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Light Railway Research Society of Australia Inc.

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Canvaraiana

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

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Comment

Back in 1972, when I purchased my Perry cane locomotive (*see LR141*) I received many suggestions from fellow enthusiasts, most of which were helpful. One thing that sticks in my mind, however, is the number of people who proposed quite radical modifications, such as fitting Westinghouse brakes, enclosing the rear of the cab, or replacing the balloon stack with a conventional chimney.

Sadly, these enthusiasts seemed to regard a narrow-gauge cane loco as having no inherent historical or cultural value of its own. It was merely an object that could be adapted to reflect their own parochial view of proper railway practice.

Australia, and its railway fraternity, has come a long way in the past 30 years but, even now, many old attitudes persist, and the future integrity of much of our industrial railway heritage is far from assured.

There are those who believe that railway preservationists are nothing more than overgrown children playing with trains. If, by our actions, we fail to respect the historical value of what we preserve, we tend to prove their point. Bruce Belbin

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

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

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

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In the 1920s, the coal mining company of J&A Brown purchased thirteen former British Army Railway Operating Division 2-8-0 locomotives for use on its Richmond Vale Railway, near Newcastle, NSW. Always known as "The RODs", they served their new owners well, with the last examples not retired until 1973. **Front Cover:** On 25 May 1967, No.20 (North British 22042/1918) hauls a train of empty hoppers towards Pelaw Main Colliery. Photo: EG Skiller, courtesy ARHS Railway Resource Centre. **Upper Back Cover:** No.22 (Great Central/1918) crosses Wallis Creek trestle on 25 January 1967, en route to Hexham with a loaded coal train. Photo: Robert Kingsford-Smith. **Lower Back Cover:** Crossing both the Pacific Highway and the Government Railway's main northern line, No.23 (Great Central/1919) transfers a group of repaired coal hoppers from the riverside works of Hexham Engineering to the RVR yard, in December 1972. The RVR loco shed is on the left, the Oak factory is in the background and, to its right, the Oak Roadhouse (a regular source of complaints about drifting coal smoke, particularly that coming from the RODs). Photo: Graeme Belbin.

The Narrow Gauge Question in New South Wales

by Jim Longworth

The Question

Narrow gauge railways are a type of light railway and were, in many ways, rather an engineering fad of the later half of the nineteenth and early years of the twentieth century. In Australia 3ft 6in gauge was adopted for main line government railways in Queensland, Tasmania, South Australia and Western Australia. Victoria had five 2ft 6in gauge branch lines with more than 121 miles of track.¹ These were built to reduce the cost of constructing new lines.² NSW had none. Why not?

The Narrow Gauge argument

During the narrow gauge era, railways down to 15in gauge were widely promoted as a means of cost reduction in England³, America⁴ and elsewhere across the colonial globe.⁵ With respect to NSW it was argued that for the same construction cost/mile would it not be better to have a substantial narrow [gauge] line than a cheap broad [ie standard gauge] one?.⁶

Of the various narrow gauge lines around the globe, the Festiniog in Wales was arguably the most publicised, and demonstrated that locomotives could be successfully operated on a gauge as narrow as 1ft 11¹/2in.⁷ In particular, the cost of constructing the line was considerably less because of the possibility of using curves of smaller radius. This means that the line could go round the hills and heads of the valleys. The expensive alternative, to cater for a wider gauge, would be to cut through the ridges and to bridge the valleys, requiring heavy earthworks and bridge work. By reducing cost, it was argued that lines could be built to areas where building more expensive standard gauge railways would be prohibitive so no railway would be built at all. In addition to savings on civil engineering there was a basic tenet for locomotive worked

lines that the narrower the gauge the more productive the locomotive became as its unproductive tare weight was minimised. The ratio of cargo weight to tare (or dead) weight also included the passenger or goods carrying rollingstock. Both the total value of the capital necessary to construct the line and the interest payable on the loan money would be reduced. Operational costs would likewise be reduced.

However, the claimed benefits from the use of a narrow gauge for common carrier railways had been largely discredited by the turn of the century. Any saving accruing from reduced grading and length of sleepers was slight (1 to 4%), and was overwhelmed by increased costs.⁸

Narrow Gauge proposals in NSW

So far as the NSW Government Railways were concerned, a Select Committee of the Legislative Assembly was appointed during February 1870 to inquire into and report upon the best mode of facilitating inland traffic, and upon the subject of Railway Extension generally, with the object of the promotion of settlement and the development of the resources of the Country. The committee recommended construction of a horse-hauled tramway of 3ft gauge, using 25lb/yd rails to extend the railhead of the then existing standard gauge line beyond Goulburn at an estimated cost of £,1,500/mile. An alternative 3ft gauge line using 40lb/yd rail, employing 10-14 ton steam locomotives at $f_{2,500/\text{mile}}$, compared to $f_{8,000/\text{mile}}$ for a conventional standard gauge railway, was considered but not recommended. The NSW Public Works Department also drew up a design for a 2ft 7in gauge tank engine, to work feeder lines to what were to become the main trunk lines,9 but the design was never built.

Faced with the choice of *cheap railways or no railways at all*,¹⁰ the Engineer-In-Chief, John Whitton countered the proposed horse tramway by surveying the line from Goulburn to Yass and preparing estimates for light standard gauge, 3ft gauge, and 2ft gauge.¹¹ Whitton claimed that *the two narrow-gauge lines would only be marginally cheaper, as the only savings were in the width of cuttings and embankments and in allowing slightly sharper curvature.*¹²



The industrial centre of Broken Hill once featured a considerable amount of 3ft 6in gauge trackage; not because the NSW Government had chosen a narrower gauge for its far western outpost, but rather because the South Australians had got there first (by 31 years, in fact). From 1888, until the coming of the trans-Australian standard gauge in 1970, the privately owned Silverton Tramway connected 'The Hill' with the South Australian Railways 3ft 6in gauge line just across the border at Cockburn, 35 miles distant. On a wet day at Broken Hill in January 1956, one of the original Silverton locomotives, a 'Y' class 2-6-0, shunts the yard, while a five year old 'W' class 4-8-2 makes a fuss in the background. Photo: Ron Preston



Advocates of narrow gauge often pointed to the success of the Festiniog Railway in Wales, which carried substantial loadings on a gauge of only 1ft 11¹/2in. Of particular interest was its use of 'Fairlie's Patent' articulated locomotives. In this early view, the first of the Festiniog's 'Fairlies' LITTLE WONDER (Fairlie Engine & Steam Carriage Co./1869) is seen at the head of a lengthy test train. Photo: Phil Belbin collection

Narrow gauge, based on the Festiniog Railway in Wales, was also considered as a means to construct cheap railways.¹³ Whitton acknowledged the success of the Festiniog system, but did not consider a gauge of 2-feet could be used in this Colony for ordinary traffic, and nothing could justify the use of such a gauge upon any railway other than the one so exceptionally circumstanced as that of the Festiniog.¹⁴ The extension to Yass was built to standard gauge.

In order to reduce costs and so make a proposed line more likely to be approved, a 3ft 6in gauge alternative was proposed for the Eden to Bega standard gauge railway proposal of 1892. The Engineer-in-Chief (by then Henry Deane) had been much struck by the convenience of operation and comfort of several Queensland 3ft 6in lines, and thought the proposal would be satisfactory. However, the Commissioners objected and claimed the alteration of gauge would be a national calamity. The line would require different and unique rollingstock, so older standard gauge rollingstock could not be cascaded down from main trunk lines at no charge to the new line. In addition, bridges would have to be built to standard gauge dimensions in case the line was ever rebuilt to standard gauge. The line might one day be connected to the rest of the system at Cooma or Nowra, and costs per unit load would exceed those normal for a standard gauge line. Further, it would create a precedent for other parts of the state wanting lines where the estimated traffic may not be deemed sufficient to warrant construction of cheap standard gauge lines.15 No line of either standard or narrow gauge was built to or between the towns.

Henry Deane had taken over the position previously held by John Whitton in June 1889, and in 1894 toured overseas. Deane paid special attention not only to American methods, but to the light-railway system of Ireland and to the narrow-gauge railways of France constructed to the 60-centimetre gauge on the Decauville system.¹⁶ The 'light-railway' system of Ireland was a collection of eighteen systems, seventeen of which were been built to a gauge of 3ft.¹⁷ In 1909, a proposed line of 2ft 6in gauge was surveyed between Coramba and Dorrigo, for an estimated cost to construct of \pounds 190,500 compared to a standard gauge line, including two Shay locomotives, at an estimated cost of \pounds 239,073. The narrow gauge line was opposed by the Railway Commissioners, who asserted that if a narrow-gauge line be built, rolling-stock suitable for that line, and that line alone, will require to be provided; and, in addition, special provision would have to be made for the repairing of such rolling-stock when necessary. Other arguments against the narrow gauge proposal and in favour of the standard gauge one included:

1. The cost of transhipment at Coramba

2. Possibility of extending the line to connect with the northern line

3. Inability to readily interchange rolling-stock

4. Need to provide extra narrow gauge stock as a reserve to deal with maximum traffic

- 5. Extra cost of repairing narrow-gauge stock
- 6. Delay and damage to goods in transfer between the two gauges 7. On-going increased transportation costs especially after enough

traffic had developed to justify a standard gauge line 8. Limitation on speed

- 9. Greater liability to overturning and derailment
- The arguments in favour of a narrow-gauge line were:
- 1. Saving in the cost of construction
- 2. Reduced annual interest charge on borrowed capital
- 3. Cheaper working for very light traffic

The option of building a narrow-gauge line as a precursor to converting it to standard-gauge when traffic built up sufficiently, was discounted because the reduction in the cost of constructing a narrow-gauge line instead of a broad-gauge [ie, standard gauge] one is mainly effected by putting in a sharp curvature. Consequently, the location of the narrow-gauge line would not be suitable for a wide-gauge [ie, standard gauge] one later on.¹⁸ The line was built from Glenreagh to standard gauge, though Shays were used on private narrow gauge timber tramways in the nearby forests.



In July 1907, Beyer Peacock & Co. Ltd submitted a design for a 2ft gauge 0-4-0+0-4-0 Fairlie locomotive to the NSW Government then, three months later, came up with the above proposal for a "Cradle Type Locomotive (Garratt's System)", possibly for the same (unknown) project. It was similar in size and appearance to the very first Garratts actually built, two years later, for Tasmania's North East Dundas Tramway, though the 'Thow pattern' cab gave it a distinctive NSW Government Railways flavour. Phil Belbin Collection

Designs for two different narrow gauge Garratt articulated locomotives were supplied by Beyer Peacock & Co. Ltd. Engineers during 1907 and 1908, for an as yet undentified government line in NSW¹⁹. Neither was purchased.

While the NSW main network was laid to standard gauge, a large number of short narrow gauge lines were built around departmental workshops and locomotive servicing facilities.²⁰

Two Answers

So why were no narrow gauge government railways built in NSW? I suggest two answers, one technical, one sociological.

