotives were used on other works prior to Goolwa which commenced construction about 1930.

Locomotives were used at least at No.5 Lock, Paringa; Renmark; Blanchetown; Jervois; and Woods Point. Locks were also constructed at other sites, but no specific mention is made of locomotives although tramways were used. Two new locomotives were put into use at Paringa in 1924-25.

The photograph in LR No.34 could have been taken at Mildura, although I think this is doubtful. There was a South Australian gravel siding near the site of No.11 Lock, Mildura, which was in use prior to construction of the Lock, but I have found no references to South Australian locomotives being there. There were locomotives used at No.5 Lock, Paringa, and locomotives may have been used at No.9 Lock, which was nearer to Victoria, but once again I found no references to locomotives used there.

Mr. K. J. Whicker writes -

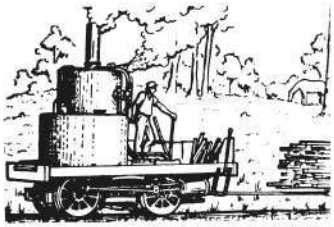
BAGULEY STEAM LOCOMOTIVES IN SOUTH AUSTRALIA (LR No.34,p.36)

I refer to the photograph on p.36 of the Summer issue of "Light Railways" and the query concerning the Baguley locomotive. I would think without a doubt that the photograph was taken in the Redcliffs/Mildura area, and certainly not near Goolwa.

I can recall as a child visiting the Goolwa barrage site with my father and I know that the area was just as barren then as it is today. It is not the sort of country to grow the gums which are in such evidence in the photograph and there are no more gum trees evident in that area today than there were in the 1930's.

Also, as I recall, the old stern wheel paddle steamer "Captain Sturt" was used as the source of steam supply for all operations and this would belie the necessity for a stationary boiler on site as is shown in the photograph.

This latter bit of information is only conjecture and additional, and as far as I am concerned the scenery with the trees is what counts.



News, Notes & Comments

TASMANIA

Zeehan Railway Station (3-ft.6-in. & 2-ft. gauges)

A visit on 12th. April 1971 showed that the station building has gone, and most of the track has been rather half-heartedly removed. A length of 2-ft. gauge track can still be found near where the station building used to be. The various engine sheds and carriage sheds remain, and are still being used by local timber millers, transport contractors, etc.. Amongst the rubbish lying around is the shattered remains of an EBR railcar, and nearby - lying in the grass - is one side tank of the TGR "J" class Hagan's patent locomotive. Also in the yard area are parts of the cabs off Krauss locos, and the frames of ex TGR 2-ft. gauge bogie wagons (there are perhaps about ten of these).

Zeehan School of Mines Museum

No railway enthusiast should miss this museum, which is located in the main street of Zeehan. Amongst the indoor exhibits are many superb railway photographs, whilst a number of maps will excite the enthusiast's interest. The photographs are very well displayed, and the railway historian can spend several profitable hours savouring the delights of those magnificent enlargements, most of which are about 70 years old.

The outdoor exhibits are confined to railway items, and a high chain wire fence topped with barbed wire prevents any vandalism. The exhibits are in good con-

dition and are well kept, but most are painted in colours that do not appear to be correct. These exhibits are as follows -

Emu Bay Railway 4-8-0 loco,"Murchison",Dubs B/No.3854 of 1900, 3-ft. 6-in.gauge.

Tasmanian Government Railways 2-6-0 loco, "C.1", 3-ft. 6-in. gauge.

Mount Lyell Mining & Railway Co. 0-4-2 Abt Rack Tank loco No.1, Dubs B/No.3369 of 1896, 3-ft. 6-in. gauge.

Mount Lyell Mining & Railway Co. 0-4-0WT No.8, Krauss B/No.5480 of 1906, 2-ft.gauge

Lake Margaret Tramway 4-wheel internal-combustion loco, Nicola Romeo B/No.770 of 1925, 2-ft. gauge.

There is also a 4-wheel 2-ft. gauge electric loco built by the General Electric Company of USA, B/No.2375 (or possibly 2376, the number is a little indistinct). I am not certain where this locomotive came from.

Rolling stock includes a Mount Lyell 2-ft. gauge bogie coach, and a 3-ft. 6-in. gauge 4-wheel passenger brake van from the same company. A narrow-gauge rail mounted scoop is also on display. The Mount Lyell railcar, which was reported in LR No.32, p.27 as being destined for this museum, had not arrived at the time of my visit - 12th. April, 1971, but it was expected at any time.

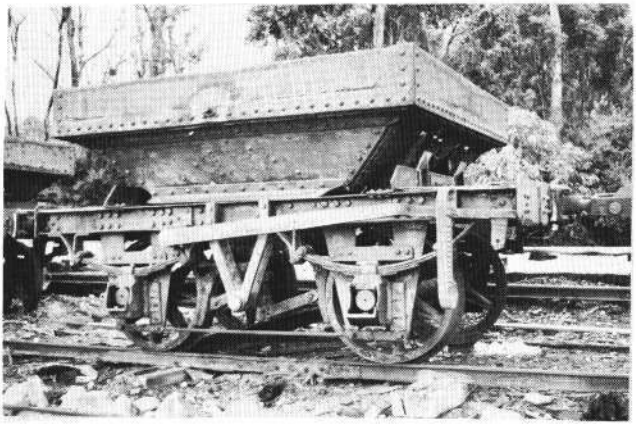
Mount Lyell Mining & Railway Company (3-ft. 6-in. gauge)

A visit to Queenstown on the 11th. April 1971 revealed that the railway station and goods shed still exist and are still used by the Mount Lyell Company. All signs of the Queenstown yard have been obliterated, most of this area now being a car park. At the eastern end there is a well kept grassed area, on which is 0-4-2 Abt rack tank loco No.3, standing on a length of rack rail. This is inside a high chain wire fence, with a securely locked gate and barbed wire along the top. The locomotive is in very good condition, and is steamed occasionally.

At the western end of the yard the railway has been obliterated by housing development. Further on it becomes a well graded gravel road - with very crude bridges - but from Lynchford this is used by the Mount Lyell Company as a private road and a padlocked gate prevents entry of unauthorised vehicles.

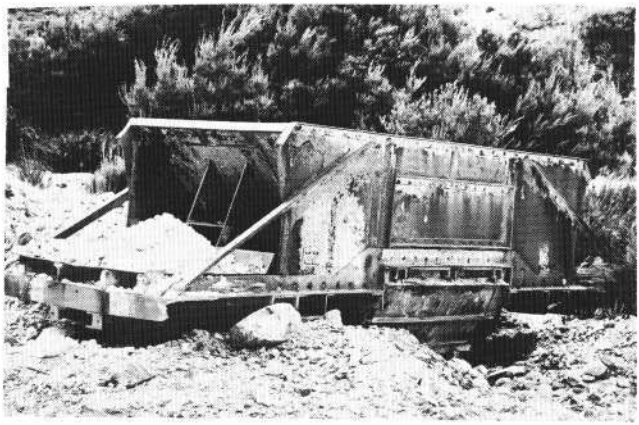
At Strahan the Regatta Point station building and No.1 platform still stands, but most of the track has been pulled up. The engine shed and turntable have also survived. The formation can be driven along from Regatta Point for about six miles to a long wooden trestle bridge, which cannot be crossed by vehicle due to missing sleepers. The long steel bridge over the King River (illustrated at right) about five miles from Regatta Point, is still in situ, with longitudinal planks loosely placed to enable vehicles to cross, but it is safer to walk.

At the oreloading point on the foreshore at Regatta Point, east of the station, are twenty former North Mount Lyell Railway four-wheel hopper wagons in various states of corrosion, and almost all with the axlebox covers "knocked off". The builder's plates - "Hurst, Nelson & Co." - are still on most of the wagons. One of these vehicles is illustrated opposite.



North Mount Lyell Railway
(3-ft.6-in. & 2-ft. gauges)

The Hydro Electricity Commission has built a well graded road on about 17 miles of the formation of this line. It can be reached by driving from Queenstown on the Lyell Highway towards Hobart, and taking the first turn right after passing through Linda. A few deviations from the railway formation can be clearly seen, particularly where bridges used to be on the railway, and where narrow cuttings have been avoided.



The railway was obviously well built, as grades and curves are very gentle, and there are many deep cuttings through stone. About half a mile from the Lyell Highway the HEC road takes a dip where a bridge presumably used to be, and on the left hand side of the road is the body of a bogie hopper wagon - illustrated at right.

At about six miles the road crosses the King River on a large steel girder bridge, - illustrated below, right - which is the most notable relic of the railway. At about eight miles a turn-off leads down the main street of the ghost town of Crotty, and onwards to the

site of the highly expensive, and highly unsuccessful smelters. Little more than a few piles of bricks marks the site of the township. A party of bushwalkers recently sighted what they described as a steam locomotive in the hills around Crotty, but subsequent searches by walkie-talkie equipped railway enthusiasts have failed to find it.

After about seventeen miles the HEC road veers to the left (easterly), while the railway goes straight ahead. The track here is still navigable, but very rough and muddy. After about another mile, further driving is impossible as a landslide has taken away most of the formation for a short distance. For a further mile the track is still clear, and easily walkable, going through some very deep cuttings on the side of a hill, high above a river (the Nora River, I think), glimpses of which can be seen from time to time far below. Vegetation is so dense that the river is rarely seen, but can always be heard gurgling in the deep valley. A few sleepers can be found on this stretch.

The track becomes messy where a further landslide has filled a cutting, causing a bank-up of water. To get through to Kelly Basin might require a well equipped walking party with plenty of time. Should any of our readers make the trip to Kelly Basin, or locate the locomotive in the hills around Crotty, I hope they will write a report for "News, Notes & Comments". The country is so remote that such investigations are not to be undertaken lightly. The locomotive in the hills near Crotty is probably a 2-ft. gauge Krauss 0-4-0T.

(All Tasmanian items - Frank Stamford)

VICTORIA

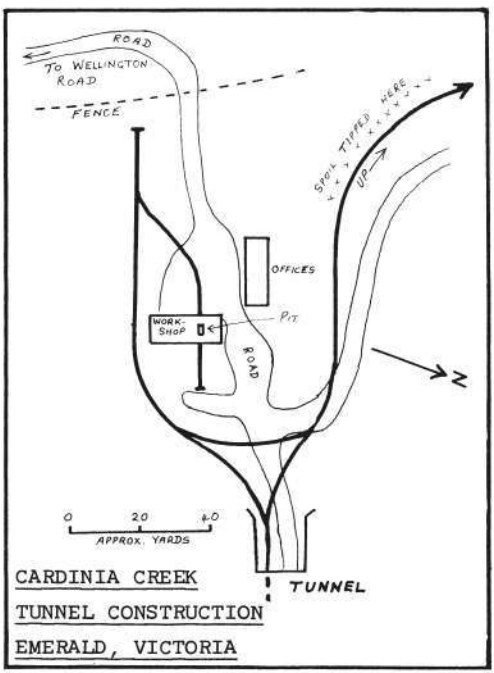
CARDINIA CREEK TUNNEL CONSTRUCTION, EMERALD (3-ft. gauge)

The intrepid motorist who braves the king-sized corrugations and clouds of dust/globs of mud along the more distant reaches of Wellington Road will see on his left, shortly before reaching Clematis, a sign reading "Emerald Tunnel Construction Site". The rail fan who follows this very good road to its terminus will find himself outside the site of Melbourne's latest underground railway.

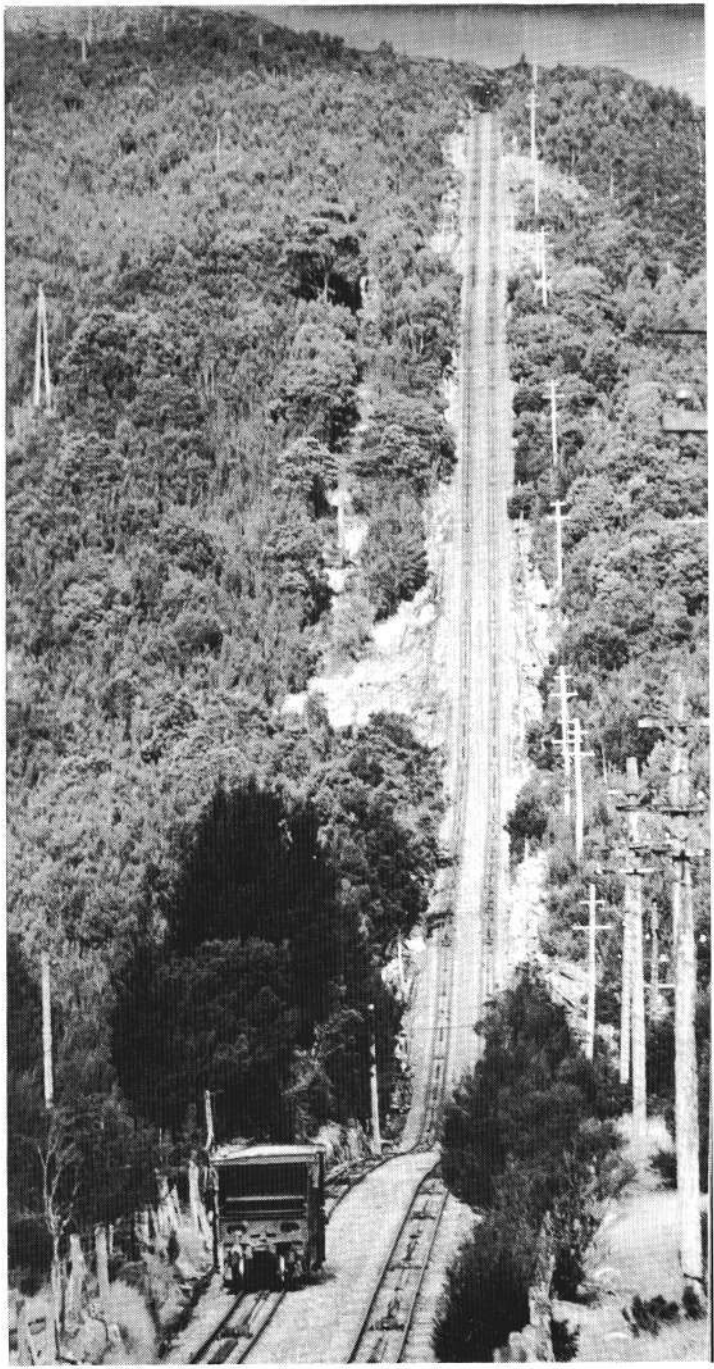
In conjunction with the extensive Cardinia Creek water storage project a tunnel about two miles long is being bored under the Emerald ridge by Kalora Constructions for the Board of Works, and to remove spoil and take in supplies a 3-ft. gauge railway has been constructed.

