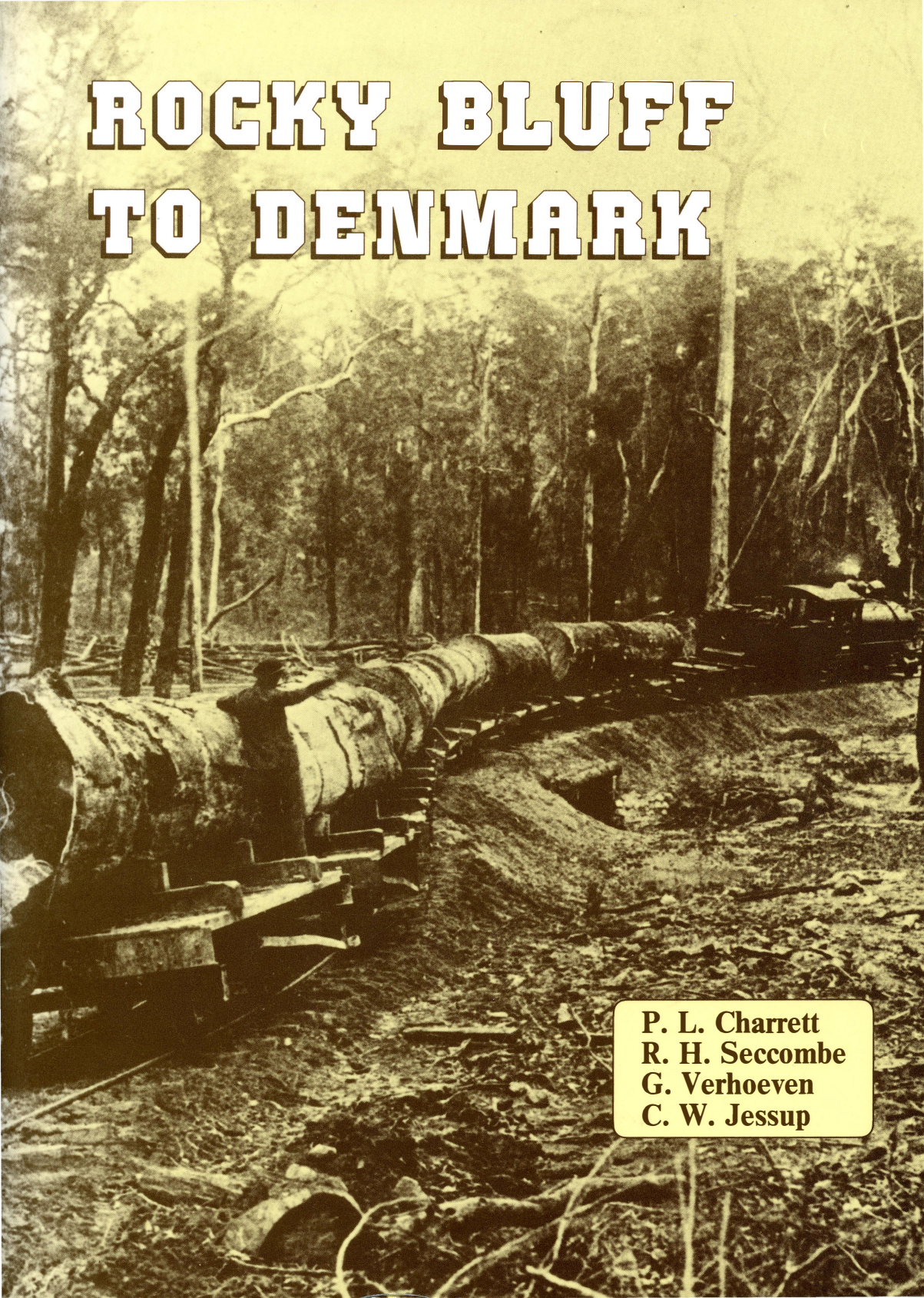


ROCKY BLUFF TO DENMARK



P. L. Charrett
R. H. Seccombe
G. Verhoeven
C. W. Jessup

ROCKY BLUFF TO DENMARK

Twenty-fifth Anniversary Selections
from "Light Railways"

P. L. Charrett
R. H. Secombe
G. Verhoeven
The late C. W. Jessup

MAPS DRAWN BY G. R. THORPE



LIGHT RAILWAY RESEARCH SOCIETY OF AUSTRALIA
MELBOURNE 1986

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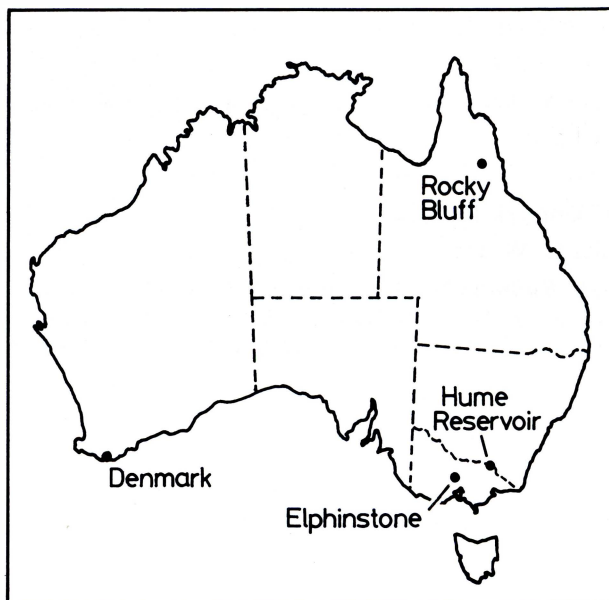
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Publisher's Note