Adoption of cheap standard gauge so called 'Pioneer Railways' for *where the country is practically level and the traffic will be very light*,²¹ successfully cheapened construction sufficient to avert the advantages offered by narrow gauge construction. Moreover, in country that is 'practically level' the advantages claimed by narrow gauge construction would hardly be identifiable. Much of the really mountainous terrain had already been crossed by that time, so minimising any cost advantages that would have accrued from constructing narrow gauge lines, while still incurring the full cost penalties. During his overseas tour, Henry Deane concluded that the conditions in America, especially in the west, seemed most nearly to approximate to those of New South Wales, and it therefore seemed that the experience there gained would afford the [most] desirable type [of economical railway].²²

John Whitton, who held the position of Engineer-in-Chief during the era when narrow gauge lines were being promoted fervently across the globe, commanded incredible prestige and status. With his self-confidence, great technical ability, and monopoly on engineering expertise, he was able to out manoeuvre any narrow gauge proposals, proponents of which were unable to muster sufficient support to press their case. Later railway managers were unable to introduce such sitespecific variations to the dominant technology. The NSW system was so firmly established as a standard gauge network, that building minor extensions in other than standard gauge was seen as being incompatible with the then existing system.



In 1908, Beyer Peacock put forward this design for a 2ft 6in gauge 0-6-0+0-6-0 "Garratt Patent Locomotive", intended for a proposed narrow gauge railway somewhere in NSW. State Rail Archives

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The contribution of Stuart Keane is acknowledged and appreciated.

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FROM THE ARCHIVES

Underground Tramway Efficiency

by Cyril W Gudgeon

Manager, Mt Bishcoff Extended Co, Waratah, Tasmania.

(published in the Chemical Engineering and Mining Review, 5 September 1919.)

In the average metal mine too little attention is given to track work; crosscut and level extensions are usually done by contract, the tram rails being placed and bedded by the contractors, as a rule poorly, and provided broken material can be trammed away more or less expeditiously usually everyone is satisfied. Apart from contractors, very often men are placed on track work who have but the slightest knowledge of what a roadway requires to be.

Some of the large rich mines, where one would expect to see good tramways, are often the worst offenders, tracks being too light for the tonnage output, the grade irregular, and very often stretches of line are completely under water.

A poor track means reduced man-efficiency, low output, constant repairs to line and trucks, dissatisfied truckers, and a high delivery cost per ton.

A interesting comparison is furnished by the Mt. Bischoff Extended mine, where the three main outlets for ore and waste rock are approximately the same length, and deliver the same class of material. The classification of these roads is poor, fair and good, the efficiency of the first-class road over the others being tabulated below. All tramming is done by contract labour, at so much per truck delivered, contracts being let in three-monthly periods, contractors being found wages work if at any time the ore supply is not sufficient to keep them fully employed. Good tallies are maintained by this system, each incoming contractor endeavouring to make a fresh record for his section. Steel trucks are used, with ordinary plain bearings. Steel rails are laid throughout, the gauge of the lines being 21 in.

The three lines are detailed as under:-

| | SECTION | | | | | |
|---|---|---|---|--|--|--|
| - 11. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. | No. 5 crosscut and level | No. 6 crosscut and level | No. 9 crosscut and level | | | |
| Rails (steel) | 12-14 lb. No fishplates. | 14 lb. No fishplates. | 20 lb. All fishplated | | | |
| Sleepers | Rough half-round, irregularly spaced | Rough half-round, spaced 3ft. centres. | Sawn 6in.x 4in. spaced 2ft. centres well ballasted. | | | |
| Turnouts | Revolving turntable, Geordy sheets. | Flat and Geordy sheets. | Fixed and movable points. | | | |
| Grade | No fixed grade, line level in places. | About 1/2%. Grade irregular. | 1% Regular grade. | | | |
| Drainage | Not provided for. Grade too level, water over rails in places. | Fairly well provided for; sluggish in places. Track wet. | Well provided for; Track dry. | | | |
| Curves | Too sharp and not well laid out. | Too sharp and not well laid out. | Laid out to carry heavy loads at speed. | | | |
| Trucking runs | | | | | | |
| Av. trucking distance per trip | 2,520 ft. | 2,304 ft. | 3,472 ft. | | | |
| Condition of road | Poor | Fair | Good | | | |
| Trucks used & capacity | Box, 12 cwt. | Door, 12 cwt. | Door, 16 cwt. | | | |
| Truckers on run | 1 | 1 | 1 | | | |
| No. of trucks par trip | 1 | 2 | 3 | | | |
| Work done and cost | | | | | | |
| Trucks delivered | | | | | | |
| per fortnight | 348 | 732 | 892 | | | |
| per day average | 29.0 | 61.0 | 74.3 | | | |
| rakes per day | 29.0 | 30.5 | 24.8 | | | |
| Tons delivered | | | | | | |
| per fortnight | 208.8 | 439.2 | 713.6 | | | |
| per man-shift | 17.4 | 36.6 | 59.5 | | | |
| Total distance hauled per man-shift | 13.84 miles | 13.31 miles | 16.27 miles | | | |
| Rakes delivered per hour actual running time. | 4.19 | 4.41 | 3.59 | | | |
| Average speed. Cost | 2.01 miles per hour | 1.94 miles per hour | 2.27 miles per hour | | | |
| contacted price | 4.5d. per truck | 4.0d. per truck | 3.0d. per truck | | | |
| delivered | 7.5d. per ton | 6.66d. per ton | 3.75d. per ton | | | |

Excavating Appleton by Colin Harvey

Development of the Port

The site for settlement that was to become Melbourne was chosen in 1835 at the limit of navigation for small ships on the Yarra River. Ever since then, the lower Yarra, and the adjoining lands of West Melbourne Swamp, have formed an important part of the city's port.

The size of vessels using the wharves near the city was severely limited by the shallow and tortuous nature of the stream until widening and deepening of the Yarra, and the construction of a cutting through Fisherman's Bend, were undertaken in the 1880s in accordance with the recommendations the eminent harbour engineer Sir John Coode. Coode also recommended the excavation of new docks at the eastern end of the West Melbourne Swamp adjoining the Spencer Street railway yards. This project, the Victoria Dock, was completed in 1893.¹

Further dock expansion was planned for the West Melbourne Swamp and Coode Island (which was formed by the Coode Canal cutting through Fisherman's Bend). This development was hastened by port congestion during the mid-1920s and the imminent loss of some river berths due to the construction of the Spencer Street bridge. Dredging for the entrance to the new Appleton Dock commenced in the 1920s, with spoil being used to fill the old course of the Yarra. However, further work was delayed pending the completion of the new Footscray Road (the then existing road to Footscray, around the south side of the Swamp, would be cut by the new dock). In 1930, work was suspended as the financial depression took hold. It was not until August 1938 that the Melbourne Harbor Trust was able to announce that work was to recommence.²

Method of excavation

Appleton Dock was intended to comprise 18 berths around a roughly rectangular area 4100ft long and 650ft wide north of, and parallel to, Victoria Dock, with a depth of 32ft below low water mark About 3 500 000 cubic yards of excavation would be necessary for the whole scheme. The first stage was to provide 1600ft of berths on the northwest side near the entrance, allowing the removal of coal handling from Victoria Dock, and a 685-feet-long wharf on the south-east side.³

The West Melbourne flats, from which the dock was to be excavated, consist mainly of a silty clay formation probably deposited 8000-9000 years ago in the Yarra's estuary which had been created as the sea level rose after the last Ice Age. This material is now known as Coode Island Silt. It is highly compressible (and hence expands significantly when excavated), has low shear strength and tends to creep when loaded. It is, in short, a squelchy, glutinous or runny, dark grey slime.⁴

Coode Island Silt can be handled successfully using suction dredges. The Trust imported a dredge of this type in 1931 with the intention of pumping the material from Appleton Dock into reclamation ponds elsewhere on the Swamp. By



The driver of 7010, alias No.10, looks along his train at the Footscray Road crossing. Unusually, the loco of this train seems to be at the north end. Photo: Jim Longworth collection



Newly delivered 7010 and its companions stand outside their new shed in June 1939. Photo: Buckland Collection, National Library of Australia

1938 there was insufficient land available south of the new Footscray Road for all the material to be disposed of in this way and the Crown land north of the road was being sought by the Railways Department. The Railway was quite happy to have the area filled, but objected to the use of pumped silt, which takes a long time to consolidate. The only alternatives were disposal of dredged silt by dumping in Port Phillip, or the production of acceptable filling by excavation 'in the dry'; a method for which the Trust was not equipped. Harbor Trust experiments had revealed that excavated silt could be easily dumped but would still take many months to consolidate sufficiently to be driven over. The steepest practical slope in the excavation would be 2 to 1.⁵

The first step in recommencing construction was the removal, using the Trust's bucket dredge *Francis Henty*, of the silt that had accumulated on the previously excavated area. This dredge was worked in conjunction with the suction dredge *D York Syme* that reclaimed silt dumped in the already-excavated cut through Coode Island leading to Appleton Dock.⁶

Tenders

Tenders were invited in January 1939 for excavation of 455 000 cubic yards of consolidated silt to form the first six berths of the new dock and a new outlet channel for the Moonee Ponds Creek: all to be excavated to a depth of 32 feet below low water, or about 38 feet below ground level. Ten thousand cubic yards of the material was to be used for the construction of additional banks for reclamation ponds and the balance was to be placed on land north of the new Footscray Road, more than a kilometre away.

Nederlandsche Maatschappij Voor Havenwerken N.V. (Netherlands Harbour Works Company) of Amsterdam submitted the lowest of the four tenders received, at $\pounds 64,958$ 6s 8d. This price was higher than could be achieved with suction dredging but the Trust's engineer considered it acceptable due to the lack of a suitable site for depositing pumped silt.

The Company proposed excavating by means of a Bucyrus dragline power shovel with a $1^{1/2}$ cubic yard bucket and a 70-foot boom. Transport of material would be by motor truck, for bank construction, and tramway, for the balance. Australian labour was to be used with the exception of a Dutch manager and foreman.⁷

After consulting the other affected bodies, the Trust advised the Netherlands Harbour Works Co. on 23 March 1939 that their tender had been accepted. The acceptance was subject to the Company providing a longer boom for the excavator, necessary to reach the full depth, and any additional plant to maintain the estimated 9000 cubic yard weekly average needed to complete the excavation within the 12 months starting on 23 August 1939. In order to meet the requirements the Company decided to use an excavator with an 85feet-long boom and, for the upper parts of the excavation, a two-cubic-yard bucket. If further plant, valued at more than $\pounds 250$ and not already owned by the Company, was required, it had to be of Australian manufacture.⁸

Company preparations

The Netherlands Harbour Works Co. had existing harbour contracts at Devonport and Burnie and it arranged for one of its engineers, JN Wesselingh, and a foreman, AR Stone, to come to Melbourne from Tasmania to take charge of the preliminary works. These included the construction of offices and a locomotive shed on old Footscray Road, the excavation of high ground and dyke construction using a hired shovel and motor trucks.⁹

Builder L Manniche constructed two buildings of galvanized corrugated iron on timber framework with lean-to roofs. One consisted of a two-road locomotive shed combined with a store, kitchen and living rooms for the Company's caretaker and the other contained offices for the manager, supervisor and foreman, and garage and living quarters for the Company's foreman.¹⁰

The 350 hp Ruston Bucyrus type 55-RB diesel excavator arrived in Melbourne on the SS *Perthshire* on 24 May whereupon Ruston and Hornsby Pty Ltd undertook its assembly. On 5 June, Mr JW Meyboom, engineer in charge of operations, and Mr PW Matthieu, superintendent of works, arrived in Melbourne. Most of the railway plant arrived from Hong Kong later in the same week.¹¹