Two diesel locomotives are presently employed. Built by Commonwealth Engineering of Rocklea, Queensland, they carry builder's numbers 4586 of 1964 and 4596 of 1965. Both are powered by Caterpillar D333 series B motors. They have a maximum speed of 22-mph and tractive effort of 9000-lbs.

(Continued on p.24)

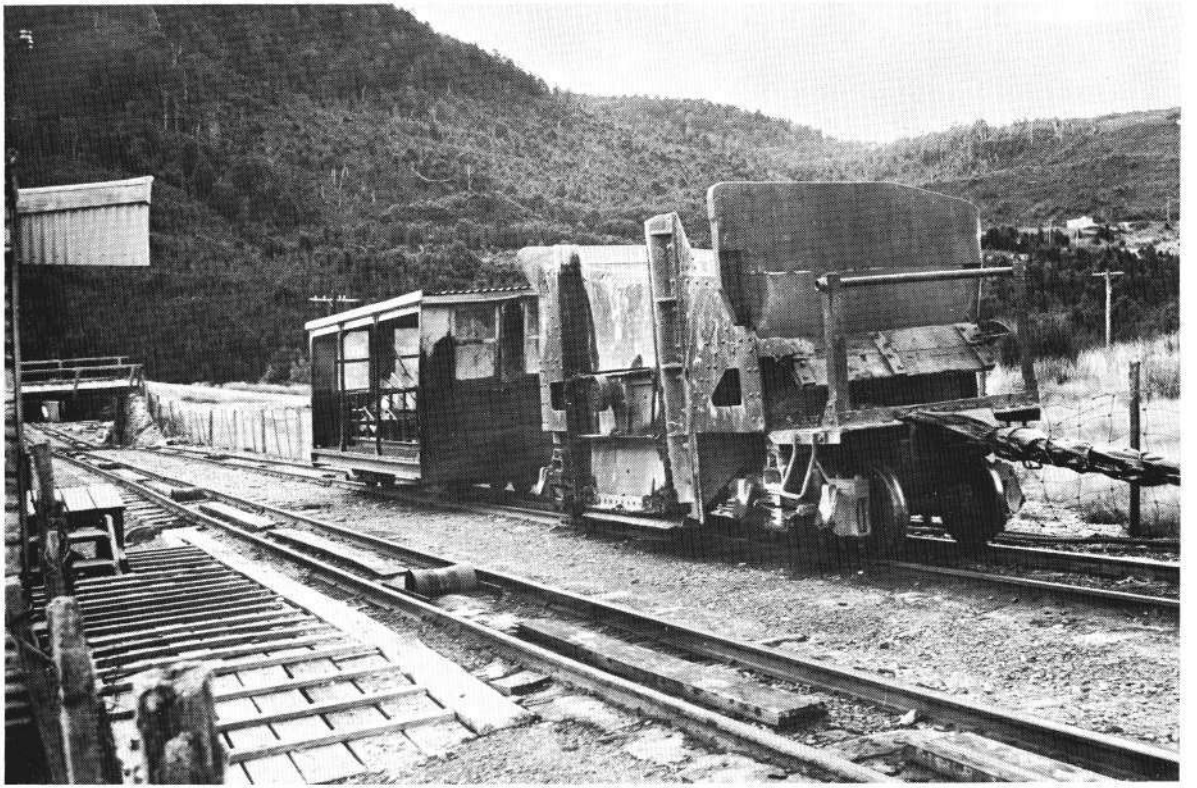


CARDINIA CREEK TUNNEL CONSTRUCTION EMERALD, VICTORIA



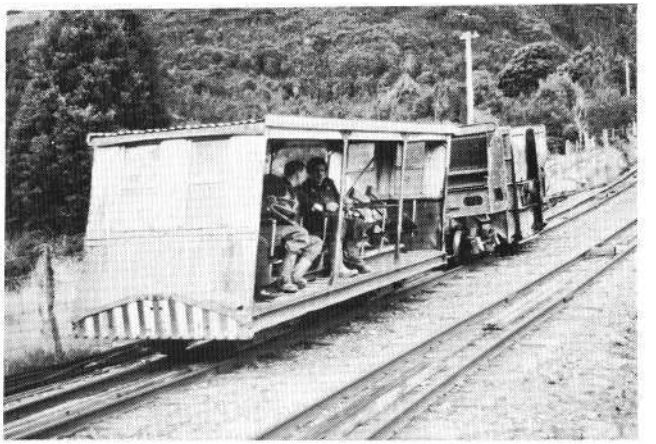
THE WILLIAMSFORD HAULAGE

This one-mile long 2-ft. gauge haulage is located at Williamsford, four miles from Roseberry, deep in Tasmania's west coast. It has an average grade of 1 in 3.2, and a maximum grade of 1 in 1.5, with an operating speed of 14mph. The line, which has been in use for at least 70 years, is now worked by two large bogie wagons, one of which is seen at right, near the bottom of the haulage. A detailed account of this haulage, written by Wayne Chynoweth, can be found in LR No.27, p.25.



THE WILLIAMSFORD HAULAGE

Two passenger cars are used to convey workmen to the Hercules Mine at the summit. The photograph at right shows one of the passenger cars near the bottom of the hill. The photograph above shows the passenger car and wagon at the bottom level station, which has a genuine waiting room and platform.



CARDINIA CREEK TUNNEL CONSTRUCTION, EMERALD, VICTORIA

Both photographs were taken just outside the tunnel by Arthur Straffen on 14th. May 1971.

Approximately 12 side-tipping wagons for the disposal of spoil are on the site, together with at least one closed wagon for the carrying of explosives. All locomotives and rolling-stock are 4-wheel type.

The locos are stated to have come from Jindabyne, in the Snowy Mountain area; many of the wagons have the name "Monier Villawood" roughly painted on them.

At present (May 1971) the tunnel is approximately 900-ft. long, and is being blasted through solid granite. Rakes of three wagons are used to transport the debris to the dump. On the spoil bank rails with inscriptions "KRUPP 1882" and "WEST CUMBERLAND 1884" were noted, together with new, unnamed types. The track here will be slewed across the valley as it fills up. It is expected that the project will take about two years to complete. There is a good view of the spoilbank from the road, otherwise there is not much to see from outside. Understandably, casual visitors are not encouraged, so we hope readers will keep away, or obtain prior permission before entering the site. Later in the year we hope to organize an official visit, with the possibility of a ride on the line. At present the tunnel is only 900-ft. long.

(Arthur Straffen)

Moondarra Tramway

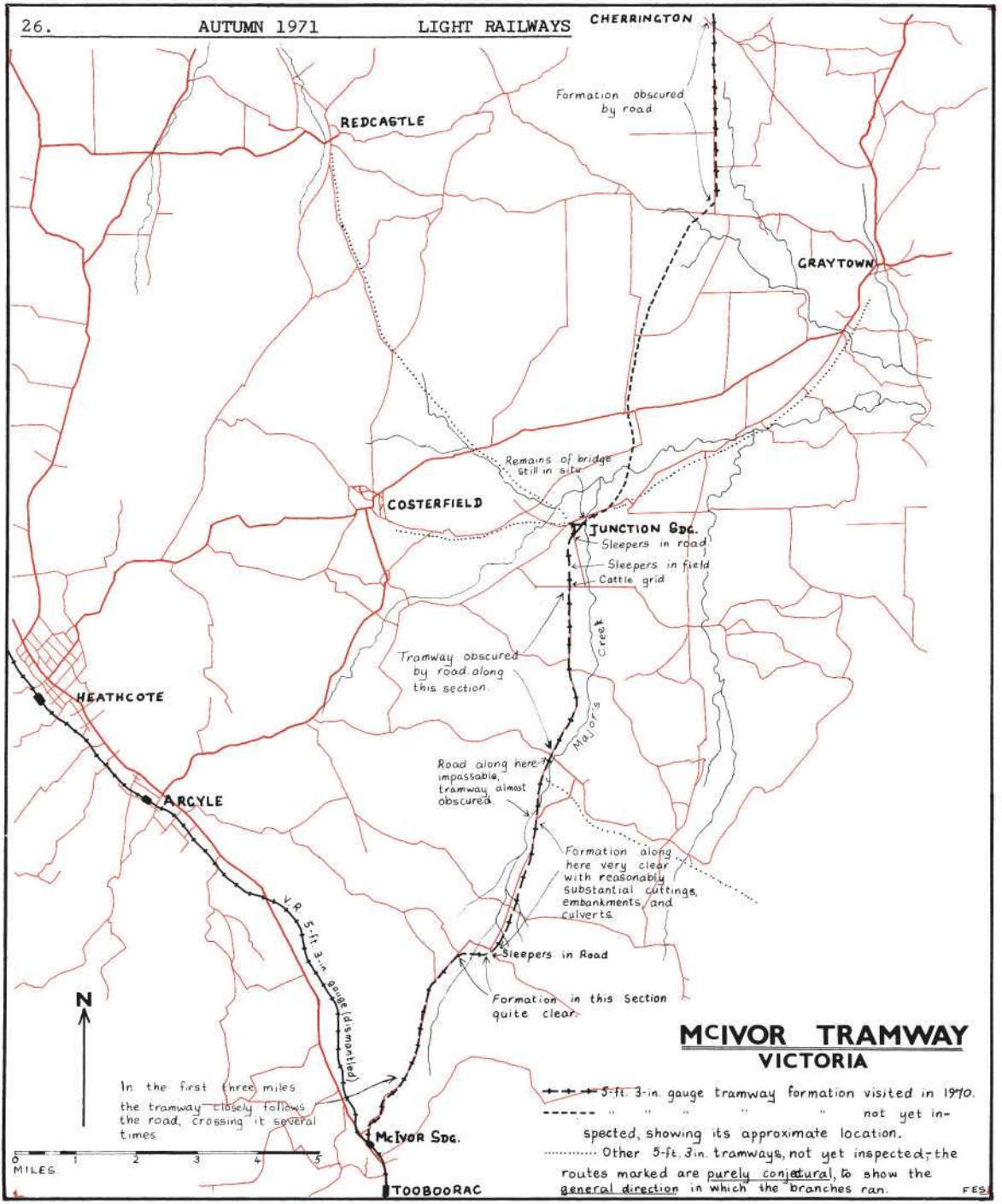
This tramway was located west of Moondarra station on the now dismantled Moe to Walhalla line. Army survey map "MOE" shows the tramway running southerly from the forests to a sawmill located just south of the Tyers River. From here the tramway ran north-east to Moondarra station. The present Moe to Erica road is not shown on the 1940 MOE map.

The site of the mill may be found by starting at the Moe to Erica road crossing of the Tyers River. From the bridge (picnic area on left) proceed in the Erica direction to the point where the road embankment gives way to a cutting at left. The mill site may be found down in the scrub to the left. From the mill, the tramway may be followed north for a short distance to the Tyers River. Evidence of a loop siding exists. The tramway used to cross the river on a bridge built up from a big log felled across the river.

Another part of the tramway may be reached by driving approximately $1\frac{1}{2}$-miles further in the Erica direction from the mill site, and turning left into Senninis' Track. Continue to a point almost to the second wooden road bridge. Here a minor road (former tramway) goes uphill to the right. In amongst the scrub on the left the tramway may be located and followed to the Tyers River. A few low bridges remain, and a shallow cutting can also be seen.

Although the wooden rails and sleepers are in an advanced state of decay, the tramway is surprisingly intact The photograph opposite, taken on 28th. June 1970, shows the tramway north of Tyers River.

(Ray Jude)

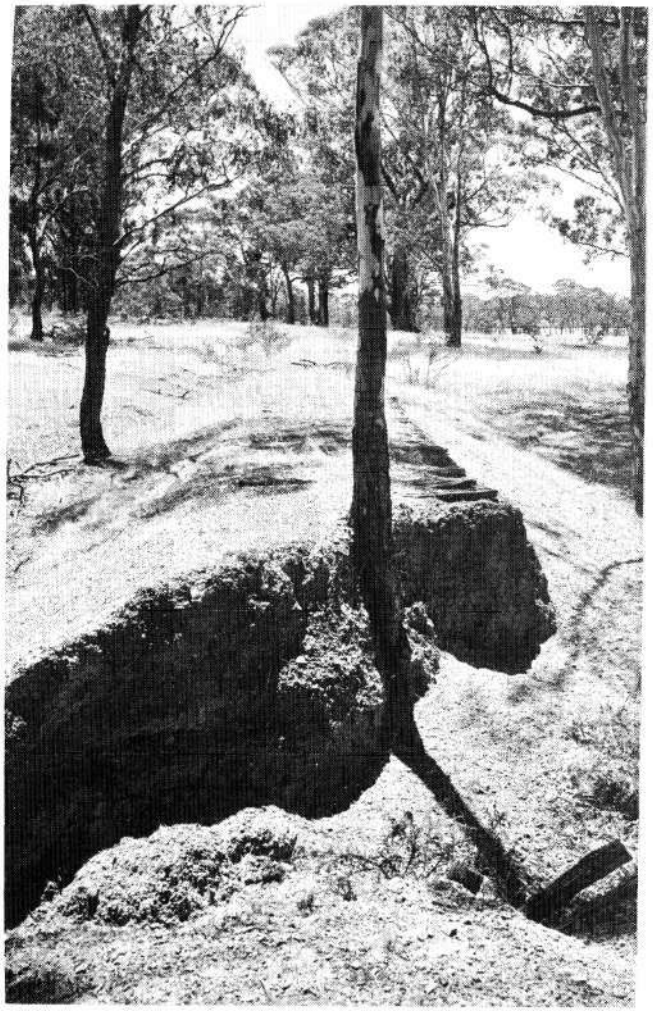


McIvor Mini-tour, Sunday, 13th. December 1970.