To mark the Society's Twenty-fifth Anniversary we asked a number of long-standing L.R.R.S.A. members to select their choice of outstanding articles from early editions of *Light Railways*. The four articles chosen for this book were clearly the most popular choices. Each is as relevant as when originally published — a tribute to the thoroughness of the authors who set the standards for other L.R.R.S.A. contributors to follow.

Apart from corrections to typographical errors, and minor corrections to tables, the articles have not been altered in any way, hence where they describe the present-day situation, this refers to the late 1960s. The maps have been redrawn, and photographs added.



Foreword

Recently whilst trundling along in the van of one of Australia's restored light railways, I fell to a contemplation of the extensive and significant achievements made in the field of light railway research and preservation during the past three decades. In many cases the goals set years ago by adventurous amateurs have been surpassed, and operating segments of light railway history now exist for the person of casual interest to wonder upon.

It is also fortunate that during this period an increasing number of folk turned their enquiring minds in the direction of investigation, verification and documentation of the extensive use made of this form of transportation during the development of our nation. This is fortunate for, although a handful of interested researchers had recorded a deal of basic information, the field ranges so widely that the need was for a concentrated research effort by numerous people.

Twenty five years ago the Light Railway Research Society came into being and has admirably fulfilled that need.

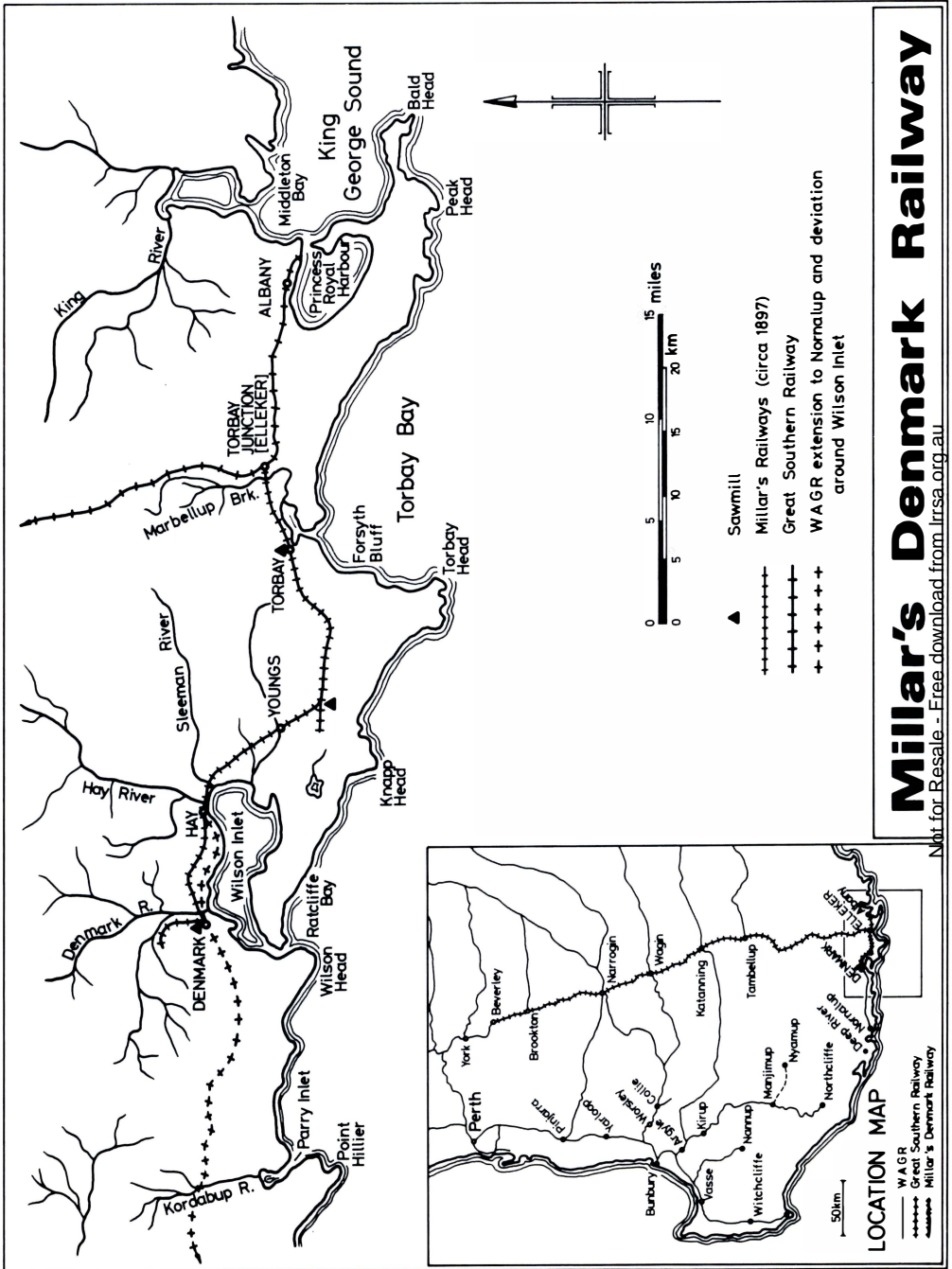
Enthusiastic Society researchers have documented a great amount of material. Not only is this technical in nature but writers have been at pains to place their histories in the context of the communities served.