The tramway

The railway plant, available from previous harbour construction jobs at Macau and Qingdao, had been stored near Macau and consisted of five 700-millimetre gauge steam locomotives, side-tipping trucks of several sizes, and 6000 yards of 20-pound per yard rail. The locomotives were overhauled by the Taikoo Dockyard and Engineering Co of Hong Kong Ltd before despatch. As a result of the decision to use a two cubic yard bucket on the excavator, only 21 trucks of matching capacity were sent from Macau and manufacture of an additional 20 similar-size trucks was arranged in Holland.¹²

The 'main line' of the tramway was constructed, on a roadbed of quarry spalls, from the excavation site to the New Footscray road utilising an existing bank on the west side of the Railway Coal Canal. Once across the road, the line turned sharply left to parallel the north side of the road to the dumping ground. The Melbourne City Council required that manually operated traffic control lights be placed on the road approaches to the crossing, with illuminated cautionary boards about 100 yards further out. It was also required that road traffic stoppages be minimised and spread as evenly as possible. After various calculations involving train speeds and lengths, a maximum obstruction time of 30 seconds out of each $3^{3}/4$ minutes was permitted, thus allowing up to 16 stoppages per hour. As the Company needed to shift up to 120 cubic yards (solid), or eight loaded trains of ten trucks, each hour, a double-track crossing was installed so that loaded and empty trains could cross simultaneously. (The crossing plans show that the tramway was constructed to gauge of 2ft $3^{7}/12in$ – no metric measures in those days!)¹³

Sufficient progress had been made by 27 July 1939 for a trial of the 'quaint, miniature locomotives'. The press seems to have taken a fancy to the exotic nature of the railway even going as far as to print a photograph of some Chinese writing on one engine – albeit upside down and back to front!¹⁴ The five green 'puffing billies' were Baldwin Locomotive Works 0-4-0ST machines manufactured in August 1920 and carried builder's numbers 53484, 53523, 53485, 53534 and 53535 and Netherlands Harbour Works Co numbers 7006, 7007, 7008, 7009 and 7010.¹⁵

The 20 new trucks from Holland arrived the day after the trial, but the Company was promptly told to remove them as they had not obtained authority to use new, non-Australian, plant. After an unsuccessful appeal to the Government, the trucks were removed to storage and arrangements were made for the local manufacture of 20 similar trucks.¹⁶



The original loading hopper in use early in the contract. Providing sufficient clearance for the locomotives meant a large drop into the trucks for the silt. In the background can been seen shipping in Victoria Dock and the retort house at the West Melbourne gasworks. Photo: Melbourne Harbor Trust (VPRS 8359/P1, Unit 1)

Operations commence

On the morning of Saturday 9 September 1939, the excavator 'roared into action' and the trains started trundling across the swamp – briefly. Although the excavator seemed up to the task, the transport system was not. Apart from there being only enough trucks for three six-vehicle trains, when the unpredictable silt dropped from the excavator bucket through a loading hopper into the trucks, it was either too fluid and shot straight through with such force that trucks collapsed and were buried in spilt mud, or it was not fluid enough and clogged the hopper.¹⁷

At the other end of the line the 'peculiar qualities' of the silt were also causing problems. The material was solidifying in transit and frequently it had to be dug out by hand. When tipped, instead of sliding out neatly, the mud was sometimes sticking in the trucks, overbalancing them and sending them tumbling into the swamp. Recently deposited silt was found too soft to support the track and repeated derailments resulted.

These delays, together with the 'occasional' derailment on the main line, resulted in only 600 cubic yards per day being transported in the first fortnight instead of the anticipated 1500 cubic yards per day. The NHWC was forced to temporarily halt operations and adopt new working methods. A new loading hopper, with hydraulically operated doors, was obtained and trucks were strengthened and their sides built up with timber. The main line was duplicated to eliminate delays at loops. In future the line would be kept 30 feet from the edge of the dump with truck bodies being removed and upended by means of steam cranes mounted on wooden mats between the railway and the dump face. With a 4000 feet length of dump it was calculated that the crane would always be working on material deposited three weeks earlier.¹⁸

To match the capacity of the excavator it was necessary to operate two dumps simultaneously, with another in reserve to allow for crane shifting and repairs. Three cranes, each with a lift capacity of six tons, were imported from Macau.



The Fordson-powered locomotive under the newer loading hopper. Photo: Commonwealth Engineer

They had been manufactured by Thole of Holland and had NHWC inventory numbers 3304, 3307 and 3306. Two had movable jibs of 33 feet radius and one had a fixed jib of 27 feet radius.¹⁹ The cranes were rigged so that two ropes were attached to the truck body, one for lifting and the other, attached to the bottom, for tipping. The ropes were wound



7010 heads the line up outside the shed. The hard life on the Swamp has now taken its toll on the appearance of the rolling stock. Photo: N Wadeson collection



Loco watering facilities were provided immediately north of the New Footscray Road crossing where a reliable mains supply was available. The hut for the officers controlling the level crossing is visible behind the loco. Photo: Mike McCarthy collection

on a common drum but the hoisting rope passed around a sheave giving the tipping rope effectively twice the speed. Thus hoisting, slewing and automatic tipping were carried out concurrently. On average, a crane could empty one truck every two minutes.²⁰

The new unloading technique potentially worsened the truck shortage but the Company was granted permission to use six of the Dutch-built trucks (the combined value of six trucks being less than the $\pounds 250$ limit). By March 1940 enough locally manufactured trucks had been delivered to run five trains of nine skips and, by May, full-length trains of 10 skips were in use. The usual procedure was to push out the loaded trains and pull back the empties.²¹

Floodlights allowed 24-hours a day operation and trains ran continually from midnight each Sunday until noon Saturday on a track network of over nine and a half kilometres. There was clearly little time for maintenance and this may be one reason that the Company acquired an additional locomotive, powered by a Fordson kerosene engine and, apparently, built by Malcolm Moore.²²

Siltation

Although excavations were now proceeding apace, financial difficulties were looming. The Company management had accepted that the delays and the cost of additional plant had eliminated their profit, but also less cash than expected was being paid by the Harbor Trust.

The Company was paid progressively for the volume excavated as determined by a monthly sounding. The volume removed from areas partly excavated was paid for at a rate equivalent to half the final contract rate. Once an area reached its full depth of 32 feet, the payment was increased to 90 per cent of the final rate with the last 10 per cent paid on completion of the job. Unfortunately the excavation was

subject to siltation from stream inflows and spillage from the dredging. The Trust interpreted any area with a depth of less than 32 feet as uncompleted, even if it had previously been accepted as completed. Payments made for newly completed areas were reduced by the value of areas that had reverted to 'uncompleted' leaving the Company with a serious cash shortage. (The Trust's interpretation of 'completed' would eventually prove to be invalid). The transport of fresh silt, plus material from any overdepth dredging (about two feet on average), also reduced the average truck 'payload' from the nominal capacity of two cubic yards to a low of 1.22 cubic yards during March 1940.²³

Any prospect of additional funding from the Amsterdam headquarters evaporated when Germany invaded Holland on 10 May 1940.

Faced with the probability of the Company defaulting on the contract, and considering the limited financial risk (the Trust could claim the plant), the Harbor Trust relented and agreed to pay 90 per cent of the final rate for the volume of the excavation, nett of siltation, for areas that had at any time reached the required depth. Uncompleted areas would be paid at 70 per cent and a six-month extension to the completion date was granted.²⁴

The concessions were all to no avail when, on the morning of 31 May 1940, the excavator driver felt his machine start to move sideways. Despite attempting to drive the machine off its wooden supporting mats, which had been undermined by wave action, the driver was forced to 'abandon ship' as it slipped into the excavation, coming to rest in about eight metres of water. Seventy of the 90 employees were immediately laid off while the Company arranged salvage. (The salvage was undertaken by a team including Captain JP Williams and divers JE Johnstone and A Warren who were to become famous the following year for the successful recovery of a large quantity of gold bullion from the wreck of the RMS *Niagara* off New Zealand.)²⁵

The Harbor Trust urged the Company to obtain replacement plant while the excavator was being recovered and repaired, but none of sufficient capacity was available; even if the NHWC had had the cash. On 21 August 1940, with 307 174 cubic yards remaining to be dug, the Trust decided to take over and complete the contract using the Netherlands Harbour Works' plant and day labour. Mr Meyboom and ten of the Company's key employees were offered temporary employment. It was also agreed that the Trust would hand the plant back to the NHWC at the completion of the work.²⁶

Harbor Trust operations

While the excavator was being reconditioned, the Trust arranged for repairs to rolling stock (locomotives 7007 and 7009 were in especially poor condition) and for the bucket dredge *McLennan* to clean up the floor of the excavation. Dragline operations recommenced on 26 September, initially operating two eight-hour shifts each day.²⁷

In the hope of reducing costs and distributing material to a shallower depth over a wider area of dump site, the Trust decided to try road haulage of spoil on two shifts per day. The railway would continue to operate one shift per day, at least until two water-filled dump areas were filled, or indefinitely if it were to prove impractical to drive trucks over recently deposited material. The original loading hopper was modified and returned to service for loading road trucks, and tenders were called for cartage.²⁸

After trials, several tenderers declined to proceed but, during October, a contract was entered with Vincent Murphy for the transport of 160 000 cubic yards of spoil via the old Footscray Road to a dump north of the new Footscray Road to the west of the railway dump site. Mr Murphy's contract price of 10³/4d per cubic yard seemed to offer savings relative to operating the railway at an estimated cost of 18d per cubic yard (truck measurement). Six road trucks were provided,



The West Melbourne Swamp would have been a bleak and windswept location in winter. This driver is equipped with the appropriate winter clothing. Photo: Jim Longworth Collection

three owned by Murphy and three by Mr GH Willox, of which five needed to be kept on the road to keep up with the excavator. Frequent breakdowns soon reduced the average number of trucks available to less than five. Overloading and poor site conditions caused so much damage that, on 1 March 1941, Mr Willox withdrew his trucks, making it necessary to introduce a second shift on the railway.²⁹

Because of the War, Murphy was unable to purchase additional trucks nor would anyone hire any to him. As an alternative to surrendering his contract, Murphy offered to continue on day shift only at an increased rate of 1s per cubic yard. This offer was accepted by the Trust, even though it was also necessary to run two trains in that shift to keep up with the excavator and the cost was now almost the same as by rail haulage, as it allowed 'more time for maintenance of the railway rolling stock, thus minimising breakdowns and assisting to reduce the price of transportation by rail'.³⁰



"Give me a long lever and a place to stand..." Archimedes' maxim is being put to good use rerailing 7009 after the high-speed derailment of the "Dudley Flats Express" on 3 May 1940. Buckland Collection, National Library of Australia



The double track crossing is being used as intended to minimise the stoppage of road traffic. The driver of 7010 seems bemused by the activities of the photographer. Photo: Mike McCarthy collection

Incidents

On 3 May 1940 engine number 9 went for a run by itself. Having left the dock site, it proceeded north at high speed, much to the alarm of the traffic officer at Footscray Road which was crossed at a reported speed of 50 miles an hour. Not surprisingly the run came to a sudden conclusion on the sharp curve just beyond the crossing with the engine rolling onto its side. As the anthropomorphic *Herald* report put it, *she collapsed, sighed, her wheels spun a few times, and after a few indignant puffs of steam, she was still.*³¹

With such an intensive rail service across Footscray Road it was inevitable that there would be the occasional conflict. None seems to have been particularly serious from the railway viewpoint, but the Trust was always careful to recover costs wherever possible. (A Mr Andrew of Burnley was charged $\pounds 1$ for a 20-minute delay when he badly damaged his car on an empty train on 17 October 1940.)