16 people in seven cars participated in this tour, which was organized at short notice. Only regular participants in Society activities were notified of the trip. The cavalcade set off from Tooboorac at 11-00am on a very hot day. We drove down Major's Lane, which the tramway used to parallel, for about $3\frac{1}{2}$-miles, to a point where the tramway veered easterly from the road (grid ref.857369), and crossed into a paddock, running through a shallow cutting. In this stretch many sleepers remain, as well as the remains of one or two timber culverts, and one upright of a former trestle bridge. On this section "Parker's Siding" (4-miles from McIvor Junction) was located.

The tramway then crossed a road in which several sleepers were found embedded (grid ref.864370). From here the line parallelled Major's Lane on the eastern side, running in a general north-north-easterly direction. Earthworks in this section are very clear, and included a long cutting followed by a sweeping embankment. About two miles further-on the road becomes impassable, due to lack of a bridge over Major's Creek (grid ref.876408). The tramway followed this impassable road, and in this section Singleton's Siding was located. It has been claimed that a branch tramway ran south-easterly from here towards Puckapunyal (marked as a dotted line on the map opposite). We did not locate the formation of this branch.

Another road, running north-easterly, bypasses the impassable section of Major's Lane, and by taking this short deviation Major's Lane can again be picked up, running north-easterly and then northerly, with the tramway either at the side or underneath the road, the formation being obliterated. Further-on, at an



The McIvor tramway - sleepers still in place - about five miles from McIvor Siding, looking north. December 1970.
Photo - F.Stamford

intersection (grid ref.887477), Major's Lane deviates slightly to the east, whilst the tramway goes straight ahead, there being the remains of a cattle grid where the tramway entered a paddock. Driving along Major's Lane in this section, the tramway is on the western side, in the paddock, about 25-ft. from the fence, with practically all sleepers still in place. A little further on the tramway crosses the road, there being sleepers embedded in the road, and then enters another paddock, where some of the earthworks of "Junction Siding" can be seen, including the formation of what appears to have been a triangle (grid ref.885495).

Just beyond "Junction Siding" we found the remains of a bridge (grid ref. 890495), which was on the southern side of a road bridge, and easily visible from the road. It was possible to walk along the stringers of this bridge. The main line then headed north-north-easterly, away from roads, and we lost it. Nor did we find any of the branches which ran from Junction Siding - westerly towards Costerfield, north-easterly towards Graytown, and north-westerly towards Redcastle. With patience and perseverance it should be possible to locate these lines.

Our convoy headed to Greytown, then turned westerly at Mount Moormbool, and after about three miles turned right, and drove along a road running due north. We followed this road for about three miles to the point where it enters the Moormbool Forest Reserve, at Cherrington. Cherrington marks the end of the McIvor tramway's main line, the tramway having followed the road for the last three miles or so, and the present road has obliterated all signs of it.

At Cherrington (grid ref.923646), all signs of the timber mill have vanished while the area has been cut up by bulldozers, making location of the original sidings virtually impossible. We did find some sleepers, along with a dogspike, a horseshoe, and some large piles of old food tins. The most interesting find, however, was a steel brake block, either off a wagon or a loco.

The various roads used were mainly dry-weather formed earth, a little rough in places, and inclined to be muddy in winter. A highlight of our tour was the way the local terrain was valiantly defended by local inhabitants (i.e. bullants), in one case very successfully against an incautious invader - a highly esteemed M.P. Intending visitors who don't like bullants will be pleased to know that they are no problem in the winter, a slight disadvantage being that Cherrington is a mosquito infested swamp in the wetter months.

(Frank Stamford)

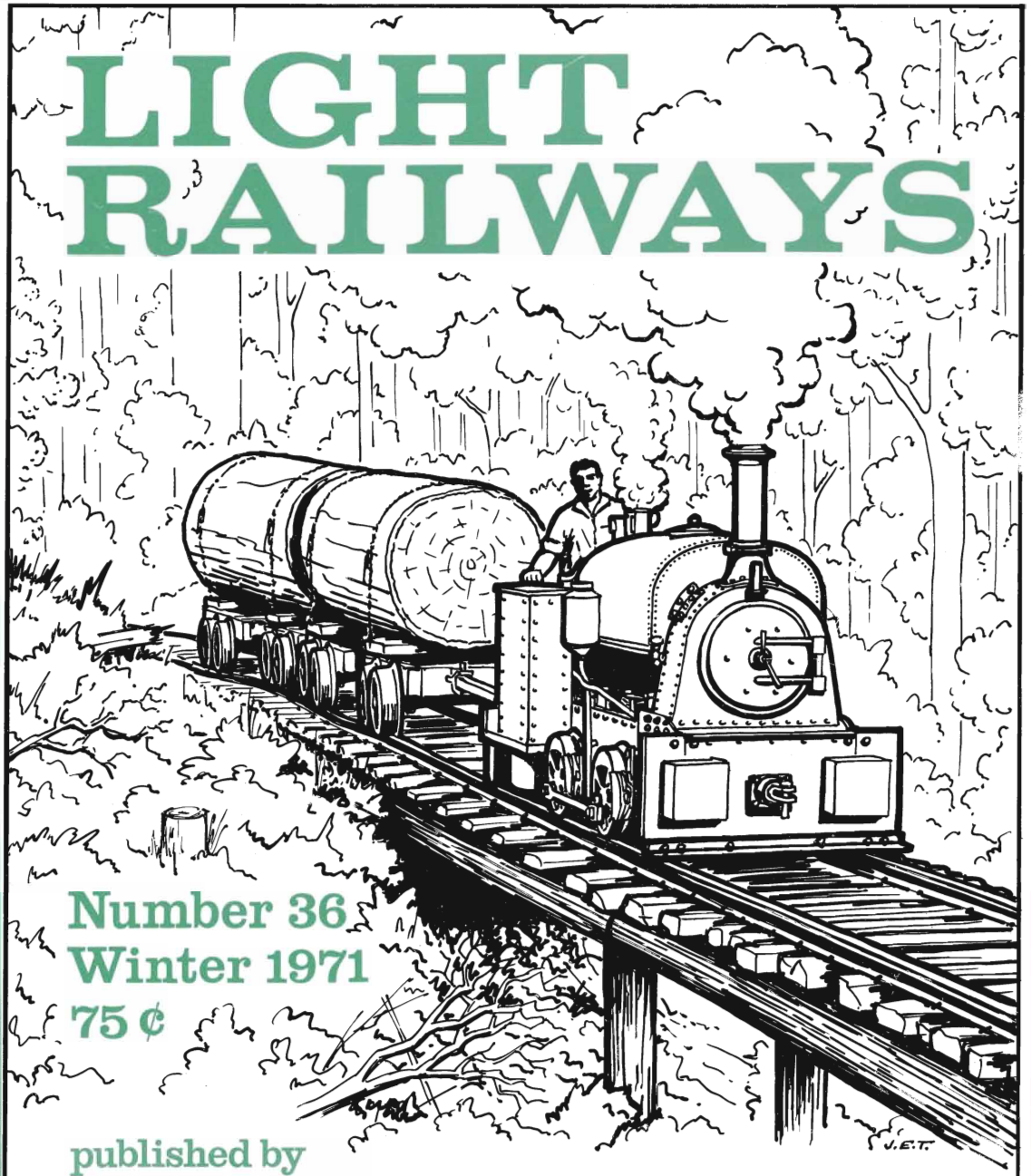
Walhalla & Thomson River Steam Tramway Company Pty. Ltd.

The steam concrete mixer is now in use. The engine shed footings have been poured and the brickwork completed. The tramway is looking for roofing material, timber flooring, bricks; steam engines of 3-in. to 7-in. bore, twin or single cylinder, vertical or horizontal; feed water pumps; and two boilers. The tramway concentrates on the use of steam equipment in its construction project, as there is plenty of firewood available for fuel. Also needed is electric lighting and power cable, insulators for telephone wires, and water pipes and fittings. The sleeper sawmill is being built, whilst the engine shed is being constructed from natural rocks collected from the creek. Some further work has been done on the locomotive, particularly to the cab. Willing assistants can write to the W.&.T.R.S.T.Company, C/- Ferris's General Store, Walhalla, Vic.,3825.

(From W.&.T.R.S.T. News Letter, Summer 1970-71)

Registered for posting as a periodical - category B.

LIGHT RAILWAYS



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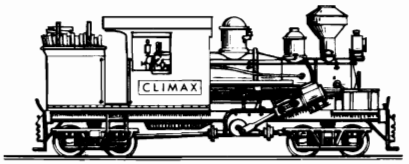


From your editor

Timber tramways have a unique fascination for most of our members. With Winter behind us, many readers will again be heading for the bush to search for tramway remnants. Please remember to send a report of your discoveries to "Light Railways", so that there will be a permanent record of your findings. This is industrial archaeology in the true sense. Contributions can be of any length, and diagrams and photographs are always acceptable, but not essential. For those prepared to search there is still plenty to find. Good hunting!

GEOFFREY ANDREW DOREY THOMSON

It is with deep regret that we record the tragic death of Geoff Thomson, aged 24, a former Council Member and Vice President of the Society.

Geoff had a keen sense of history, and loved to "go bush" tracing obscure old tramways in dense forest. In his extensive travels he made many notable discoveries, like the formation of very old tramways at Yarragon, and Henry's tunnel at Forrest. Whilst on the Council it was he who suggested that something be done to preserve the Poverty Point bridge.

He often turned up old maps and mining reports, and always unselfishly shared his findings with other members. He worked hard and went without a lot to complete his Bachelor of Engineering Degree. During vacations he took jobs in fascinating places like western Tasmania, and off-shore oil rigs. After graduating last year, he hitch-hiked around Australia and went to Portuguese Timor. He then took a job as a geologist in the Northern Territory. Geoff died on the 13th. September 1971, after his Land Rover had been involved in an accident at Larrimah, N.T., the previous day.

With his sincere, easygoing nature Geoff made many friends in the Society, and he will be very sadly missed. Our sympathy is extended to his parents and brother.

(M.P.)

TO OUR READERS...

Whilst every effort is made to ensure the accuracy of articles published in "Light Railways", errors may creep in. Additional information is being discovered all the time, and this sometimes contradicts previous information.

If you see any errors, or can add information, please contact the Editor, and so help us to record the full history of Australia's light railways.

Articles and News, Notes & Comments items are always welcome.

Historical references to sums of money in "Light Railways" are in Australian pounds (£). One pound equalled two dollars on changeover to decimal currency in 1966.

LIGHT RAILWAY RESEARCH SOCIETY OF AUSTRALIA

COUNCIL

ANNUAL SUBSCRIPTION - $2-90 ($1-45 if under 17 years)for year ending 31st.May 1972.

MEETINGS - Second Thursday every second month at 8-00pm, room 11, Victorian Railways Institute, Flinders Street Station building, Melbourne. Next meetings 12th. August 1971; 14th. October 1971; 9th. December 1971. Visitors welcome.

BACK NUMBERS of "Light Railways" - Nos.13, 14 and 15 @ 15¢ each (or the three, posted for 50¢). No.25 @ 35¢, Nos.29, 31, 32, 33, 34, and 35 @ 65¢ each, plus postage. Postage on one copy is 7¢; two copies 12¢; 3 or 4 copies 18¢; 5,6,7 or 8 copies 24¢. Available from - Stephen Martin, LRRSA Sales Officer, 7 Talaskia Road, Upper Ferntree Gully, Vic.,3156.

Cover - Hunslet 3-ft.6-in. gauge 0-4-0ST, B/No.1100 of 1911 at work on Henry's timber tramway, south of Forrest, Victoria. The locomotive had inside cylinders - an exceptional rarity on conventional 3-ft.6-in. gauge locomotives; the only other Australian example of which I know was South Australian Railways "K" class 0-6-4T No.52. Henry's Hunslet, which was purchased new for the tramway, had another peculiarity. Its funnel was hinged, so that it could be lowered to pass through the 1,362-ft. long tunnel between the Noonday Creek Mill and the No.1 Mill, which had been built in 1900 when the tramway was still operated by horses. There were only a few inches clearance of the safety valve in the tunnel, and the driver had to crouch while in the tunnel. The locomotive was derelict at Forrest in 1946 and subsequently scrapped.

A history of the Forrest tramways can be found in LR 18,p.12;LR 19,p.13; and LR 22,p24; a report on the finding (after much perseverance) of the tunnel site in LR 25,p.26; and additional information on the locomotives in LR 19,p.20,21, & 22; LR 20,p.27; LR 25 p.24; and LR 33,p.27. (Drawn - John Thompson).

POST CARD

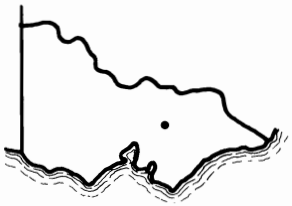
Alexandria Dec 20th 1911

Dear Wally Wishing you & Mrs Fyfe and the Children a Merry Christmas & a prosperous New Year. This is the bridge we pass over going to the Falls you boys will remember it. The Tramway had just started and was going across last Saturday afternoon when the long span collapsed and you can see the result I went out at daylight Sunday morning to see it. Do you Know the old Duke sitting on the rail

Remain yours Yours Tom Ward

Timber Tramways of the Rubicon Forest 1916 - 1935

By - Frank Stamford



The article in LR No.28, page 3, described the development of Clark & Kidd's 3-ft. 6-in. gauge tramway in the Rubicon forest, and the first few years of the Rubicon Lumber & Tramway Company's 2-ft. gauge Alexandra – Rubicon steam tramway. This article records the developments which took place in the 20 years after 1915.