Correctly, it is often said that history is unfolding at the present, but for that very reason it is often lost. Being aware of this risk the Society also has concentrated on recording contemporary history.

Above all, throughout its existence, the L.R.R.S.A. has communicated. It regularly disseminates information that others might enjoy a little known facet of Australian history and, hopefully, encourage some to add their contribution.

The Society's publications are prepared to a high standard, very well presented and read by many outside the rail enthusiast fraternity. It is indeed fitting that its twenty five years of achievement should be marked by this special publication.

Norm Wadeson
"Kuralie"
Baxter, Victoria



Millar's Denmark Railway

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Millar's Denmark Railway

by the late Bill Jessup

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 1880s 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 11 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.

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 1890¹¹ 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.

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 18 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 2 October 1889.¹⁹ During construction in September, work was suspended 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



A train of karri logs totalling 34000 super feet of timber, in the Denmark Hills. This photograph was probably taken on the timber tramway running north out of Denmark. The locomotive is a Baldwin 2-4-2ST&T, the date — about 1896.

Photo: L.R.R.S.A. Archives

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 1884²⁴ 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 18 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 2 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 badly²⁹ 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

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A train hauled by a 2-4-2ST&T locomotive crosses the Denmark River, on Millar's Elleker — Denmark railway, about 1896.

Photo: L.R.R.S.A. Archives

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 23 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 23 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 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, 347¼ miles (from Perth); Youngs, 356¾ miles; Hay, 361¾ miles; and Denmark, 369¼ 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



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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 12 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 30 September 1904⁴⁷ the Denmark mills closed, pending the result of a contract. They reopened a week or two later, finally closing around 28 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

Opposite: *Jarraah*, Baldwin 2-4-2ST&T locomotive, B/No. 14591 of 1895. This photograph is believed to have been taken on Millar's Denmark line in the first few years of this century.

Photo: Millars (Australia) Pty Ltd, courtesy G. J. Higham

On 14 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 31 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

Towards the end of 1906 a Mr Dartnall from the Western Australian Government railways was sent to value the Denmark railway. His valuation was —



Train of sawn karri, on the way to the port of Albany, Millar's Denmark Railway, about 1896.

Photo: L.R.R.S.A. Archives



Jubilee, a Baldwin 4-6-2 locomotive, of 1897, shown when working on the Wokalup-Mornington Mills line of Millars. This locomotive first worked on Millar's Denmark line, and was the first 4-6-2 in Australia.

Photo: Millars (Australia) Pty Ltd, courtesy G. J. Higham

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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 20 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 line⁶⁸ — which had only been used a few times in the previous two years — and at 8.00 a.m. on 4 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. 50) 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 4 June 1929, and the 44 mile extension towards Nornalup Inlet was opened on 11 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 30 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. 65.)

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.

Locomotives of Millars' Elleker - Denmark Railway

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

No. and Name	Wheel Arrangement	B/No. and Date built	Driving wheel diameter	Cylinder diameter and stroke	Approx. weight, tons	Grate area sq. ft.
— Denmark	0-4-0ST	10770 1890	28 in	8 in x 12 in	9	5.4
1 Jarrah	2-4-2ST and tender	14591 1895	37 in	14 in x 16 in	35	10.25
2 Karri	2-4-2ST and tender	14580 1895	37 in	14 in x 16 in	35	10.25
— Grafters	2-6-0	5244 1880	38 in	14½ in x 18 in	38	15.62
— Jubilee	4-6-2	15434 1897	39 in	16 in x 20 in	62½	14.5
— Swan	2-4-2ST and tender	16313 1898	37 in	14 in x 16 in	35	10.5

Boiler pressure: *Grafters* 130 p.s.i., all others 160 p.s.i.

Grafters: This was a former South Australian Railways "X" class 2-6-0 locomotive, purchased from the SAR by Millars on 29 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 *Grafters* 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.

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