At night, trains were

At hight, trains were equipped with a red light on the end truck and a hurricane lamp on the footplate, and whistled when approaching the road crossing, but an incident in April 1941 resulted in the provision of powerful flood lights on each rail approach to the crossing so that the traffic officers operating the signals could better see the trains.³²

The most serious accident occurred on the night of 2 May 1941. Two residents of the infamous 'Dudley Flats' squatters' shacks, which were adjacent to the line,



were adjacent to the line, The clean, undamaged and unmodified condition of 7009 suggests that this had, by June 1949, come were resting on the track may be a test run in mid-1939. Photo: Mike McCarthy collection into possession of no less

when they were struck by a loaded train. William Ford was killed and Richard Gilbert had his right leg severed. It was reported that the two men were 'not in sober condition' at the time of the accident. Trains were delayed by 40 minutes.³³

End of the excavation

Use of the Netherlands Harbour Works Company plant ceased at 5pm on 24 December 1941 when all material in the contract area that was accessible by dragline had been removed. The equipment was then handed back to the Company. The remaining 89 443 cubic yards of excavation in the contract area were completed by the bucket dredge *Henry Meeks* during the first two months of 1942.

In total 488 562 cubic yards had been removed from the contract area, about 56 per cent of which was conveyed by rail. Harbor Trust records show that for every cubic yard excavated about 1.35 cubic yards had to be transported.³⁴

In December 1941, the Company quit Victoria leaving an agent to arrange for the plant and railway material to be stored at the Appleton work depot pending disposal.

In early 1946 the remaining plant was sold to Dickson Primer (Vict) Pty Ltd. This company finally cleared the site, to make way for further reclamation works, in mid-1947.³

Although it has been suggested that the Baldwin engines were exported, machinery merchant C Knight & Sons Pty Ltd had, by June 1949, come into possession of no less than three of the locomotives; or at least their boilers. These boilers were sold for industrial uses and one has been preserved after service at a Healesville dry-cleaning establishment.³⁶

Completion of the dock

No further work was done on Appleton Dock until after the War. Between 1946 and 1951, suction dredging was used to extend the excavation a further 1260 feet with a depth of 38 feet. Silt from the dredging was used to fill the old course of the Coal Canal and to reclaim swamp just to the north of the new dock. Construction of the wharves, using pre-cast concrete piles and slabs, commenced in 1950. Two locomotive cranes, on broad-gauge track, were used to convey the piles to the pile-drivers. Another interesting aspect of the construction was the use of a monorail concrete-delivery system, hired from the Trust by contractor Dalton and Co., for casting the concrete slabs for 'E' and 'F' berths.³⁷

Railway access was provided to Appleton Dock from the Victorian Railways' Canal Yard, the line crossing Footscray Road at the same place as had the narrow-gauge line more than a decade earlier.

The first Appleton berth, 'B', came into use on 17 August 1956, followed by berths 'C' to 'F' progressively over the next year. Although no further expansion of the dock area has occurred, and the recent construction of the Bolte Bridge and impending Docklands urban development have prevented the dock from ever reaching its intended size, it was announced in November 2000 that further dock facilities were to be provided. The new work includes the diversion of the Moonee Ponds Creek – effectively a re-excavation of the Coal Canal about sixty years after it was filled.³⁸

Remains

The filling deposited using the railway now forms the foundation for the Melbourne wholesale markets. Several hundred metres of the main tramway formation remained visible until most was buried by filling associated with the construction of bulk export facilities during 1999. The last small section of embankment will be destroyed by the recently announced expansion of the dock.

People

Some of the people known to have been employed on the railway are engine drivers Blick, J Don, Douglas, P Housey, W Jackson, Pearce, J Price, Terry and D Tousel (for one shift only!). T Slattery, C Smith and E J Boulter were gangers and D McPherson was the fitter. Another rider of the rails, or loco cab roofs, was Bruce 'the engineer's dog'.

Acknowledgements

The preparation of this article was greatly assisted by Colin Higgins of McConnell Dowell Pty Ltd, who provided access to Melbourne and Metropolitan Board of Works aerial photography; the Keeper and staff of the Public Record Office; and Frank M Mitchell who located material at the National Library of Australia in the J L Buckland Collection and RAAF aerial photography.





The fitting of a steel strip between the front of the tank, the funnel and the cab of all steam locomotives was probably an attempt to avoid a repeat of the damage to the cab and funnel of 7008 caused by an unsecured splash guard at the hopper in March 1941. Photo: Jim Longworth Collection

References

Abbreviations:

VPRS Victorian Public Record Series, located at the Public Record Office Victoria

MHT 118 VPRS 7972/P1, Unit 118.

MHT 119 VPRS 7972/P1 Unit 119.

ER Melbourne Harbor Trust Engineer's Report.

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2. Ruhen, ch. 18-20; MHT 118, Press statement 15 September 1938 and ER 709/38.

3. 'Appleton Dock Excavating by Dragline', *Commonwealth Engineer* 28, 1940. pp 38-40; MHT 118, Press statement 15 September 1938.

4. Selvanayagan P Nagalingam, 'The Strength and Deformation Properties of Coode Island Silt', M.Eng.Sc. thesis, University of Melbourne, 1987, p.1;

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6. MHT118, Press statement; VPRS 7972/P1, Unit 436, Superintendent of Dredging Report 118/39.

7. MHT 118, ER 151/39.

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Steam Locomotive Details

Baldwin Locomotive Works 0-4-0ST Running numbers: 7006, 7007, 7008, 7009 and 7010 Builders Numbers: 53484, 53523, 53485, 53534 and 53535

Cylinders: 6 inch diameter x 10 inch stroke **Boiler Pressure:** 170 pounds per square inch (limited to 160 lb per square inch at Appleton)

Wheel Diameter: 24 inches

Grate Area: 2.8 square feet

Heating Surface: 94 square feet

Weight: 5.2 tons

(Sources: American Steam Locomotives in Australia [unpublished list], Buckland papers (MS8059), National Library of Australia; and Department of Labour and Industry pressure vessel records.)

25. MHT 118, ER 463/40; Sun, 1 June 1940; Ruhen p. 255.

26. MHT 118, File 186012 and ER 728/40; MHT 119, File 247030 and ER 219/42.

27. MHT 119, Files 185975 and 247030 and ER 219/42; VPRS 7972/P1, Unit 740, ER 166/41.

- 28. MHT 118, ER 924/40.
- 29. MHT 118, ER 944/40 and Assistant Engineer's Report 1048/40; MHT 119, ER 245/41.
- 30. MHT 119, ER dated 19 May 1941.
- 31. Herald, 3 May 1940
- 32. MHT 118, ER939/40; VPRS 7272/P1, Unit 36, ER 395/41; MHT 119, ER 23/42.
- 33. VPRS 24/P, Registrar-General, Inquest Deposition Files, Unit 1430, File 1107.
- 34. MHT 119, File 247030 and ER 1056/41.
- 35. MHT 119, File 247030; VPRS 7972/P1, Unit 1590, ER 391/48.
- 36. Department of Labour and Industry, Pressure Vessel Records.

- 38. Minister for Ports Press Statement, 16 November 2000.
- 39. Sun 28 July 1939.

^{24.} MHT 119, ER 226/40.

^{37.} VPRS 7972/P1, Unit 120, Chief Engineer's Report 516/51, Construction Engineer's Report 11016/50 and Pier Construction Engineer's Report 776/55.



Photographed in October 2000, the old loco shed at Quinninup is still finding some little use, some 40 years since it had a steam loco tenant. The well weathered sign leaning against the workshop store wall indicates Millars as the previous owners. Circular saws nailed to the walls indicate the industry that was the reason for it all happening in the first place. Photo: Len Purcell

From Steam to Wildflowers Quinninup Sawmill Locomotive Depot (WA)

by Len Purcell

When viewed in October 2000, the old loco shed at Quinninup showed little evidence of its origins. A faded sign propped against the onetime workshop store wall proclaimed the original Millar connection, and several circular saws nailed to the wall indicated the sawmill origin. Current use of the shed is by licensed wildflower gatherers. However, the nearby site of the original sawmill is being developed as a holiday village and a more active role for the old shed might be found as part of that.

The loco running shed at Bunnings' Donnelly River Mill, 27 kilometres north-west of Manjimup, eventually became a motel after the mill closed in 1978. Two other prominent Bunnings' mills in the Manjimup area, Nyamup and Tone River, both became holiday villages but that did not happen at Quinninup although many houses still remain.

Just how many 3ft 6in gauge steam locomotives might have been tenants in the shed at Quinninup is open to conjecture. It would not have been many. They were all built by James Martin and were of the classic 2-6-0 tender locomotive design that originated with Beyer, Peacock. Certainly No.69 and No.68 would have rested there. Maybe No.62 visited briefly, and it might well be that Jardee locos Nos.64 and 67 spent time although there is no mention of them being at Quinninup in available records.

Construction of the mill and connecting railway was originally based at Jardee. The 25 kilometre railway running south from there, which would have included sections of former Jardee logging lines, crossed a substantial bridge over the Warren River. Original plans for the mill had been deferred for years because of the World War. However, in April and May 1947, construction was well under way, and Lancashire and Cornish type boilers from Yarloop workshops arrived at the mill site. They were to provide power for the large engine that Millars' Timber & Trading Co. had reconditioned after purchase from the Lancefield mine at Beria, near Laverton. It was not until September 12th, 1949, that the first sawn timber emerged from what was a prime example of the cumbersome labour-intensive sawmill of the era.

| James Martin ex-WAGR G-class 2-6-0 locomotives mentioned in this article | | | | | |
|---|-------------|------|--|--|--|
| Number / name | Martin B/n. | Date | | | |
| No.62 ROCKINGHAM | 136 | 1896 | | | |
| No.63 BUNBURY | 132 | 1896 | | | |
| No.64 formerly ARROW | 124 | 1895 | | | |
| No.67 KALGOORLIE | 133 | 1896 | | | |
| No.68 JARRAHDALE | 125 | 1895 | | | |
| No.69 WAROONA | 128 | 1896 | | | |

Railway operations in early days were handled by Jardee locos, with Nos.63, 64 and 69 being around at the time. However, the association of No.63 BUNBURY would have been brief because it left Jardee in May 1947 after six years' work there and never returned. From overhaul at Yarloop, No.69 WAROONA came to replace No.63. Its initial work would have been mainly involved with Quinninup development because the old Jardee steam mill was destroyed by fire in April 1948. Loco No.64 (formerly ARROW) was sent to Jardee on December 7th, 1949, following an 18-month long overhaul at Yarloop workshops. It appears that No.69 went to Quinninup about this time to be its first resident engine. It would have been a brief stay because No.68 JARRAHDALE was transferred direct from Yarloop to Quinninup in December 1950 to become the long term resident there. When it returned to Yarloop six years later it had accumulated 49,720 working miles. Millars' general policy was to allocate two locos to each sawmilling centre. Probably this idea was extended for a while so there were three locos altogether at Jardee and Quinninup. The emphasis would have been on having a good loco at Quinninup because of the distance between mill and railhead. The daily loco could (and over the years frequently did) attend to Jardee shunting upon its daily arrival there.