The Alexandra - Rubicon Steam Tramway

It will be recalled from LR No.28 that this 12-mile, 2-ft. gauge tramway was built by the Rubicon Lumber & Tramway Company Pty. Ltd. under the provisions of the Tramways Act 1890. The Alexandra Shire Council applied to the State Government for permission to build the tramway, and then delegated their authority to construct the line to the R.L.& T.Co.. The tramway ran along the side of public roads, this land being leased by the Council to the Lumber Company for a period of 25 years expiring on 23rd. October 1935. The tramway was opened in December 1912 and until 1919 had one locomotive, a Krauss 0-4-0WT, B/No.2459 of 1891. Timber and general freight traffic was carried, but there was no passenger service.

This steam tramway terminated at Lower Rubicon (this location was then known as "The Depot"), where it connected with a 3-ft. 6-in. gauge horse tramway, owned by Clark & Kidd, which ran into the Rubicon forest, serving Clark & Kidd's sawmill. An extension of this horse tramway was owned and operated by the R.L.& T.Co. to serve their original timber mill, which was seven miles from The Depot. This mill is not shown on the map on p.13 of LR No.28, but was located near the Royston power station. Development of these tramways was retarded by the first world war, which had depressed the timber industry, due to lack of skilled labour. Galvanized iron, glass, paint, and fencing wire had become very expensive.

A few interesting incidents about the next few years of the line's operation are recorded in the "Alexandra & Yea Standard". In June 1917 the 2-ft. gauge tramway was damaged during a period of severe flooding. The line was fairly frequently subjected to minor flooding.

On 15th. March 1918 an 18 year old youth - a ward of the state - placed a 30-lb. stone, two sleepers, and a limb of a tree across the track near the Rubicon bridge at Thornton. The stone was about 8-in. x 8-in. x 10-in., and the sleepers 4-in. x 4-in. x 8-ft.. The locomotive came along from Alexandra, pushing two timber bogies and pulling several more, and struck the stone, causing the leading two vehicles to derail and the engine to cant over on its right hand side. The train was travelling at about 4 - 5 mph. at the time. The youth, who said he did it "for fun"

Left - LR No.28, p.10, recorded the collapse of the Eildon bridge, on 16th. December 1911, when the 2-ft. gauge Alexandra - Rubicon tramway was still being built. We have since found this old postcard, dated 21st. December 1911, which shows the collapse much more clearly.
Photo - Courtesy Don Baker.

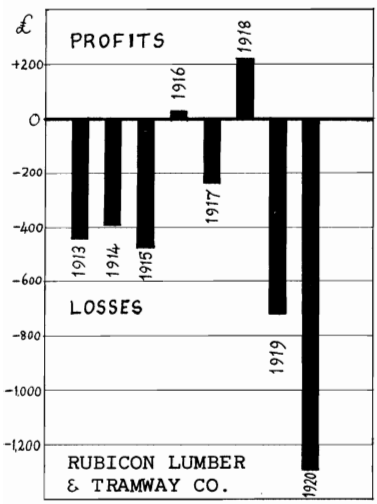
was placed on a £10 bond, the magistrate saying it was more an act of stupidity rather than malice.

At this time the Lumber Company were resleepering the line from end to end, although it was only six or seven years old - which casts some doubt on the quality of their timber! Later in 1918 the locomotive was blamed for at least two fires, one of which damaged the Eildon bridge, while the other burnt out several acres of crop.

Second locomotive arrives

With the end of the war the timber industry began to flourish, and traffic on the Rubicon 2-ft. gauge line became heavier. To cope with this the R.L.& T.Co. obtained a second locomotive, seventh-hand. This was another Krauss 0-4-0WT, B/No. 2591 of 1892, and almost identical to the first, except that this one had a large diamond spark arrestor. The original owners of the locomotive are unknown, but from 1894 to 1907 it was the Mount Lyell Mining & Railway Co.'s No.1 at Queenstown, Tasmania. It then went to Wadey & Co. for use on the Heatherton Asylum tramway, at Cheltenham, Victoria, later finding its way to South Australia for abbatoirs construction work. It then worked for two South Australian contractors - F. A. McCartney, and Smith & Timms, finally coming into the hands of the Rubicon Lumber & Tramway Company sometime in 1919. Its arrival at Alexandra was unnoticed by reporters of the "Standard", and so the exact date of delivery cannot be verified.

Despite the resurgence in the timber industry, the company had not proved a gold mine to its shareholders, only three dividends of 2½% having been declared in the first ten years of operation. Supporting a request to the Council for permission to raise freight rates on the tramway, the company's secretary quoted profit and loss figures of the tramway, which are shown on the graph below.



Faced with these figures the Council could hardly refuse rate increses. But they did insist that rates for produce consigned from Thornton to Alexandra, and parcels rates, would remain the same. As would be expected, most of the tramway's income came from timber traffic, produce from Thornton bringing in only about £10 per month, so the Company did not object to this compromise. Freight on timber went from fivepence to sixpence per ton, per mile.

Late in 1924 work commenced on the State Electricity Commission's Rubicon - Royston hydro-electric scheme, which resulted in a big increase in traffic on the R.L.& T.Co.'s tramway. This traffic consisted mainly of building materials to be transported from Alexandra to Rubicon, and must have proved very profitable to the company as it balanced the heavy Rubicon to Alexandra timber traffic.

In order to facilitate this traffic, the 2-ft. gauge tramway was extended about two miles from The Depot (Lower Rubicon) to Tin Hut (Rubicon). Although this work was apparently carried out by the SEC, the line was worked by the R.L.& T.Co.. At Tin Hut the SEC built a 2-ft. gauge steep haulage which made an end-on connection with the tramway from Alexandra. A number of other 2-ft. gauge lines were built by the SEC at this time, and these will be described in a later article.

During February 1926 some of the worst bushfires in Victoria's history were raging over an extensive area. The Rubicon steam tramway escaped lightly from these, although three bridges in the vicinity of The Depot were destroyed.

Third locomotive arrives

With the increasing activity on the SEC scheme, over 200 tons of cement were being delivered on the tramway each week. The R.L.& T.Co. felt that the time had come to purchase a third locomotive, and this had been placed in service by the end of July 1926. It was another Krauss 0-4-0WT, B/No.4387 of 1900 whose original owner is unknown. It worked for the Hassell Marion Bay Gypsum Company of South Australia up to 1921. It was then reboilered, but it is not known if it was used anywhere between 1921 and 1926. This was a bigger engine than the first two, weighing $7\frac{1}{2}$-tons, and it had a large conical spark arrestor.

Although the second and third locomotives both had impressive looking spark arrestors, they were still blamed for starting fires. At the Shire Council meeting of 14th. September 1927 it was resolved that legal opinion be obtained to find what could be done to compel the R.L.& T.Co. to make proper provision to prevent the starting of bushfires by the Company's engines.

I could not find any record of the outcome of the above resolution, but in December 1928 complaints were again made by the Shire Councillors that the engines were starting fires. Local residents were so concerned that on hot days they followed tramway engines with wet bags.

A private railcar is built

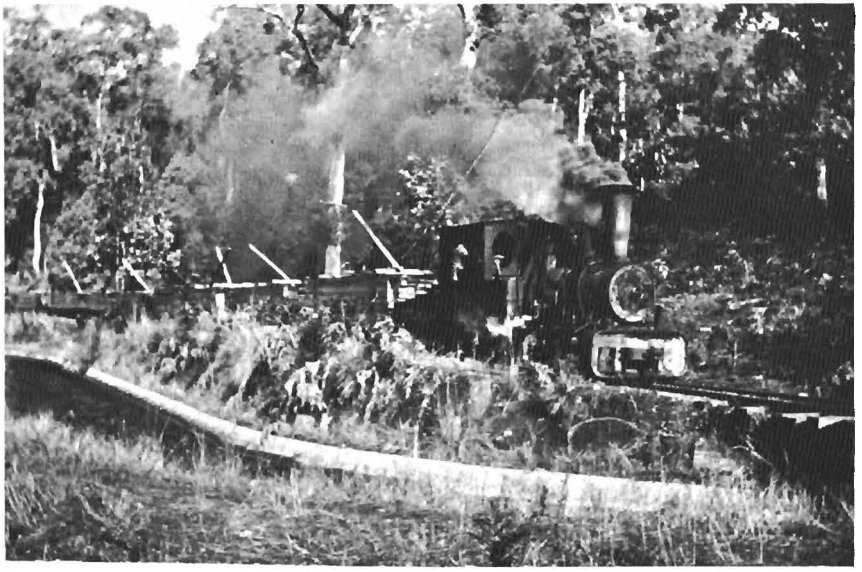
In the 1930's the road from Thornton to Lower Rubicon was almost impassable for several months of the year, and all provisions for the timber mills and SEC installations had to be brought along the tramway. To provide a better service one of the two storekeepers at Rubicon (Tin Hut), Mr. W. B. Marks, began running what was described in the "Standard" as a "light petrol tractor" for the carriage of mails, bread and meat. From this description it would appear that this vehicle was something akin to a "Casey Jones" trolley, and it began operating in 1930.

This vehicle hauled a trailer, and as well as carrying provisions it was used by children returning home to Rubicon from school at Thornton, saving them a walk of three or four miles. Other non-fare-paying passengers also made use of the vehicle, which was involved in at least two accidents. Most of the passengers travelled on the trailer, and on one occasion a man fell off. Following this accident the trailer was put in front of the trolley so that the driver could see that its occupants were safe. On 28th. August 1933 a fatal accident occurred when an eight year old boy, one of eight children riding on the trailer fell backwards on to the tramway, the trailer then running over him. The trolley had one adult male passenger as well as the driver, and was travelling at less than 5-mph at the time of the accident. Subsequently the Coroner recommended that children should not be permitted to ride on the trolley unless better provision was made for their safety.

The "Standard" does not describe Marks' trolley very clearly, but it is known that by April 1934 Marks was using a converted motor truck to run on the Rubicon tramway. So it appears Mr. Marks actually had two vehicles, both of which were confined to the Rubicon - Thornton section of the tramway, the road from Thornton to Alexandra being quiet good.

In January 1932 letters again passed between the R.L.& T.Co. and the Council in relation to the starting of fires. The company stated that ash pans and spark arrestors of their locomotives had been put in first class order. Two months later the company advised that they were taking every care to minimize the danger of fires. Several fires were started shortly after. The following summer further complaints were made about fires, while in July 1933 the Council complained

This 2-ft. gauge railcar, mounted on a ridiculously small bogie, is probably Marks' "converted motor truck" as mentioned on p.7. It is shown standing on a turntable at Thornton, and has a sign on the front - "NO PASSENGERS CARRIED".
Photo - G. L. Maynard collection.



Rubicon Lumber & Tramway Company's third locomotive (Krauss B/No.4387 of 1900) hauls a load of sawn timber from Rubicon to Alexandra. The location is near Lower Rubicon.

Photo - N. E. Wadeson collection.

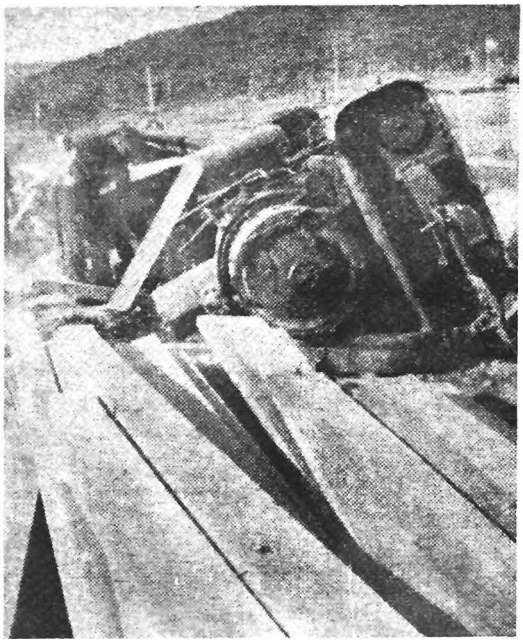
to the company that the locomotive driver was not sounding his whistle at all the crossings and bridges.

Accidents on the Alexandra - Rubicon tramway

Over most of its life the R.L.& T.Co. seems to have had few serious accidents on its 2-ft. gauge tramway, however in the last few years of their operation of the line several accidents did occur.

On 22nd. March 1934 while descending a hill near Lower Rubicon the brakes failed to hold on the wet rails, the train rapidly gaining speed. Near a road crossing a flange on the third truck broke, causing it and the three following vehicles to overturn. With the lessened weight of the train the driver was able to bring it to a stop in a short distance.

A spectacular fatal accident occurred on the line on 12th. June, 1934, at a location near where the accident described above took place. At the subsequent Coroner's Inquiry the tramway guard, William J. Bell, gave a description of the accident and train working in general. This is quoted below -



The result of the accident on the Rubicon 2-ft.gauge tramway on 12th. June, 1934. (Sun News-Pictorial)

"About 7-30am on June 12 deceased and myself left the Rubicon Lumber Company's yard at Alexandra with the timber train to go to Tin Hut for a trainload of timber. We arrived at Tin Hut, which is ten miles away, (the distance between Alexandra and Tin Hut is actually about 13½-miles - FES) about 10-15, and after making up the train left for Alexandra about 11-20 am. A Mrs. Whitehead and her son got on the rear end of the last truck, as we left Tin Hut, as they wanted to come to Alexandra. It was the first time deceased had been driving the engine, but he was thoroughly acquainted with his work and was doing it well.

"When about four miles from Tin Hut I released the brakes to get up a rise on the Alexandra side of Lowerson's. When it got over the top of the rise I applied all the brakes again, to go down the incline to "Blowfly" gully to allow the train to get over the next rise. When the train was near the top of the rise the driver should have shut the steam off, so as to steady the train to prevent it from being too fast on arrival at the top of the incline. He did not shut the steam off until the engine was over the top, with the result that the engine had too much momentum for the driver to slow before descending the next incline.

"As the engine reached the top of the incline I started to apply the brakes on the trucks. I applied them on four trucks but by this time the train had gained so much speed I could not apply the brake on the fifth truck. I jumped on the last truck and as an accident appeared likely I told the woman and her son to

jump off. The son pushed his mother off and then jumped off himself. The train continued on and when it had gone 150-yds. the truck next the engine capsized and pulled the engine with it. The remaining trucks piled up on top of one another and threw the timber off. I went to the engine and saw the driver lying about 3-ft. from the engine. Deceased said "I could not shut her off. I could not shut her off." The deceased was placed on an SEC truck and removed to the Alexandra hospital (where he subsequently died of shock and burns).

"On the outward journey I stopped the deceased at this particular incline and explained to him how it was necessary to shut his engine off on the return journey when near the top of the incline. This particular place is regarded by engine drivers as rather tricky. I consider the accident occurred through the driver not shutting off steam early enough. The brakes on the trucks were all in perfect working order."

From the above it is interesting to note that it had taken $2\frac{3}{4}$ hours to cover 13-miles, presumably some shunting being done on the way. On the 18th. September 1934 another accident occurred, near Lower Rubicon. The locomotive was hauling about 14 vehicles, and apparently as a result of the rails having spread, it left the rails and turned over, about half the train being derailed. Nobody was injured.

The R.L. & T.Co.'s lease expires

It would appear that at this time the R.L. & T.Co. was not spending much on track maintenance, as their 25 year lease on the tramway was due to expire in October 1935, and there was no certainty that the company would be granted a further lease.

In February 1935 the Shire Council received a confidential report on the tramway from a Forests Commission engineer. The "Alexandra & Yea Standard" of 5th. April 1935 carried an advertisement placed by the Shire, inviting tenders for the lease of the Rubicon tramway for a ten or 15 year period commencing 24th. October 1935. The tenderers were to state the rent they were prepared to pay, which was to be paid monthly in advance, and the period of lease they required.

Four tenders were received - from Clark & Pearce, Rubicon Lumber & Tramway Company, J. T. Collins (of Thornton), and Hermon & Sons (of Warburton). The lowest tender was £500 p.a., whilst the successful tenderer was Clark & Pearce, who offered an annual rental of £1,050 for a period of 15 years. Clark & Pearce (formerly Clark & Kidd) had an extensive series of sawmills and wooden railed tramways in the Rubicon forest, and they pioneered the timber milling industry in this area when they built their first mill and tramway in 1906. (See LR. No.28, p.4).

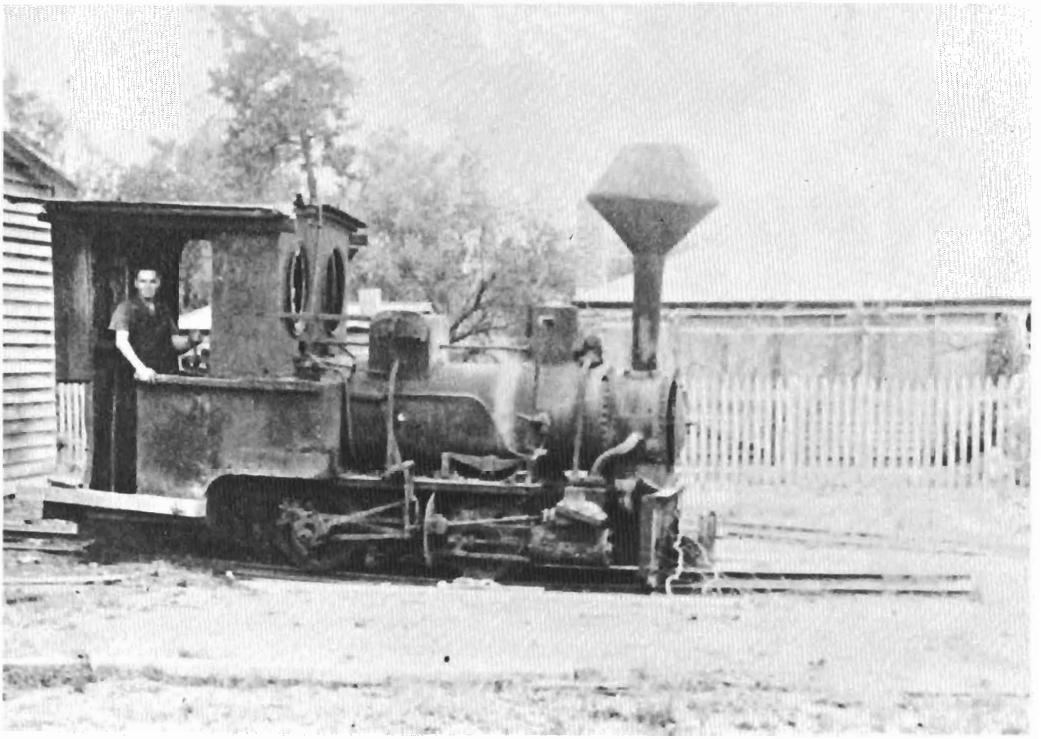
The R.L. & T.Co., which had built the tramway at its own expense, and had been paying a nominal annual lease rental of £5 for its use, now lost control of it, whilst Clark and Pearce were later to regret having offered such a high rental, and opting for the 15 year period.

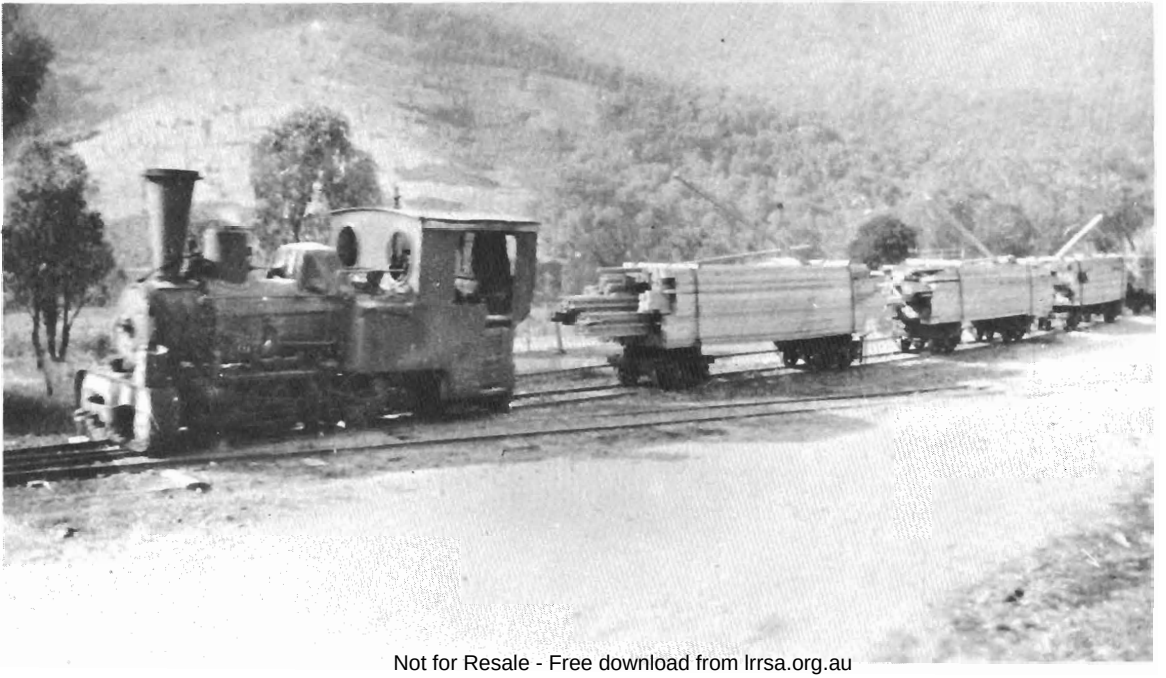
In the last few months of operation the R.L. & T.Co. wrote to the Council inquiring whether the Council intended to take up its option to purchase the tramway plant (locomotives, rolling stock etc). The company was advised that the council had no intention of purchasing this equipment. The company also complained to the council that locomotive drivers were exposed to great danger owing to the council permitting cattle to wander on roads.

Photographs opposite

Top - Krauss 2-ft. gauge 0-4-0WT, B/No.2591 of 1892 - the Rubicon Lumber & Tramway Company's second locomotive - at Alexandra.

Bottom - Krauss 0-4-0WT, B/No.4387 of 1900 - the third and final steam locomotive to work on the Rubicon tramway - hauls a load of sawn timber to Alexandra. (Both photographs from the late L.G.Poole's Coll'n).





The "Standard" of 1st. July 1934 reported the strange news that the Secretary of the R.L. & T.Co. had recently received a letter from an American, asking for specimens of the tram tickets issued and "samples of the money used by the natives". Was the writer a misguided railway enthusiast?

An insight into the state of the Rubicon road is given by a mishap which occurred in August 1935. A car became bogged in one of the road's numerous "craters", and after unsuccessfully trying many methods to extricate it the train came along. The locomotive was attached to the car by chain, but the car did not move, the chain breaking instead. After much digging the car was eventually hauled out by a plough horse. The tramway was still the only reliable winter transport for Rubicon.

Tramways in the Rubicon Forest

At the commencement of 1916 two 3-ft. 6-in. gauge wooden-railed timber tramways existed in the Rubicon forest, as briefly described in the second paragraph on page 5 of this issue, and described in detail in LR No.28. The Rubicon forest was somewhat isolated from Alexandra, and activities in the forest were rarely and only briefly reported in the "Standard". It is therefore impossible to give precise opening and closing dates for the forest tramways, but by careful interpretation of the published information it is possible to give a fairly clear indication of when most tramways were opened and closed.

Main emphasis in newspaper reports is on accidents, which occurred fairly frequently, and most of which took place during log loading and unloading operations. Accidents of this nature were usually caused by failure to ensure that chocks were properly placed under logs, with the result that logs unexpectedly rolled off, often crushing timber mill workers in the process. It was necessary to take injured people out along the tramline, but in later years the SEC's steel tramway was usually used for this purpose, as far as possible, because it was safer, smoother and faster. On arrival at Rubicon, after being lowered down the SEC's incline, the injured man would be transferred to a road vehicle for the 14-mile trip to Alexandra hospital. If however, the road was impassable due to mud - and it frequently was - then Mr. Marks' converted truck would take the injured man on the 2-ft. gauge line to Thornton, where a transfer would be made to a road vehicle.

In April 1916 an accident was reported on Clark & Kidd's tramway. The driver of the horses lost control, and the trucks ran off the rails, resulting in the driver's leg being crushed.

A V.I.P. tram was run on 27th. March 1917, when two trolleys conveying members of the Parliamentary Standing Committee on Railways were run on Clark & Kidd's tramway to visit their timber mill. The Committee members were inquiring into the loss being made by the Alexandra railway, and were very impressed by the forests and mills.

At about this time Arthur Kidd ceased to take an active interest in the timber industry, his place being taken by Mr. G. E. Pearce. In 1919 Clark and Pearce were joined by Mr. G. D. Howes, a new company being formed, titled "Clark & Pearce Pty. Ltd."

By this time it is probable that the R.L. & T.Co. had extended their 3-ft. 6-in. wooden-railed tramway southwards from their original mill, which was located near where the Royston power station was later built. Logs would be brought along this tramway extension to the Company's sawmill, and sawn timber would then be conveyed over the Company's horse tramway up to Clark & Pearce's No.1 Mill. From here it would run without trans-shipment, along Clark & Pearce's horse tramway to The Depot (Lower Rubicon). Here the timber could be quickly trans-shipped to the R.L. & T.Co's 2-ft. gauge tramway. The wooden-railed 3-ft. 6-in. tramway between

Tin Hut and The Depot was not shown on the map in LR No.28. It was made redundant when the 2-ft. gauge was extended to Tin Hut for the SEC scheme.

At The Depot, and later at Tin Hut, where the sawn timber was transferred from the 3-ft. 6-in. gauge to the 2-ft. gauge, there was an ingenious arrangement to facilitate the transfer. The 2-ft. line was laid down the centre of the 3-ft. 6-in., with a platform at the side. The 3-ft. 6-in. tram would come in, and the whole load could be slid onto the platform semi-automatically. The 3-ft.6-in. bogies would then be withdrawn, and the 2-ft. ones pushed up. The loads could then be slid onto these. The whole operation could be completed in about 15 minutes.

For most of its existence the R.L.& T.Co. was run by one man, Mr. Skinner. Skinner and Clark were rather jealous of each other in a petty way, but their dependence on the other's transport facilities forced them to co-operate. Mr. B. J. O'Brien, present manager of the Alexandra sawmills, recalls an example of this dependence. Skinner once told Clark that he would not be able to carry Clark's timber over the 2-ft. gauge line in the following week, as there was a bridge to be repaired, and he would only have the time to move his own timber. Clark immediately replied that Skinner need not worry about that, as there was also a trestle bridge on Clark's 3-ft. 6-in. line which needed repairs, and he would have this job done in the same week. So neither Company would get timber to Alexandra.

3-ft.6-in. gauge horse tramway at Clark & Pearce No.1 Mill in the 1930's. Note the tramway is laid on low trestle work.
Photo - Hugh Clark.