Although a 5 kilometre logging railway had been constructed beyond Quinninup, it was never used. Initially, Karri and Blackbutt logs collected in the Warren River area were hauled to the mill over the main line. However, such haulage was in place for only 18 months before a quickly expanding road transport system moved in. However, sawn timber continued to be railed out from Quinninup in WAGR wagons which were collected empty from Jardee, together with any other traffic offering, by the Quinninup crew: Driver, Stan Hargraves; Fireman, Dave Moss and Guard, Don Smith.

After its return from Quinninup there was a need for No.69 at Jardee because during 1951-53, No.64 was having difficulties and its boiler was sent to Yarloop for major repairs which took nine months. On another occasion its bogie wheels were replaced by a spare set sent from Yarloop workshops. Finally, with a credit of 30,943 miles run, it went back to Yarloop, towed dead by WAGR in November 1954. No.69 had been towed to Yarloop on January 10th, 1953 and did not arrive back at Jardee until September 20th, 1954. Its replacement was No.67 KALGOORLIE, towed from Yarloop on November 5th, 1952. After about an 18-month stay it was transferred to Palgarup by mid-1954. On February 25th 1955, the Jardee mill was again destroyed by fire, and as a result the need for a resident working loco was not great. No.69 was idle for the best part of 18 months before it went to Quinninup to replace No.68 which was despatched to Yarloop, its working life over. No.69 was at Quinninup until early 1958 when it was relieved for 5 months by No.62 ROCKINGHAM, borrowed from Palgarup. Records do not show why No.69 was withdrawn from traffic or whether this occurred at Jardee or Quinninup. Boiler repairs had been undertaken during the previous Christmas period.

As shown above, from time to time large loco parts were sent for repairs at the Yarloop workshops but there is no indication that such might have happened on this occasion. No.69 was back at work at Quinninup in July 1958 but No.62 did not return to Palgarup, probably because of its mechanical condition. Instead it became idle at Jardee and in 1962 was reported in an *ARHS Bulletin* as being in a derelict condition. 1962 is also said to be the year when the Jardee-Quinninup railway closed but locomotive records, which had become sketchy by that time, seem to indicate that last use of the railway was sometime in 1960 when No.69 was transferred to Palgarup. Eventually No.62 was broken up at Jardee and No.69 at Palgarup. The big mill at Quinninup was destroyed by fire in January 1962. A modern all-electric mill which replaced it finally closed down on September 30th, 1982.

Although smaller engines than the G type did operate at Jardee in the earlier days there is no doubt that the bigger 2-6-0 locos held sway for most of the mill's life. They all closely resembled each other. Differences such as the placing of the number on the cab side or the use of a brass collar around the safety valve mounting were minor. They had no brakes other than the "armstrong" handscrew variety. They had bar cowcatchers with a chain plate, mounted on the front; but not on the tender. Heavy brass numerals 21cm high were attached directly to the lower cab side and to the rear of the tender. The numerals were adapted from the WAGR design, which came to the Millar group with No.58 (Neilson 4836 of 1895). On government locos, the style was replaced by numberplates. Cast in the brass foundry at Yarloop workshops, Millars' numerals were machine polished. No.58 also brought from the WAGR a chunky cast iron chimney, which was unlike the rolled plate chimneys on Millars' locos distinguished by the copper flange around the top. At the Yarloop workshops in 1949 the boiler from No.68 was mounted on No.58 together with a brass-topped chimney, and No.68 acquired a new boiler with the ex-No.58 smokebox and its cast iron chimney. Therefore the chimney without a brass top was a feature that did specially distinguish No.68 in its Quinninup days.

Jardee is 5 kilometres south of Manjimup. The mill was still in situ at the end of 2000 but has been silent for some years. Palgarup railway siding was 6.5 kilometres north of Manjimup and the mill was connected to there by Millars' 2 kilometre private branch railway. The mill closed in April 1983 and the plant was dismantled, although the shed was still standing in 2000.

Major reference: Rails through The Bush, Gunzburg/Austin, LRRSA, 1997.



About to commence its journey to Jardee as part of a WAGR train, Millar's Loco No.67 is shunted by W943. The hose forming part of the special line fitted to by-pass the non-vacuum fitted engine is is clearly seen. The cow catcher has been removed and placed on the tender, the large roof at the right margin of the picture is part of Millar's workshop complex, whilst on the hill behind No.67 is what was then the Company's central office.



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NEW SOUTH WALES

BHP Ltd, Port Kembla

(see LR 162 p.18)

1435mm gauge

It appears that Fluor Goninan became responsible for the maintenance of the locomotives, rolling stock and track during November 2001.

English Electric Co-Co DE locomotives still were in use operating coal trains through December as well as the hired National Rail 81 class. D51 (A.111 of 1965), D47 (A.146 of 1967), D34 (A.197 of 1969), and D49 (GEC A.243 of 1972) were all noted on coal trains in the November-December period, although mechanical problems were still occurring.

It is reported that English Electric Bo-Bo DE D29 (A.054 of 1961) has been fitted with soundproofing and an improved roof as well as being painted yellow.

On 9 November, what appeared to be a full Treadwell molten steel ladle was derailed at Cringila, blocking coal trains entering the plant without complicated shunting procedures. By 19 December, one of the Treadwell ladles had been given fluorescent green ends.

Approval of the new Dendrobium Mine, to be developed in the Mt Kembla area, has been given, subject to all coal being moved to the steelworks by rail. The mine is expected to open in May 2005 and to produce around 5 million tonnes of coal a year. There will be a period of some months between the closure of Elouera Colliery and the opening of the new mine when coal for steelworks use will be brought to Port Kembla from Queensland.

Brad Peadon 11/01, 12/01; Chris Stratton 11/01, 12/01 (both Locoshed Internet discussion group)

BHP Ltd, Newcastle

(see LR 162 p.18)

1435mm & 915mm gauge

A number of standard gauge molten metal transporter ladles were noted on 24 November. Number 13 is believed to be headed for Richmond Vale Museum. Numbers 1, 3, 5, 7, 10, 11, 12 and

16 are believed to have been sold for use overseas and were noted at Carrington.

A couple of 3ft gauge bogie ingot buggies that were preserved at Port Waratah are still on site. Brad Peadon 11/01

BHP Ltd, Elouera Colliery

(see LR 162 p.18)

1067mm gauge The last remaining BHP-built battery locomotive still with the original drum controller has been donated by BHP to the State Mine Heritage Park at Lithgow. It was loaded on a truck on 15 November. The loco with battery weighs 12 tons and it is hoped to have it operational at the museum. It is numbered 33 and was built in the late 1940s at BHP Newcastle. It had been out of service stored in the workshop at the Nebo portal for 12 to 18 months. It is in near original condition apart from improved protection around the driving position. The official last day of rail operations at the Nebo

portal was on 21 December 2001, and a visit there the previous day found things very quiet. The area had already been significantly cleaned up with few of the flat wagons seen previously visible. However, BHP battery locomotives 65 and 78 together with Vernier personnel carriers 120 and 145 were seen. Rail operations will continue in an outlying district of Elouera Colliery and equipment from the Nebo portal will be utilised there. Signage for Dendrobium Mine was in place and in the new year, the locomotive charging room is to be demolished to make way for access to the new mine portal, which will be a few hundred metres further north along the escarpment.

The EM Baldwin 40-ton B-B DH 19 (7744-1-9-78 of 1978) has gone to the Zig Zag Railway. This locomotive was not popular because on the steep

grades underground its weight meant meant heavy brake wear. The last coal transported by rail undergound in Australia was hauled by this locomotive on 27 April 1993 at Nebo Colliery. It appears that Elouera Colliery will finally close about the end of 2004, to be replaced by the new Dendrobium Mine which will be developed in the area between the old Kemira and Nebo workings. Ross Mainwaring 11/01, 1/02; Brad Peadon 12/01

Nanami

1435mm gauge

At a stock feed mill at this location on the Lachlan Valley Railway, a private siding is home to five "S" trucks that are used to move baled lucerne from the mill to a nearby road loading point. Shunting is carried out by a road tractor. David Burke 12/01

PILKINGTON (AUSTRALIA) LTD, Euston Road, Alexandria

narrow gauge

Substantial sections of a quite extensive narrow gauge system remain at this factory. It seems that the light rail system was used for transporting coal to the furnaces until conversion to oil burning about 40 years ago. The wagons apparently were hauled by winch.

Woodrow Walters via Brad Peadon 12/01

SIMSMETAL LTD, Cormorant Road, Kooragang Island

1067mm gauge

Four ex-colliery personnel carriers were noted at this scrap depot on 24 November. One was a yellow Titan battery unit numbered 98, which can be identified as EMT 1002 of 1977, supplied to Australian Iron & Steel for its Wongawilli Colliery.



The last BHP-built 1067mm gauge 4wBE with its original drum controller. This locomotive, numbered 33, is pictured without its battery box in the workshops at the old Nebo Colliery workshops at Elouera Colliery. It was moved to State Mine Heritage Park in November 2001. Photo: Ross Mainwaring



Top: This 1067mm gauge Gemco personnel car at Simsmetal, Kooragang Island, Newcastle, carries a number 33 in spray paint. 24 November 2001. **Centre:** Part of the large quantity of 762mm gauge rail equipment stored by Transfield at its Kooragang Island site, Newcastle. A 15-tonne Gemco diesel locomotive is to the left of the double-stacked equipment centre left. **Above:** These two 3ft gauge ingot buggies remain on the site of the closed Newcastle Steelworks at Port Waratah. 24 November 2001. Photos: Brad Peadon

Industrial NEWS Railway

A second similar yellow unit was marked Lot 162 and had "KANDOS" in spray paint overpainted "SIM".

A white Vale Engineering battery unit numbered PC3 is most likely one supplied to Newcom Pty Ltd, Angus Place Colliery around the late 1970s. There was also a large yellow Gemco unit with three passenger compartments numbered 33 in spray paint.

Brad Peadon 11/01; Craig Wilson 1/02

TRANSFIELD PTY LTD, Cormorant Road, Kooragang Island 762mm qauge

A very large quantity of material, presumably much if not all of it used on the Northside Tunnel project in Sydney (see LR 155 p.16), is stored in the open here on land leased from the NSW Department of Public Works & Services. Apart from a large number of flat cars, cement carriers and personnel cars, at least two locomotives were noted on 24 November. These were Gemco 15-tonne 4wDH units 7 and 9 (288/90 and 290/90 of 1990). Brad Peadon 11/01

QUEENSLAND

BUNDABERG SUGAR LTD, Bundaberg district mills

(see LR 162 p.18, LR 161 p.18 & LR 160 p.18) 610mm gauge

During 2001, technical problems plagued Bingera Mill's Wallaville shuttle train that takes cane from the old Gin Gin Mill area to Bingera. This train is normally powered using a Locotrol system with one bogie Baldwin locomotive at the front and a second about two-thirds of the way down the rake. Computer problems and torque converter failures affecting EM Baldwin B-B DH *GIVELDA* (5800-2-6-75 of 1975) meant that the last shuttle train for the 2001 season ran on 11 September. After this date, both locomotives used on this train, *GIVELDA* and its twin *OAKWOOD* (5800-1-5-75 of 1975), operated singly only. Each had suffered a succession of mechanical failures during the season.

It is imperative for the mill to come up with a solution that allows a sufficient volume of cane to be handled over this difficult line. A number of trials were held on the line in the latter part of the season. On 28 September, Fairymead Mill's Bundaberg Foundry B-B DH *BOOYAN* (001 of 1991) was trialled. On 18 October, a train was run with *OAKWOOD* up front and Fairymead Mill's *FAIRYDALE* (10048-1-6-82 of 1982) in the rake, although not in Locotrol mode.

New engines are to be fitted in the slack season to Bingera Mill's Walkers B-B DH *KOLAN* (633 of 1969 rebuilt Bundaberg Foundry 1996), which will receive a Caterpillar V12, and Millaquin Mill's EM Baldwin B-B DH *CALAVOS* (4983-1-7-73 of 1973).

Lincoln Driver 11/01

LIGHT RAILWAYS 163 FEBRUARY 2002

Industrial NEWS Railway

CSR LTD, Herbert River Mills

(see LR 162 p.19)

610mm gauge

Poison spraying duties saw Macknade Mill's 0-4-0DH 17 (6-1446-1-9-65 of 1965) move to Victoria Mill in mid-October. Unfortunately it broke down on 1 November and returned to Macknade on a semi-trailer the next day. Also arriving at Macknade on 2 November was Victoria's EM Baldwin 4wDH *Sugarworld Shuttle* (9109-1-9-80 of 1980). Macknade Mill's Clyde 0-6-0DH 16 (DHI.1 of 1954) briefly replaced 17 on spraying duties at Victoria for a few hours on 2 November. On its return to Macknade, 16 took on spraying duties there with *Sugarworld Shuttle*, which returned to Victoria early in the week of 11 November.

Later in November, Victoria Mill's EM Baldwin 0-6-0DH *HOBART* (4413-1-7-72 of 1972) returned home from Macknade, while by the end of the month 17 had been repaired.

In mid-December, Clyde brake wagon 6 was noted at Victoria Mill. The temporary package compressor had been removed and the brake wagon was part way through being fitted up with a Lister engine and compressor much the same as before the derailment in which it was damaged during the 2001 season. The end had been closed in and looked normal again, and it had also been repainted above the frames.

It is believed that Victoria Mill's Walkers B-B DH *CLEM H. McCOMISKIE* may be receiving a new cab in the slack season. The existing cab is a "non-standard" type that owes much to the loco's QGR ancestry. It has suffered a lot of rust deterioration, exacerbated by brushing salty mangrove foliage on the Lucinda sugar run. Chris Hart 12/01; Steven Allan 12/01

CSR LTD, Kalamia Mill

(see LR 142 p.21) 610mm gauge Com-Eng 4wDH *IVANHOE* (GA1042 of 1960) is reportedly derelict in the navvy yard at the mill. Scott Jesser via David Rowe 12/01

EROC PTY LTD,

Laverack Avenue, Eagle Farm, Brisbane (see LRN 119 p.15)

610mm gauge

The company name has changed this year, but the two Costain-built 4wDH locomotives remain stored on site. They are identified as 0954 and 0955 *THE RAINBOW WARRIOR*. Editor 12/01

GYMPIE GOLD LTD, Monkland

(see LR 157 p.20) 610mm gauge

A 3-tonne EM Baldwin 4wDH was obtained from Peabody Australia in Brisbane around 1997. This is 4661-1-7-72 or 4661-2-7-72 of 1972. Put into service underground at the mine, this diesel



Top: A massive Treadwell ladle, apparently destined for reuse overseas after sale from the Newcastle Steelworks. Photographed at Carrington in Newcastle, 24 November 2001. Photo: Brad Peadon **Centre:** Macknade Mill's EM Baldwin 0-6-0DH 14 (6-2490-1-7-68 of 1968) and its train of sugar boxes came to grief when derailed by split points at Halifax on 23 September 2001. Photo: Chris Hart **Above:** Macknade Mill's EM Baldwin B-B DH 19 (7070-3-4-77 of 1977) also came to rest in an undignified position when it met with split points at Oakleigh Siding on the south side on a cane train, 28 September 2001. Photo: Chris Hart

has performed much more satisfactorily than comparable battery-electric units, with the result that further second-hand underground diesels of around 4 tonnes are being sought. Steven Watts 12/01

THE MULGRAVE CENTRAL MILL CO LTD, Gordonvale

(see LR 162 p.21) 610mm gauge

Stored engineless outside the loco shed on 1 November was Com-Eng 0-6-0DM 4 (A1004 of 1955) together with dismantled Clyde 0-6-0DH 15 (58-190 of 1958) and the original Mulgrave Mill brake wagon, number 2, built by NQEA in 1972. Alan Sewell 12/01

SOUTH AUSTRALIA

AUSTRALIAN SOUTHERN RAILROAD, Whyalla

(see LR 160 p.21)

1067mm & 1435mm gauge

A visit on 28 December found narrow gauge Clyde Bo-Bo DE locomotives DE1 (56-109 of 1956 rebuilt Morrison Knudsen 1995), DE7 (61-236 rebuilt Morrison Knudsen 1995), DE3 ANGELO SAVAIDIS (55-429 rebuilt Morrison Knudsen 1993), and C(1, (67-500 of 1967) working iron ore trains. Clyde Bo-Bo DE CK1 (67-496 of 1967) is back on standard gauge bogies and was noted in steelworks use.

Clyde Bo-Bo DE CK5 (68-623 of 1968) was used on narrow gauge ore trains during the year but has now returned to the ASR general fleet and is on broad gauge bogies.

Michael Bray 12/01 (Locoshed internet discussion group)

TASMANIA

TASRAIL SERVICES PTY LTD,

Emu Bay Railway (see LR 159 p.22) 1067mm gauge On 10 November, an 18 wagon ore train from

Primrose to Burnie was noted at Hampshire at

about 12.40pm. It was hauled by four ex-Emu Bay Railway Walkers B-B DH locomotives, 1106 (658 of 1971), 1102 (639 of 1970), 1101 (638 of 1970) and 1104 (641 of 1970). At 1.30pm, 1107 (659 of 1971) was noted unloading the train at Burnie. The ex-Emu Bay units are kept clean, unlike most other Tasrail locomotives.

lan Woollett 11/01 (Ausloco Internet discussion group)

WESTERN AUSTRALIA

BHP IRON ORE

(see LR 160 p.21) 1435mm gauge

Combinations of the new General Electric AC6000 Co-Co DE locomotives with the older Goninan "Dash 8" units on trains have been noted since late October. This seems to be associated with the expiry of the warranty on the AC6000s, and provides greater operating flexibility.

Richard Montgomery 11/01; Peter Attenborough 11/01 (both Locoshed internet discussion group)

EDI RAIL,

Forrestfield

1067mm gauge

Australian Western Railroad's Clyde Bo-Bo DE A1511 (65-375 of 1965) is on hire to EDI Rail for shunting operations at the Forrestfield plant. John Bollans 12/01 (Locoshed internet discussion group)

SPECIALIZED CONTAINER TRANSPORT, Kewdale

(see LR 151 p.22) 1435mm gauge

During 2001, SCT's English Electric Co-Co DE K208 (A.137 of 1966) was sent to United Goninan for rewheeling. While it was away, South Spur Rail's English Electric Co-Co DE K205 (A.135 of 1966) was used for shunting duties. K208 has now returned to service at SCT. John Bollans 12/01 (Locoshed internet discussion group)

FOR SALE: STEAM LOCO AND TWO CARRIAGES

The loco is an 0-4-0 well tank, 11 in. gauge, 81/2 in. wheels, slide valve cylinders 2 in. bore by 4 in. stroke and slip eccentric valve gear, reversible from the cab. The steel boiler is a single flue marine type, operating at 120 psi.

The bogie carriages conform to the same loading gauge as the loco: 24in. wide and

52in. above the rail. One seats four adults and the other seats two. Each has a roof, padded seats, glazed windows, with doors on the longer one.

They were designed to run on the "Hills Bower & South Light Railway", which has 11ft radius curves and 1 in 30 grades, and has graced the garden of our home since 1974.

Enquiries to Barbara Horne, 48 Milne Road, Para Hills 5096. Phone: 08 8264 0645.







MEETINGS

ADELAIDE: "Abt Railway Adventure"

Lee Rodda will give a talk on his recent, eventful visit to the Abt Wilderness Railway in Tasmania. Also, a discussion will be held on the coming year's activities. Location: 150 First Avenue, Royston Park. Date: Thursday 7 February.

BRISBANE: "PG Dow's Slides"

RB Dow will show some of PG Dow's historic colour slides of Australian and Indian 'light railway' subjects.

Location: BCC Library, Garden City Shopping Centre, Mount Gravatt. After hours entrance (rear of library) opposite Mega Theatre complex, next to Toys'R'Us. Date: Friday 1 February at 7.30 pm. Entry from 7 pm. Contact Bob Dow (07) 3375 1475

MELBOURNE: "How the TACL Tractor was Restored"

Hugh Marwick will lead a presentation on how "that heap of junk" was transformed into the beautifully grotesque green thing that is now in the Menzies Creek Museum.

Location: Ashburton Uniting Church Hall, Ashburn Grove, Ashburton.

Date: Thursday, 14 February at 8.00 pm.

SYDNEY: "The Burrinjuck Tramway some observations"

Michael Bickford will talk about some of his research into this well known narrow gauge line, with a particular emphasis on the rolling stock from a scale modellers point of view.

Location: Woodstock Community Centre, Church Street, Burwood, (five minutes walk from Burwood railway station). Date: Wednesday 27 February at 7.30pm.

MEMBERS' ADS

FOR SALE: John Fowler Steam Loco Parts; Cast iron sand dome top, 630mm outside diameter (to suit late-model 0-4-2 or 0-6-2). Cast iron sand dome lid, 260mm outside diameter (fits dome top above, but also fits older style, smaller, dome). Brake shoes, four, cast iron 310mm overall depth (to suit 28in drivers - as on late model 0-4-2 and 0-6-2 machines).

\$250 the lot, or will separate.

Enquiries to: Bruce Belbin, PO Box 674, St Ives NSW 2075



A Guide to Simplex narrow gauge locomotives

by D R Hall & J A S Rowlands

108 pages, 176mm x 235mm. Card or hard cover; 86 black and white photographs and 35 drawings and diagrams. Published 2001 by The Moseley Railway Trust, 11 Ashwood Road, Disley SK12 2EL, England.

Australia was the destination for at least 62 narrow gauge Motor Rail "Simplex" petrol and diesel locomotives in the period 1919-1967 (together with three standard gauge examples for NSW), while 32 went to Fiji and about 18 to New Zealand. In Australia examples have found their way to every mainland state. They were used in a variety of applications including sugar cane haulage, construction, ports and harbours, quarries, saltworks and an ironworks. A number continue in use in preservation and with tourist railways while Australia's oldest locomotive still in regular industrial use is a north Queensland "Simplex" dating from 1926.

The success of the design originates with the company's founder, John Abbott, who in 1915 built the prototype of an extremely simple and rugged four-wheeled petrol locomotive with transverse engine and a patent gearbox for use by the British Imperial Forces on the Western Front. Many hundreds were built making this what is generally regarded as the first massproduced narrow gauge internal-combustion locomotive. The main use of the "Simplex" locomotive in Australia was in the sugar industry, with CSR an early adopter of this type of technology at its mills in Australia and Fiji from 1920. For most of its history, in spite of producing quite large numbers of locomotives, Motor Rail remained in essence a small family company with no more than 150 employees. The last "Simplex" locomotive to the general design outline devised by Abbott, although with a diesel engine, was built in 1992.