In June 1923 Clark & Pearce's No.3 Mill was registered as a factory, it being expected that 17 employees would be working at the mill. To serve it a new 3-ft. 6-in. gauge horse tramway had to be built from Rubicon southwards, on the eastern side of the Royston River. Eventually a three-rail incline ran easterly from No.3 Mill, connecting with another horse tramway, which would have been used to bring logs into the mill. It is not known when this incline and tramway was built.

The date of opening of Clark & Pearce's No.2 Mill is not known, but it would appear to have been about 1920. No.2 Mill was located on the original horse tramway, near the Rubicon falls, north of No.1 Mill.

From Clark & Pearce Nos. 1 and 2 Mills tramways were gradually extended towards the west, to haul logs into these mills. These tramways generally terminated at a winch site, the steam winches being used to haul logs along skidways to the

tramway. As an area was cut out, the tramway was extended and a new winch site established. The map shows lines serving C.& P. Nos. 1 and 2 winches at their ultimate extent, it having taken about 20 years up to 1939 for them to reach this length.

Climatic conditions affected the operation of wooden railed tramways. In the winter the rails were generally wet and often frosty, the wheels tending to slide around the sharp curves fairly easily because of this. However when descending hills with a load, it was necessary to sand the rails so that the tram could be effectively braked. In the summer derailments were more frequent, because the wheels could not skid around the curves so easily. On the sharpest curves at least one rail was usually steel - an example of this can be seen in the photograph in LR No.28, p.7 In summer, when everything was dry the brakes squealing on the trucks could be heard for miles. When derailments occurred rerailing generally did not take very long. A few old rails would be used to construct what was, in effect, a temporary siding underneath the offending vehicles. They could then be hauled back on to the main lin

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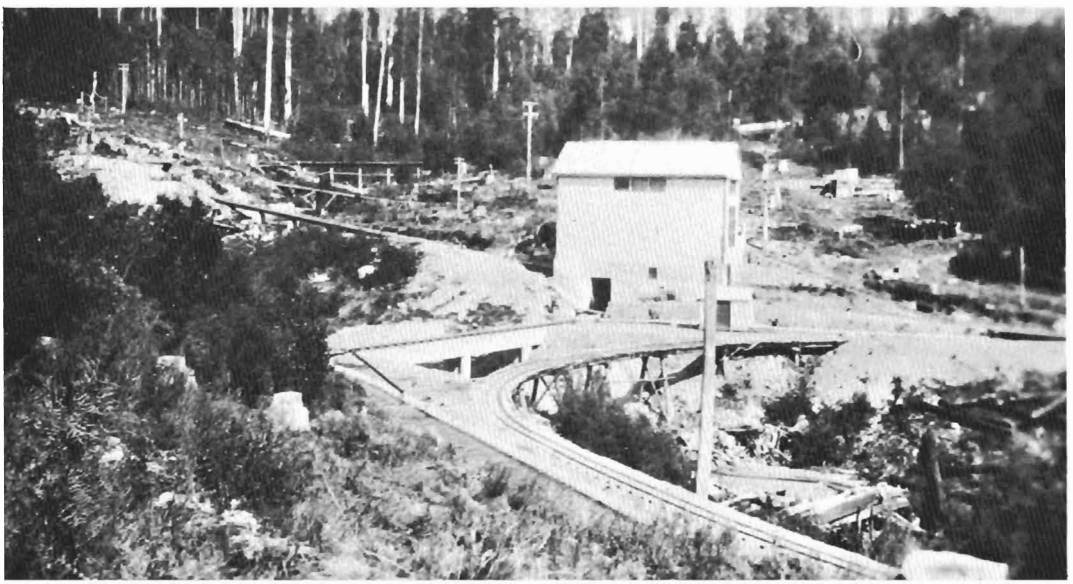
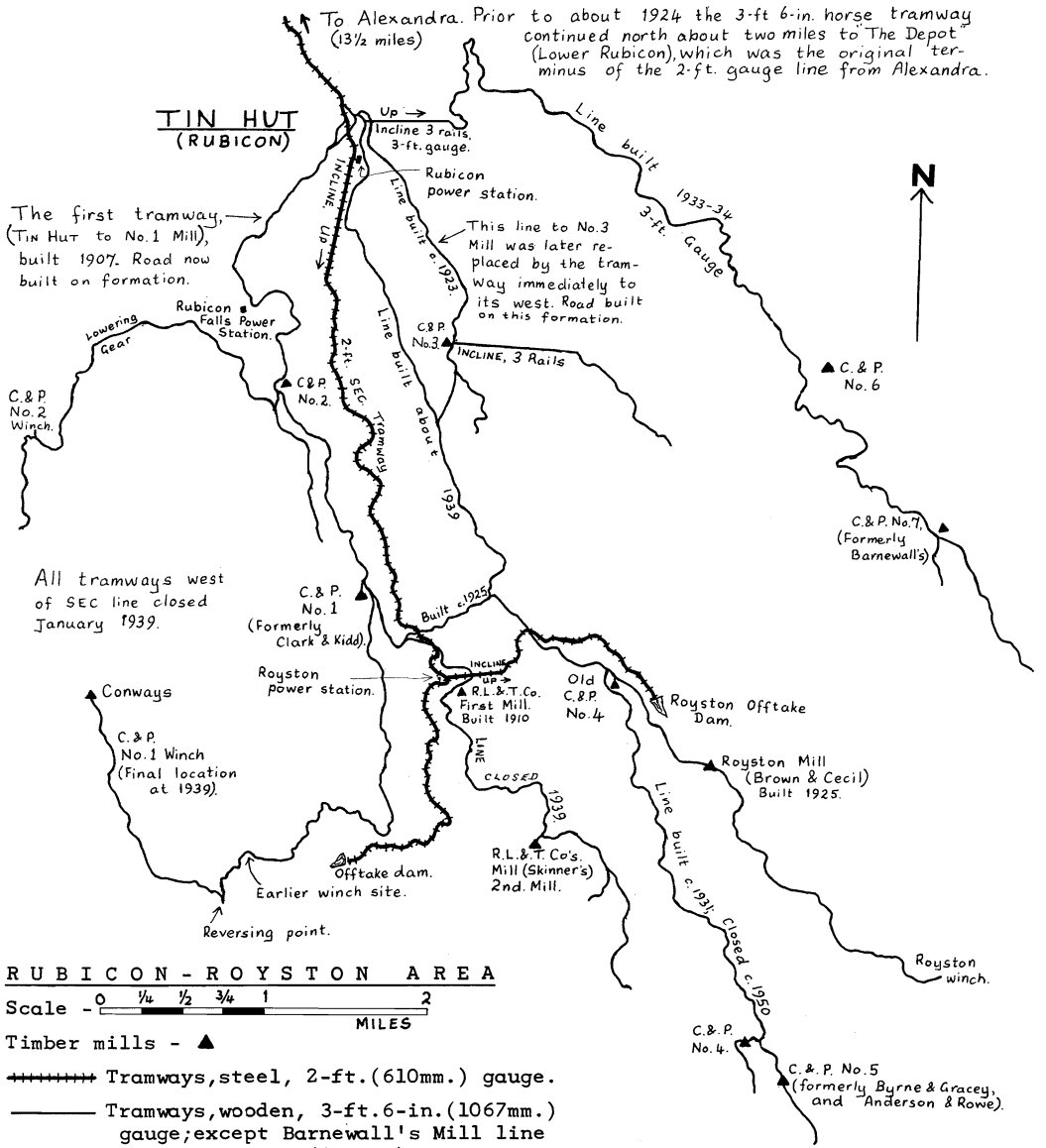
Royston power station, looking approximately south, in the 1930's. The track in the foreground is the SEC 2-ft.gauge line, which is still operating. To the left of the power station can be seen the pipeline from the Royston Offtake Dam. Behind that is a small bridge on the now abandoned SEC incline tramway to the Royston Offtake Dam. Above the bridge is another larger one, on the R.L.& T.Co.'s 3-ft.6-in. gauge horse tramway to their timber mill. The R.L.& T.Co.'s original mill was located near the site of this photograph. (Note - the map in LR No.28, p.13 shows the pipeline to Rubicon Offtake Dam on the south side of the incline tramway; as this photograph shows, it was actually on the north side).

Photo - Courtesy Hugh Clark.





RUBICON - ROYSTON AREA

Scale - 0 ¼ ½ ¾ 1 2 MILES

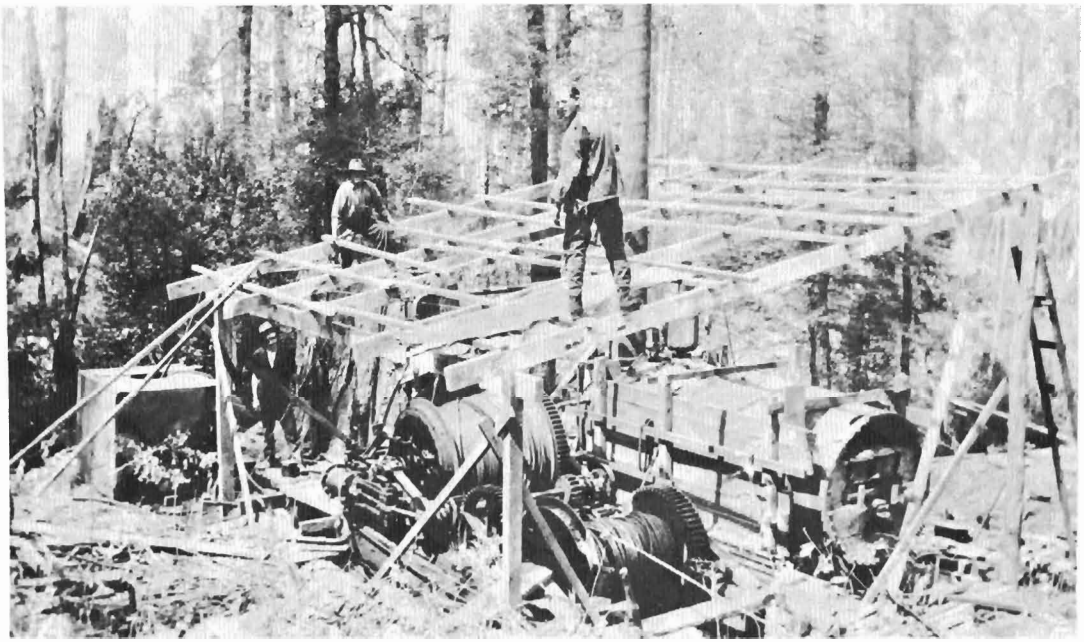
Timber mills - ▲

+++++++++ Tramways, steel, 2-ft.(610mm.) gauge.

——— Tramways, wooden, 3-ft.6-in.(1067mm.) gauge; except Barnewall's Mill line which was 3-ft.(914mm.) gauge.

NOTE - See LR No.28, p.13, for map showing tramways in relation to rivers and roads.

SOURCE - Forest Commission maps, 1938 & 1944.



Installing the Clark & Pearce No.1 Winch at a new site in the late 1920's. This winch was located south of the C. & P. No.1 Mill, and the site illustrated above is indicated on the map on p.15 as "Earlier Winch Site". As areas were cut out, the log hauling winches were moved out further from the mills they served.
Photo - Courtesy Hugh Clark.

In August 1924 the R.L. & T.Co. constructed a new mill, about two miles south of their first one. The original mill was closed about this time as the area surrounding it had been cut out. (The R.L. & T.Co. mill shown on the map in LR No.28 is the second mill).

In October 1925 the "Royston Mill", owned by Messrs. Brown & Cecil, was under construction. To serve this a new 3-ft. 6-in. horse tramway was built, junctioning with the R.L. & T.Co's wooden tramway about half a mile north-west of the Royston power station.

Clark & Pearce No.2 Mill burnt out

A big fire at the Rubicon falls on 18th. December 1925 destroyed the saw-mill and houses at Clark & Pearce's No.2 Mill, only the manager's house and the boarding house being saved. The tramway was destroyed in a number of places. Women and children escaped the fire by climbing the ranges near the mill, as the tramway outlet was blocked by fire. About 20 people lost all their belongings.

At No.1 Mill clothing and blankets were buried for three days, as the fire was heading in that direction but was brought under control at the mill. The fire continued southwards towards the R.L. & T.Co's Mill, but this was not damaged. This fire burnt for several days, and at a subsequent inquiry the verdict was that it

was started by SEC employees working on the hydro-electric scheme at the Rubicon falls. The SEC was held to blame, for providing insufficient supervision of its employees.

It was not until July 1926 that Clark & Pearce's No.2 Mill was rebuilt. One of the residents of that mill successfully sued the SEC for £250 for damage to his property arising from the fire.

On the 4th. October 1927 the boiler at Clark & Pearce's No.3 Mill exploded, resulting in injuries to the driver which proved fatal. The boiler was a 25 year old Ruston Proctor portable, which had been overhauled three years earlier, prior to its installation at No.3 Mill. A boiler inspector had examined it on the day before the explosion, and found nothing wrong with it. The mill was wrecked, and the boiler was lifted from one end of the mill shed to the other - about 90-ft..

In February 1928 Clark & Pearce erected four seasoning kilns, each 360-ft. x 150-ft., at Alexandra township. To serve these kilns the company constructed a short tramway across Gordon Street. Timber treated at the kilns was to be used in making car bodies, and was sold under the trade name "Ruoak".

In January 1929 Clark & Pearce's No.4 Mill was registered as a factory. This was located on a siding off the tramway running to Brown & Cecil's "Royston Mill". The No.4 Mill was moved about three miles south-south-easterly of its original location at some later date, a new 3-ft. 6-in. gauge tramway being built to serve it. This tramway followed the Royston river, and near the second site of No.4 Mill a branch ran south-south-easterly to Clark & Pearce's No.5 Mill, The No.5 Mill was originally built and operated by Byrne & Gracey, and commenced operation in February 1931. They subsequently sold out to Anderson & Rowe, who by July 1935 had sold it to Clark & Pearce.

Late in 1933 the Snobs Creek area was opened up for sawmilling purposes. A new firm, Messrs. Barnewall & Lee, built a mill on Snobs Creek, and constructed a circuitous 3-ft. gauge wooden railed horse tram, about five miles long to serve it. At the Rubicon end a three-rail balanced incline, about half a mile long, was built on a rising grade out of Rubicon (Tin Hut). Two tramways were subsequently built south of Barnewall's mill to bring in logs. Tin Hut now became one of those fairly rare places where three gauges met.

Life in the bush

By 1935 each mill employed between 25 and 35 men, and in most mills there were several employees who had their families living with them. Excluding SEC employees, the population of the Rubicon forest was well over 200. The writer has been fortunate in speaking to Mr. and Mrs. E. H. LeBrun, who lived at Skinner's (the R.L. & T.Co's) second mill from 1928 to 1939, and who now live at Rubicon.

At Skinner's mill there were six houses in which families lived, a boarding house, and 14 huts, each housing one or two mill workers. Steam at Skinner's mill was provided by an ex-VR "A1" class loco boiler, whilst Skinner's winch was powered with an ex-VR "DD" class boiler.[1] Both these boilers were dragged into the mill on the wooden-railed tramway, a very difficult job, remembering that the tramway was very steep, sharply curved and rough. At a spot near the Rubicon falls, where curves were especially sharp, it took two days to get through, rock anchors being used to steady the load. One wonders what Clark thought of his rival obstructing his tramway with such abnormal loads.

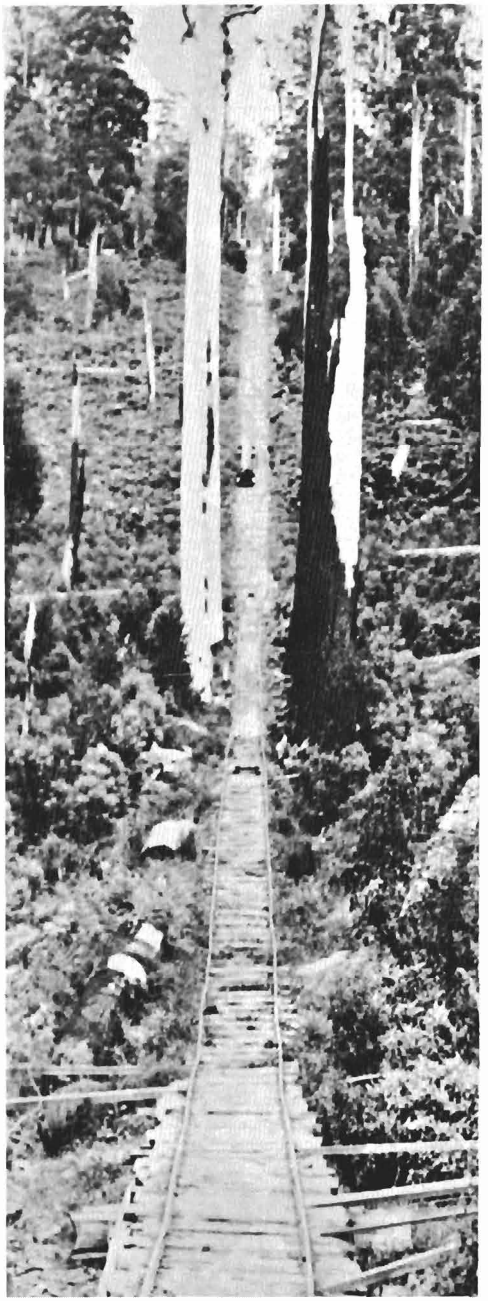
Skinner's mill was seven miles from Rubicon (Tin Hut), and for the residents there were only two ways to get out - ride on the sawn timber, or walk down the tramway. Walking was much preferred, as riding on top of an unsteady load of timber on crude unsprung bogies, down a rough, steep, circuitous tramway was an experience best endured only once. For the older residents, unable to face a seven

mile walk, there was no choice. No wonder many people ventured out of the forest only once or twice a year. In the opposite direction, travelling on the empty timber bogies was not so bad, particularly as the trip was all up hill and very slow.

The nearest telephone was at No.1 Mill, where there was also a school. Children from Skinner's Mill had a three-mile walk to school, but were better off than those from Nos.4 and 5 Mills. The nearest Post Office was at Tin Hut, where there were also two stores. Mill residents gave orders on these stores to the tramway "truckies", and twice a week their supplies were delivered on the tram. The mills were often snowbound in winter, but there was no shortage of firewood.

A 48-hour week was worked, $8\frac{3}{4}$ hours a day from Monday to Friday, and $4\frac{1}{4}$ hours on Saturday. Some timber workers, including Mr. LeBrun, played football at Thornton on Saturday afternoons. Immediately after knocking-off at 11-45 a.m., they would run down the tramway to Tin Hut. From there they would go into Thornton by car, or on Marks' converted truck on the 2-ft. tramway. Sometimes they did not get back to the mill until Sunday morning. In later years some of the forest workers owned cars, which were garaged at Tin Hut.

No.1 Mill was the centre of social life in the forest. There was a tennis court there, and concerts were regularly held in the school building. At Skinner's first mill a billiard table was provided, but there was no such refinement at the second mill. Most families had battery powered radios. Other popular pastimes were book-reading and ping-pong.



The incline on Barnewall & Lees' 3-ft. gauge tramway, which connected Barnewall's Mill to Rubicon (Tin Hut).
Photo - Courtesy B.J.O'Brien, Ruoak Timbers Pty.Ltd.

Above - On Clark & Pearce's tramway, near No.1 Mill. The ropes suspended above the log are to operate the brakes.
Photo- Courtesy B.J.O'Brien, Ruoak Timbers Pty. Ltd.

Right - A log at C & P's No.1 Mill. Mr.Hugh Clark, a former driver of C & P No.1 winch is standing on the right.
Photo--Courtesy Hugh Clark.

The residents of Skinner's mill were not as isolated as some others. Those at Barnewall's mill, for example, had further to walk and an incline to contend with.

The accidents recorded in this and the previous article show that riding on wooden-railed tramways was not completely safe. Nevertheless, very few serious accidents were recorded in the 1916-1935 period. In January 1930 a bad one did occur. Seven residents of Clark & Pearce No.1 Mill were travelling from the mill to Tin Hut. The party consisted of two women and three children, who were riding on a trolley, and two men, one of whom pulled the trolley, with the other pushing. The men's task would not have been very difficult, as the tramway was on a steeply falling grade for most of the distance, so the trolley would have coasted easily. The trolley struck a rough join in the wooden tram rails, throwing one of the children - a three year old girl - off. She received injuries to her head and back, and died before arrival at Rubicon.

The mill inhabitants' greatest enemy however, was not the isolation, but the ever present danger of bushfire. Up to 1935 the Rubicon forest had been fairly lucky in this regard, but it was to be only a few more years before bushfire was to make swift and violent changes to the Rubicon timber industry, the effects of which spelled the doom of the tramways and bush mills.

Note 1 - Another source states that the boilers used by Skinner were a VR "DD" boiler at the mill, and an ex-QGR locomotive boiler on the Harman winch.

Reference -"Alexandra & Yea Standard", 1916 - 1935 inclusive.

Acknowledgements - I would like to thank Mr. B. J. O'Brien, of Alexandra; Mr. and Mrs. E. H. LeBrun, of Rubicon; and Mr. H. Clark, of Dandenong; for valuable assistance in providing details of tramway operation and life in the forest.

LOCOMOTIVES OF THE TASMANIAN PRIVATE RAILWAYS

Following the request in the last members' supplement for a volunteer to tackle the job of editing a list of Tasmanian private railways' locomotives, we were pleased to receive offers from three members. After consideration, Council decided to appoint Wayne Chynoweth to the position. Wayne has specialized in Tasmanian private railways for some years, and is now living in that state.

It is proposed to publish the list in loose leaf form, on the same format as "Light Railways". We are planning to sell it on a subscription basis. Subscribers would receive a neat plastic ring-binder, and off-set printed pages of listing. It is intended to issue replacement pages as new information comes to hand. Subscribers will be encouraged to write to the editor to offer suggested amendments after the list is first printed. About 32 pages of photographs, to the same standard as printed in LR, would be supplied.

This is a new approach to a fairly difficult task. We feel that a loose leaf system is ideal for the subject, as new information is always being unearthed. This is especially the case with Tasmania, where about 200 locomotives have been used on private lines. Should the scheme be well accepted, we would be able to try the same idea with the other states.

Members will receive further information on the project as it develops. In the meantime, members who have information which they think might be of use to Wayne, can write to him. His address is - Mr. R. W. Chynoweth, C/- A.N.M. Hostel, Maydena, Tas.,7457.

Cornwall Coal Mine

Following the report in LR No.34, p.33, we now have three additional reports, which add considerably to the information already published.

Cornwall 1971 - from Graeme Watsford

Further to the report in LR. No.34, other visitors to Tasmania for the centenary celebrations were also more intrigued by the derelict buildings of the Cornwall mine, than the steam trains on the adjoining branch line, and it is possible to provide some additional information on the 3-ft. 6-in. gauge line on the upper level.

A gearbox side-plate lying adjacent to the internal combustion locomotive carries the name "Day", but there is no evidence to indicate the type of engine fitted.

Beyond the loading hopper, the formation disappears into dense blackberries, but by following around the contour, it can be located on the other side, continuing along the top of the bank towards the right of the sketch (LR No.34, p.34). At a position close to the large arrow on the sketch, which points to the 12 steel hopper wagons, there is a ramp down to the level on which these wagons and the battery-electric locomotive now stand. Although there is no positive evidence of track on this ramp, there is a point lever on the formation at the top.

The formation then continues around the contour of the hill for about $1\frac{1}{2}$-miles (40 minutes brisk walking), to an adit on the hillside overlooking St.Marys. It is generally clear of scrub, with sleepers in good condition. In some locations, (possibly spongy clay) closely pitched diagonal timbering is used under the sleepers. Several gullies along the way are crossed by single and double span log bridges. At approximately the halfway point there is the formation of a crossing loop, with conventional points. Between the mainline tracks, wooden baulks, whose purpose is not obvious, are fixed on either side of the diverging loop rails.

In the "loop", on the only remaining rails on the formation, sits a coal loader of the type which digs loose coal from the face, and conveys it to the wagons standing immediately behind. At the adit, the formation diverges into two roads, passes through an open gable-roofed shed, then disappears into the collapsed tunnel beyond a concrete portal. There is no evidence of winding gear, and it is inferred that the adit remains horizontal. Similarly, there is no evidence of steam machinery at this adit, there being the remains of a high-voltage power line alongside the track, with a relatively ornate concrete block building which served as a switch-room or substation.

Knowing the track layout and the currently existing locomotives and rolling stock, it is possible to make some inferences about operations. The loading hopper connected the 3-ft.6-in.gauge system to the previously existing 2-ft. gauge system, incline, and screens. The battery loco would normally work underground, with the internal-combustion loco on the surface line.. Depending on loading times, the battery and internal-combustion locos could have exchanged loads either at the middle crossing loop, or at the siding near the adit.

Significant by their absence are service stock for the 3-ft.6-in. line

(i.e. flat trucks for pit props, passenger cars etc). In view of the relative isolation of the adit, it would be expected that there would be some material carrying wagons, even if the miners had to walk!

Reverting to the Cornwall area, we were able to explore the screening plant and hopper at the lower level, and although very rickety, they still appeared serviceable. The other elevated shed was well locked up, but could have been a maintenance shop for the mine equipment. In the grass in front of it was a small 2-ft.(?) gauge coal cutter, like a large horizontal chain saw. Although there were hundreds of rail chairs scattered around the formation, with some attached to the sleepers, we could find only a little of the bullhead rail used - but there was plenty of flat-bottom rail to confuse the issue. Nor could we find any evidence of the keys used to secure the track. They may have been steel, as wooden ones should still be lying around. Both the bullhead and flat-bottom rails would be around 30-lb. section.

The building you have described as the upper screening plant has me puzzled. I was originally of the same opinion, but the place was too clean, even allowing for its age, for a coal screen. I speculate that the large bin held not coal, but chaff, and that the fencing below it contained the horses and or pit ponies.

Cornwall 1963 - from Andrew Ward

I visited the Cornwall area in February 1963, whilst the line was in operation. Referring to the map (LR.No.34, p.34), I photographed a "Ruston" locomotive at the loading hopper which you seem to have labelled "isolated". It could not have been cut off, as I watched the train unload after coming round the hillside from a mine some distance away to the east, the gauge being in the order of 3-ft. 6-in.