This attractive booklet provides details of the company history and the development of its petrol and diesel locomotive designs. There is a description of each of the 25 narrow gauge types produced in Bedford from 1916 to 1985 (and subsequently by Alan Keef Ltd), illustrated with photographs and scale diagrams, while the builder's numbers of each type are also shown.

Many of the interesting photographs come from builder's records, including one of two 4-ton locomotives on cane haulage near Cairns with the Barron Gorge in the background. There is also a small selection of photographs showing locomotives in industrial service, nearly all in Britain, and a list of surviving British locomotives.

Unlike the previous publication on Ruston locomotives, this booklet is completely professional in presentation and content and is printed on gloss art paper. It is certainly an invaluable guide to anyone interested in British narrow gauge industrial locomotives, filling a major gap in the published material available, and provides much of value to the modeller as well as to the enthusiast and historian. It can be obtained from the above address for £10.95 softback (the hardback edition may already be sold out), plus £2 postage to Australia. Credit card transactions are available as a convenience to overseas customers.

Sales details are also to be found on the Internet at http://www.mrt.org.uk Highly recommended. *John Browning*



Mike McCarthy

Mountains of Ash A History of the Sawmills and Tramways of Warburton and District

by Mike McCarthy

320 pages, A4 size, hard cover; 280 photographs and 50 maps and diagrams. Published by Light Railway Research Society of Australia Inc, PO Box 21, Surrey Hills, Victoria 3127. Recommended retail price \$59.95, price to LRRSA members \$44.96, plus postage & packing.

When I pulled this 1.5 kilogram hardcover A4 book out of its protective cardboard mailer the quality of this production was obvious. It sets a production standard that few publishers aspire too. I opened the cover and the atmosphere is set by the superb illustration of three men each guiding a double-bogie load of sawn timber down a steeply-graded wooden-railed tramway snaking through the forest. This was an excellent choice for so many Warburton Tramways used gravitation as their motive power. (Page 106 reveals where it was.)

I always scan a book first. One with ante-title and title pages, and a full page frontispiece for every chapter! There are many more full page photographs, of superb qaality and a number are bled out to the edges of the page where this was an appropriate choice.

As you would expect for a history of the era, the photographs are monochrome. A number of them are in sepia which not only adds interest but also gives a better quality reproduction through a double-printing process. There are hundreds of photographs, full, half, third and quarter page, all close to the text they illustrate, and arranged with variety. The captions have been well written to help the reader understand each scene.

The text is arranged in two columns, something I regard as essential for an A4 format. The chapters have appropriate sub-headings. The only colour illustration is on the cover, a reproduction of a tramway painting. The publishers have opted for a dust jacket rather than the now common process of printing on the cover with a celloglase finish. The book ends satisfyingly with endnotes, bibliography and index.

Another striking feature of this book is its maps and diagrams. Most of the book's 13 chapters cover a geographical section of the Warburton forests, a treatment that is appropriate given the richness of the sawmilling and tramway activity of this small area - less than a 1000 square kilometres is small by Australian standards. Each of these chapters has its own large map, complete with contours, very valuable in understanding the tramways and their construction. Many had astonishing grades. The use of green and brown helps makes these complex maps clearer, and the distinction between tramways covered in the chapter and others is a nice touch.

I am pleased to have had these first impressions and to have read three chapters before I knew I was to review the book.

The text quickly demonstrates that this is a painstaking compilation of decades of meticulous research. Mike McCarthy has thoroughly mastered the intricacies and complexities of the subject. So many diverse tramways are described that there is no room for padding in these 320 pages. Tramway operations are clearly the main focus of this book but it is still true to its subtitle. Mill development, changes in ownership and the processes of acquiring leases of forests are treated well, and are vital to understanding tramway construction and operation.

The book begins with an introductory chapter explaining the construction of the railway and its role in the economic exploitation of the forests. It has a map with all the tramways marked, although a thicker black lines would have shown clearly how numerous and pervasive they were. I would recommend consulting Appendices 1 and 2 at this point. The map of the carve-up of the forests on page 297 is a useful adjunct to the whole book. The locality map on page 1 is rather perfunctory and fails to mark Lilydale (at the junction of the Healesville and Warburton railways). Although the book was printed in Hong Kong the end product shows no weakness from that cause. There are a few quirks in the typesetting of the early pages. Some large numbers have been split between two lines. Typographical errors are few, and so I mention the caption on page 219 to prove I found one. 'Picnicer' appears consistently instead of picnicker. I am pleased that original measurements were retained, but the conversion table is of uneven accuracy (especially hectares) and conversions for miles and tons are not correctly rounded.

With so many competing and cooperating sawmillers operating in a small area, this is a text for serious reading. While the geographical treatment works well for the early chapters, the complexity in the later chapters is challenging. The chapters are arranged in a steady development but the numerous interacting players and places are a test on the memory of those not familiar with the area. It is useful to refer back to previous chapters and maps which sometimes need careful study, as some important streams are noted in guite small lettering. The text shows care in writing and editing but in places I wanted more active than passive verbs. Only a few sentences had me puzzling over their meaning. I would have liked at the end to have learned the fate of the railway, more of the present state of the forests and how the Sanitarium Company came to be so pervasive.

I came to this book well aware of wooden-railed and incline tramways, but not of this area. I was still amazed by many achievements of sawmillers who, with scant capital and little fuss, built and operated tramways to heights above 1000 metres and through terrain that looked impossible. The ability, stamina and imagination of those involved is a constant theme. It is interesting that so much was achieved with a comparatively small number of steam locomotives and tractors involved. Some readers may wish to have more explanation of basic sawmilling and tramway construction practice.

For me the chapters on the Mississippi Creek and Warburton Steam Tramways were highlights, chiefly because of the opportunity to examine a single operation in more detail and over a greater span of time. 'Towards Starvo' gives a wonderful insight into the ingenuity and perseverance of a single individual undertaking a tremendous task and his interaction with the government regulator. There are many people in this book, including women and children, and much to illuminate the social role of the tramway. How rural lifestyles have changed. There was little room for luxury and the only villain in the book was the company, which found itself able to make handsome profits while most millers made little more than wages and ploughed profits into capital assets with a limited life.

This is a book for anyone interested in tramways, the forests, or the Warburton district to enjoy and appreciate a great labour of love. *John Kerr*



A Day in the Life of G42

Mixed Train to Erica - Thursday 18th March 1954

Photographs by Edward A. Downes

48 pages, 297 mm x 210 mm, 52 photographs. Published by Puffing Billy Preservation Society. Available from LRRSA Sales, PO Box 21, Surrey Hills, Victoria 3127. Recommended retail price \$35.95, price to LRRSA members \$32.35, plus postage & packing.

This is a soft-bound landscape format book, and predominantly consists of photographs taken on one day when the photographer travelled on the Moe - Erica train hauled by Beyer-Garratt loco G42, a few months before the line closed.

This railway was the last of the four VR 2ft 6in gauge lines to be built, and originally terminated at Walhalla, but was cut back to Platina in 1944, and to Erica in 1951.

The photographer was the author of that much sought-after book *Speed Limit 20*, and judging by his photographs he took a keen interest in all aspects of the railway.

The photographs are sharp, well exposed, and the composition is excellent. Apparently none have been published before. They include some of the best views from a moving train I have seen, helping to evoke what it was like to be there. Most are reproduced in large format, with one photograph per page.

All the captions are carefully researched and written, though in one or two cases they are a little lost in the foreground of the photographs. Views of Gould, Watson, and Erica station are included, along with the Climax loco and TACL tractor at Erica, and many views at Moe.

There are three maps and two diagrams. Great care has gone into the design and preparation of this book, and the quality of the printing is outstanding. The photographs are all black and white, and all are reproduced as duotones, which gives a greater tonal range than conventional printing.

Profits from this book will go to the restoration of G42. Only 1000 copies have been printed, and on that basis I expect it will soon join *Speed Limit 20* as a collector's item. *Frank Stamford*

Video Review Bundy's Last Great Adventure

55 minutes VHS PAL Produced by Gulliver Media. Available from ANGRMS, PO Box 1135, Woodford Qld 4514 for \$32.95 plus \$5 postage & packing.

It is clear, from the outset, that this video was professionally produced, and I imagine that the budget must have been considerable.

Technically, it is difficult to fault. Shot in 'high definition', the brilliantly crisp images and sound are used to good advantage by a very good editor, and the direction is superb. The camera work is not just technically excellent, but imaginative, creative and varied.

The storyline is built around the travels of Bundaberg Fowler 0-6-2T No.5, from ANGRMS at Woodford, as it tours various mill systems up the Queensland coast. The basic concept used is to imply a single 2,000 kilometre journey from south to north, providing a showcase for the beautiful Queensland scenery and points of interest, particularly the variety of ethnic communities along the way.

While the producers have used the concept well, as a 'dyed in the wool' enthusiast, I must admit I would have preferred to have seen more of the railway aspects of the journey. Virtually nothing is shown of the logistical side of the exercise, such as loading and transporting the loco and, in fact, we never actually learn who was behind the trip or why it happened. I accept that the video was made for general release, but I think it would have been worth telling a little of the story behind what must have been a substantial operation in terms of planning and execution. In this regard, the story is really limited to "It was a dream that came true Okay Bundy, let's go". Similarly, while much time is spent on various human interest stories, we never really find out anything about the crew of the loco.

Having said that, the producers have done a very good job, with impressive research, from the human perspective. I particularly enjoyed the segments involving people associated with the loco in its years of regular operation, and I found the reunion with its first fireman quite moving. A few of the set-ups, like the policeman - breathalizing the driver, are a bit corny, but I guess the kids will enjoy those bits. The writing is, overall, quite good although a few things grated a little, such as the rather drawn out "I think I can...".

On the whole, I must say that I enjoyed *Bundy's* Last Great Adventure. As an enthusiast, I'd have preferred more details of the operation itself but, for the general public, the tourist aspects are probably more appropriate. Either way, for anyone who likes narrow gauge steam, the footage is absolutely beautiful and there's plenty of it, so I would recommend this video, regardless. *Graeme Belbin*

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Dear Sir,

BHP-built battery locomotives (LR 161)

In the news report on Elouera Colliery on page 18, reference is made to 4wBE locomotives from a batch built by BHP to a Jeffrey design. This is not strictly accurate. The first few battery locomotives built at BHP's Burwood Colliery workshops were built to a Jeffrey design using Jeffrey components, but later batches, such as 33 at Nebo, were really to a BHP design using Australian-built components. Jeffrey was not building locomotives of a similar type at the time. BHP may have had a licensing agreement with Jeffrey at the time of construction.

Also, construction dates for some of these locomotives are given in the report. These may or may not be correct. There are many locomotive lists in circulation but most contain errors or omissions. The subjects go so far back in time, and there is sometimes such a paucity of information that perhaps fully correct lists may be an illusion. Therefore authors should be circumspect when referring in print to the information on such lists.

Ross Mainwaring St Ives, NSW

Dear Sir,

Stenhouse Bay tramways (LR 162)

Congratulations to Arnold Lockyer on his extremely interesting article.