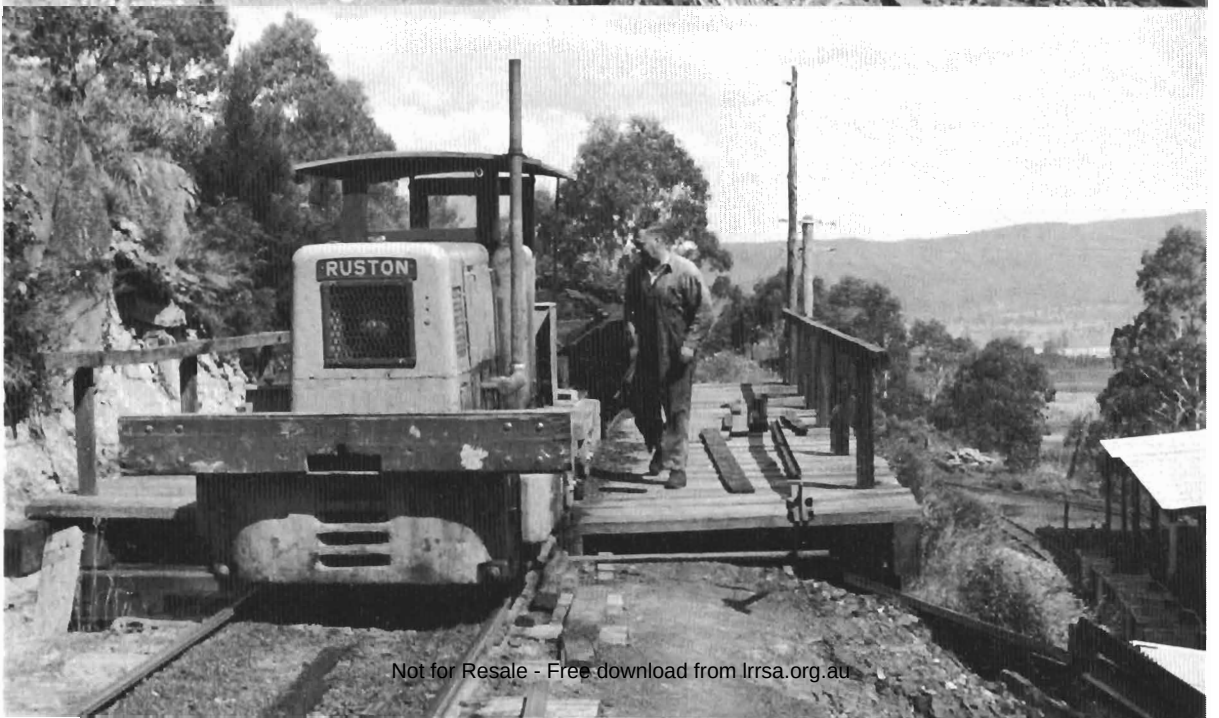
I also photographed the endless rope incline, and it would appear that the skips operated in threes - or perhaps this only applied to the group of vehicles I photographed. I also took a shot of another train running alongside the track by the winding house, which also ran off to a mine adit. From my photographs I cannot recognize any of the derelict locos illustrated in LR No.34.

While I was there, there was much talk of the mine closing. "The Mercury" of 19th. February 1963, and "The Examiner" of 21st. February 1963 noted in articles that 53 men had been sacked since 8th. February 1963. Chances are that the mines closed sometime that year.

Photographs opposite, Top - The 2-ft.gauge cable-haulage connecting the Cornwall mines with the Tasmanian Government Railways' siding at Cullenswood, on the St.Mary's line. 21st. February 1963.

Bottom - Ruston Hornsby 3-ft.6-in.gauge diesel locomotive at the loading hopper on the high-level line at Cornwall mine. This line is described on pages 21 and 22 of this issue, and was $1\frac{1}{2}$ to 2-miles long. Since closure of the mine this locomotive has disappeared, but the steel hopper wagons, piled on top of each other in threes, have been abandoned at Cornwall. To the right of the picture the 2-ft. gauge lines can be seen. 21st. February 1963.

Both photographs - Andrew Ward.



Cornwall 1906

- condensed from "Australian Mining Standard", 30th.January, 1907.

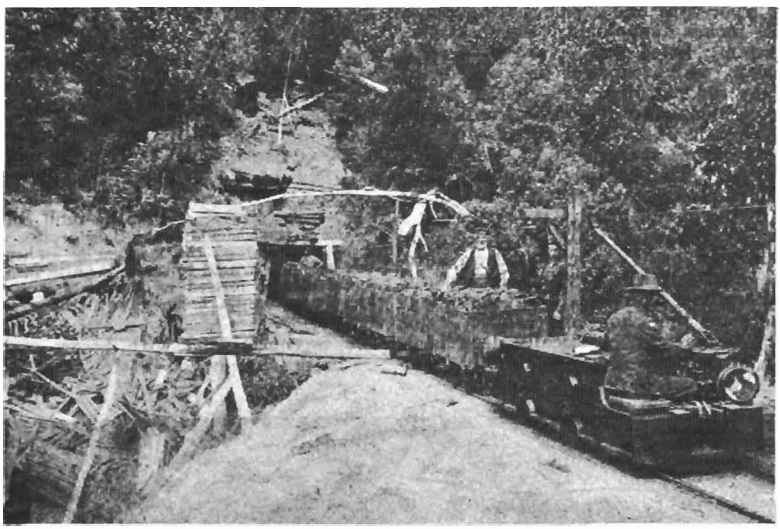
Within some two miles of the St.Marys railway terminus, train travellers will notice the buildings and surface workings of the Cornwall coal mine, on the northern side of the route, 500-ft. above the fertile plain which the railway traverses. The side of the hill is here pierced by several adit levels, one of which forms the main heading, extending some 50-chains from the mouth of the adit to the working face, and rising gently all the way. (this would be the mine entrance marked in the top left corner of the map in LR No.34, p.34 - Ed.)

Outside the mine, the tramway as now constructed rises for 18 chains with a gradient of 1 in 67 - the heaviest grade against the load - and thence falls slightly to the top of a self-acting incline, about 25-chains from the adit entrance. The full skips descend to the screens, situated just over the level of the government railway siding, at the same time drawing up a set of empty skips by means of a wire rope passing round a brake wheel at the top.

Until last month (December 1906 presumably - Ed.) the skips were hauled within the mine by horses to a "plat", some eight chains within the mine, thence by a wire rope main and tail haulage plant, actuated by a steam winding engine to the incline. As the mine is continually being extended, the time came to either employ more horses, extend the rope haulage system, or replace both by some other motive power.

Electric traction was chosen, a generating set consisting of a Robey & Co. open vertical type engine, with one double-acting cylinder ($9\frac{1}{2}$-in. diam. x 9-in. stroke), belted to a six pole compound generator of 25 kilowatt rated capacity being installed. The current is lead directly from the switchboard, which is of blue Vermont marble, to the overhead trolley wire. The rails are bonded throughout. A horizontal, multi-tubular boiler, built by Salisbury's Foundry Co., Launceston, working at 130-lb. pressure, provides steam to the Robey engine.

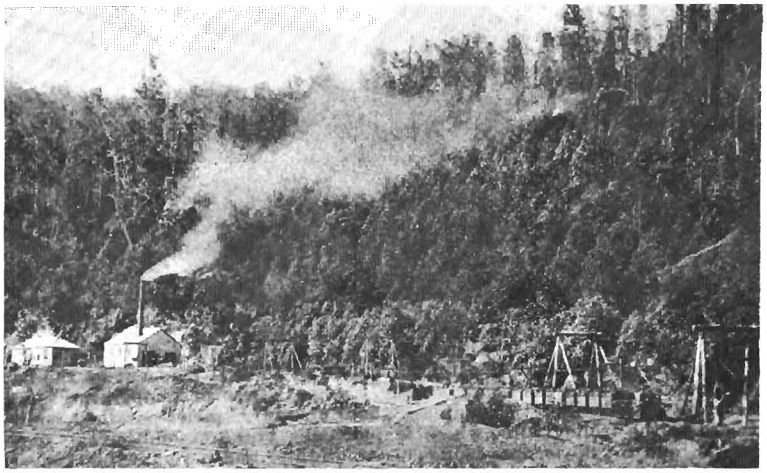
(Continued on p.26.)



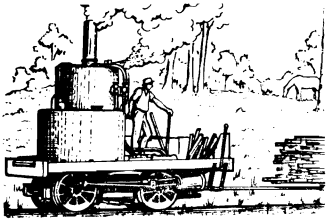
Photographs, left - Cornwall mine, December 1906, showing the 2-ft. gauge electric locomotive hauling the four-wheel wagons from the adit. Photo from Australian Mining Standard, 30th.January 1907.
Right - 56 years later, in February 1963, the wagons were still the same, but electric traction had given way to diesel. The locomotive appears to be a Ruston Hornsby, the location is near the winding house. Photo - Andrew Ward.

The locomotive, which was supplied by the Australian General Electric Co., weighs about three tons, and has two motors, of 13 B.H.P. each. It has a series parallel controller, efficient brake, sandboxes, powerful headlights, gong, and a removeable swivel trolley, which can be placed at either end of the loco. Rated drawbar pull is 700-lbs.. Total height, excluding trolley pole, is only 2-ft. 3-in. above rails. The ordinary load consists of about 15 to 17 skips, weighing about 11 tons in total. The locomotive makes the return trip from incline summit to working face in about 20 minutes, running at an average speed of 8mph.

The line has been regraded from incline summit to adit entrance, the original steepest grade of 1 in 25 having been replaced by the 1 in 67 mentioned above, and the curves have been eased.



Cornwall mine, December 1906. The electric locomotive can be seen hauling a rake of 14 trucks from an adit. One of the buildings on the left is the "engine house" which is marked on the map in LR 34,p.34. The trestle structures above the track support the main and tail haulage cable, which was used prior to electrification. From Australian Mining Standard,30th. January, 1907.



News, Notes & Comments

QUEENSLAND

Macknade and Victoria Mills, Ingham. (2-ft. gauge)

Four steam locomotives will be used at Macknade Mill this year, Nos.4, 5, 6 and 9. Victoria Mill will have five in use, Melbourne, Sydney, Townsville, Cairns and Homebush. All are Hudswell Clarke 0-6-0 tender locos.

(Gerry Verhoeven)

TASMANIA

Australian Commonwealth Carbide Company, Lune River (2-ft. gauge)(LR No.35,p.5)

FUTURE IN DOUBT

The Tariff Board has decided to open the Australian carbide market to overseas suppliers in about six months time. At present all Australia's carbide needs come from the Australian Commonwealth Carbide Company, whose plant is located at Electrona. The plant is too small to be economically viable without tariff protection, and expansion of the plant to make it competitive with overseas plants would only result in the production of carbide far in excess of Australian requirements.

The Premier (Mr. Bethune) has said that the only hope of keeping the plant going would be by diversifying the production. The Board of the Company was trying to find some method of doing this.

("The Mercury" 24/6/1971, and 1/7/1971)

The Lune River Railway's sole purpose is to supply limestone as a raw material for the Electrona carbide plant. Consequently if the Tariff Board carries out their threat, it will be the Lune River line's death knell. Any members anxious to visit the line should not delay too long.

VICTORIA

Geelong Steam Preservation Society, Belmont Common (3-ft.6-in. gauge)

The embankment over the swamp has been completed and trains are running as far as the golf course road. Little further progress will be possible until the track is consolidated. The station booking office/sales counter has been completed. A second "Casey Jones" trolley has been purchased, together with a trailer. (Belmont Common Railway Magazine, Summer 1970-71.)

South Australian Railways 3-ft.6-in.gauge "Vision Testing Car" - an old platform-ended passenger car - was seen on a 5-ft.3-in.gauge well wagon at North Geelong on 21st. August 1971. This vehicle is destined for Belmont Common.

(Frank Stamford)

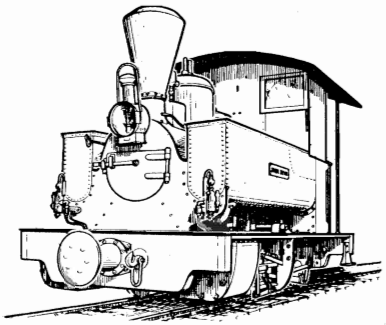
Long Tunnel Gold Mining Coy., Walhalla, Vic. (2-ft. gauge)

POVERTY POINT BRIDGE CLASSIFIED

LR No.29, p.7 carried a description of this 158-ft. long prefabricated steel bridge, which was used to carry a 2-ft. gauge horse-worked firewood tramway over the Thomson River. At that time the Society had submitted historical material about the bridge to the National Trust, with a view to having it classified.

The bridge has now received a National Trust "D" classification, the citation referring to it as "an interesting pre-fabricated steel bridge, particular reference is made to the tubular steel struts." The bridge is illustrated in LR No.33, p.25.

The main reason for taking this action was to ensure that the bridge, which is in a very remote location, would not be used as a demolition project by any organization.



LETTERS

(Editor's note - I acknowledge with thanks letters from R.J.Graf, A.A.Gunsser and A.N.Hall, which are being held over to the next issue due to space shortage. Following the article in the last issue, letters with additional information on the Lune River railway will be most welcome).

Mr. B. McLean writes -

BAGULEY STEAM LOCOMOTIVES IN SOUTH AUSTRALIA (LR No.34, p.36; LR No.35, p.17 & 18).

With regard to the photograph and comments in LR No.34 and the query regarding identification of the site, I would venture to suggest that the location is not in the Redcliffs/Mildura area.

The only major construction works carried out in this area were the building of the weirs and locks at Mildura, Wentworth and Cullulleraine (between Wentworth and Renmark). In each case cement, limestone and other materials were consigned by river barges either from Mildura railway station or Renmark. However, at Mildura a small tramway was used to convey material from the VR 5-ft. 3-in. gauge siding specially constructed for the purpose, to the worksite - a distance of about 50 to 80 yards. This was during 1927-1928.

At Robinvale however, it is known that a 2-ft. gauge tramway was built for the conveyance of materials used in the construction of the Robinvale (Euston) Weir, in 1929. The route of this line is unknown but the lock site is approximately one mile from the VR line at a point about two miles south of Robinvale.

It is thought that one locomotive was used to work this tramway for the SR & WSC, but I personally have no knowledge of what type. The building in the photograph is not recognisable as any at present standing at Robinvale Weir.

Mr. R. Pearson writes -

BAGULEY STEAM LOCOMOTIVES IN SOUTH AUSTRALIA (LR No.34, p.36; LR No.35, p.17 & 18).

Regarding the photograph in LR No.34, p.36, I am certain the picture was taken at Mildura, as I was there in 1939.

I do not remember the locomotive as I only saw the shed and boiler from the river, whilst on a show boat. The steam boiler worked a winch which was used to haul a barrage - like large lock gates on rails - across the river on the New South Wales side to block the flow of water.

Whether the barrage was used during construction of No.10 Lock, or was used in times of drought or flood I do not know.

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