Some information on Vulcan Ironworks locomotives I received from American enthusiast Roy Keeley corrects and amplifies the material that Arnold had to draw upon. The three Vulcan locomotives delivered to the Yorke Peninsula were 3549 of 1926, 3655 of 1926 and 4182 of 1935. The first two are recorded as having been ordered by Wm Adams & Co Ltd, Melbourne, while the third is simply recorded as having been despatched to Melbourne. According to Ray Gardiner, the first two were 60hp 7 ton Waukesha petrol engined units and the third was a 70hp 8 ton Caterpillar diesel powered machine.

The Malcolm Moore locomotive numbered 1514 pictured on page 13 is said to have previously been 'J' or 'M'. A comparison with the photos of 'J' on pages 9 and 10 suggests that 1514 was not this locomotive as it has a different type of front buffer/ballast weight from 1514 and the main side steel channel on 'J' seems to be of a deeper section than that on 1514. This suggests that 1514 must have originally been 'M' although quite possibly an exchange of parts could have taken place to make one good locomotive from the two.

Reference is made in the article to Ruston & Hornsby "engine numbers". It can be confidently stated that the plates carrying the builder's numbers did not carry the wording "Engine number". The numbers provided by Arnold are indeed locomotive builder's numbers that were carried on oval builder's plates mounted inside the cab. The numbers of the Ruston & Hornsby engines fitted to these locomotives are quite different from the locomotive numbers (although belonging to a common series). The engine numbers were also recorded on oval builder's plates, in this case fitted to the engine itself.

The lettering, rather than numbering, of locomotives is a rare although by no means a unique feature. I wonder what can be the explanation of a series that began with 'F' and apparently omitted 'I' and 'L'?

John Browning

Rockhampton, Qld

Dear Sir,

Stenhouse Bay tramways (LR 162)

I have a bit more information on the Vulcan Iron Works locos that went to Stenhouse Bay, from a builders list sent to me by Bob Lehmuth in the USA.

Loco 'F' should be builders number 3549, not 2549. (2549 was a standard gauge 0-4-0T for Penn Iron & Coal Co., Ohio, USA). It was a 7-ton, 60hp loco, with a Waukesha petrol engine, and was supplied to William Adams & Co, Melbourne in June 1926. The details for loco 'G' are the same as those for 'H'.

Loco 'H' was delivered in May 1935, weighing 8 tons. It was built with a 70hp Caterpillar diesel engine.

Ray Gardiner

Asquith, NSW

Dear Sir,

The Innisfail Tramway

The new (2000) edition of John Armstrong's and Gerry Verhoeven's book on this tramway omits one brief but very interesting aspect of its history, which is that it conveyed a substantial quantity of 3ft 6in gauge equipment, locomotives and rolling stock, to the site of Innisfail station for the construction of the 3ft 6in gauge North Coast Line south from there.

Construction, to 3ft 6in gauge, from Innisfail south commenced in the 1918-19 Financial Year. By 30 June 1920, the line had one locomotive, ten bogie ballast wagons and a brake van of that gauge. Four years later, there were four locomotives and 121 vehicles. Some of these were needed because part of the line had been opened to public traffic. Thus, there were 46 cane, 12 bogie open, and 13 bogie timber wagons, two carriages, and two covered wagons converted for passengers. Innisfail to El Arish, 20.3 miles, was opened on 18th December 1922, and El Arish to Feluga, 5^{1/2} miles, on 3rd December 1923. During the 1923-4 financial year, almost 19,000 traffic train miles (ie to move public traffic) were run on the line (ie more than one public train per day), and it amply paid its working expenses. Most of the traffic was sugar cane to South Johnstone Mill. (All derived from QR Annual Reports).

This isolated 3ft 6in gauge line was connected to the main 3ft 6in gauge QR system in the south and the Cairns Railway in the north by the opening of the Cardwell to Feluga (south) and Innisfail to Daradgee (north) sections on 10th December 1924, the latter by widening the gauge from 2ft to 3ft 6in, as recounted in the book.

F Robson, a long serving Innisfail guard mentioned in the book, remembered the 3ft 6in gauge locomotives and rolling stock being landed at the Adelaide Steamship Company wharf at the then Geraldton on the North Johnstone River, upstream of the junction with the South Johnstone (in the 1970s, the concrete Council wharf was located there), ie on the original route of the Council tramway from the Esplanade. It was hauled from there on the 2ft gauge about a mile to the Main Camp, the eventual site of Innisfail station. He could clearly remember the boiler of a B15 locomotive being so moved.

While construction material and equipment for the 3ft 6in gauge was unloaded at Mourilyan Harbour, the rolling stock was presumably brought upriver to Geraldton to minimise the distance it had to be moved on the two feet gauge, with the considerable overhang, and to avoid crossing any large bridges (especially the Queensland bridge, illustrated on page 30). Presumably locomotives were broken down to boiler, frames, wheels, cab, tender body and tender bogies, and wagons to body and wheels or bogies. That is how they were shipped to the various outlying sections of the QR, loaded and unloaded by ship's gear. The unloading facilities on the vessels and on the wharf, as well as the height of the lift, could also have influenced the choice of the Adelaide Steamship wharf on the river.

In terms of bulk, the bodies of the carriages and covered wagons would have been the largest; they would presented some difficulty in unloading and were probably mounted on 2ft gauge bogies for the journey to Main Camp. The boiler of a B15, the largest locomotive, empty but with fittings, weighed about ten tons.

Traffic, in and out, at Innisfail stations, both 2ft gauge (Esplanade, ex Council) and Main Camp (the eventual Innisfail QR station for both gauges) was higher during the years the isolated 3ft 6in gauge line operated than later (QR Annual Reports). As QR construction material did not feature in the traffic statistics for either gauge (it was not public traffic), this is not easy to explain.

The returns show very little public goods traffic being exchanged between the two feet gauge line and the 3ft 6in gauge isolated line, and between the two feet gauge and the 3ft 6in gauge Cairns Railway, at either Garradunga or South Bank. A lot of traffic presumably went into and out of Innisfail business houses in both directions before 1924. The food, clothing and other consumables for the construction staff would probably have been some of this traffic in one direction, but there is no other obvious explanation for the rest, nor for the into and out of Innisfail method of trading to disappear completely on the opening of the through 3ft 6in gauge line.

John Knowles New Malden, UK

Dear Sir

Mining Railways at Cobar (LR 149)

In responding to an earlier letter in the *Sydney Morning Herald* on the subject of portable tramways, a Mr E Stanley Nixon made the following comments on his track work experience on the firewood tramway system at Cobar. Mr Nixon's letter appeared in the SMH on Tuesday, 13 July 1886, p7. The original letter, evidently by a Mr Ford, apparently included a suggestion to construct a narrow gauge tramway between Nyngan and Cobar.

Mr. Ford quotes sir John Fowler's words on Light Railways, and I should have thought Mr. Ford would have been satisfied that had Sir John approved of the portable tram system he would not have remarked, 'you must make them like the main railways.' I have had the laying out of some twelve miles of Fowler's portable tramway for the Great Cobar copper mine, to bring in firewood for the furnaces, and though it did the work required (some four to five thousand tons per month) the cost of maintenance, repairs to trucks and locomotives was enormous. The sleepers are thin corrugated steel, and therefore next to impossible to pack them. We had, therefore, to keep a gang continually "getting," so that, when we made a further extension of two or three miles, we lifted the mine end, and re-laid 30lb. rails on wood sleepers, with most satisfactory results.

...I cannot quote the total freight between Nyngan and Cobar, but I question very much if a tramline of 2 feet or even 2 feet 6 inches would carry it all...

I am, &c.... E. STANLEY NIXON

Ron Madden

Wagga Wagga, NSW

Dear Sir,

Industrial Locomotives at Balikpapan (LR 143, 144, 145, 148, 162)

I have attached a list of locos [at right] believed to have gone to Balikpapan.

It is certain that the main oil refinery and port railway was 1000mm gauge. The other locos probably went to other oil fields in the region, however details are not known at this stage.

The Australian War Memorial has a number of photos of the Porter, Deutz and Henschel locos. There was also a forestry line near Balikpapan using a Japanese Kato locomotive.

Ray Gardiner Asquith, NSW

LIGHT RAILWAYS 163 FEBRUARY 2002

| Forestry | line, | Balikpapan, Kato | , Borneo | | | | ? gauge | *1 |
|-----------|-------------|---------------------|------------|------------|-------------|----------|---------------|-------|
| | D .6 | | | an Dataa | facha Datra | | 600mm aquaq | |
| Shell Uil | Kett | nery, Ballkp | apan, Born | eo - Bataa | CVIVE. | i wiij | ooonini gauge | *2 |
| | | Deutz | 3049 | 1920 | LM21CE | | | *2 |
| | | Deutz | 7229 | 1927 | LIVIZIOF | | | ¥2 |
| | | Deutz | 1230 | 1927 | LIVIZIOF | | | *2 |
| U-4-U I | | Henschei | 18293 | 1921 | | | | ۷. |
| Shell Oil | Refi | nery, Balikp | apan, Born | eo - Bataa | fsche Petro | l Mij. | 700mm gauge | *0 |
| 0-4-0D | | Deutz | 7168 | 1927 | MLH232F | | | · Z. |
| 0-4-0D | | Deutz | 7169 | 1927 | MLH232F | | | *2. |
| 0-4-0D | | Deutz | 7179 | 1927 | MLH232F | | | *Z. |
| 0-4-0D | | Deutz | 7283 | 1927 | MLH232F | | | "Z. |
| 0-4-0D | | Deutz | 8567 | 1929 | PMZ130F | | | *Z. |
| 0-4-0D | | Deutz | 8568 | 1929 | PMZ130F | | | *Z. |
| 0-4-0D | | Deutz | 8887 | 1929 | PMZ130F | | | *Z. |
| 0-4-0D | | Deutz | 8888 | 1929 | PMZ130F | | | *Z. |
| 0-4-0T | | Henschel | 13331 | 1914 | | | | *2. |
| 0-4-0T | | Henschel | 18049 | 1920 | | | | *2. |
| Shell Oil | Refi | nery, Balikp | apan, Born | eo – Bataa | fsche Petro | I Mij. ` | 1000mm gauge | |
| 0-4-0DM | | Deutz | 885 | 1911 | CXII | | | *2. |
| 0-4-0DM | | Deutz | 886 | 1911 | CXII | | | *2, |
| 0-4-0DM | | Deutz | 1223 | 1913 | CXIV | | | *2. |
| 0-4-0DM | | Deutz | 1224 | 1913 | CXIV | | | *2. |
| 0-4-0DM | | Deutz | 4033 | 1921 | CXIVF | | | *2. |
| 0-4-0DM | | Deutz | 4034 | 1921 | CXIVF | | | *2. |
| 0-4-0DM | | Deutz | 6857 | 1925 | CXII | | | *2. |
| 0-4-0DM | | Deutz | 6858 | 1,925 | ML132 | | | *2. |
| 0-4-0DM | | Deutz | 6962 | 1926 | ML132 | | | *2. |
| 0-4-0DM | | Deutz | 6972 | 1926 | CXIVF | | | *2. |
| 0-4-0DM | | Deutz | 6973 | 1926 | CXIVF | | | *2. |
| 0-4-0T | | Henschel | 11390 | 1912 | | | | *2. |
| 0-4-0T | | Henschel | 11709 | 1912 | | | | *2. |
| 0-4-0T | | Henschel | 11710 | 1912 | | | | *2. |
| 0-4-0T | | Henschel | 17507 | 1920 | | | | *2, |
| 0-4-0T | | Henschel | 17508 | 1920 | | | | *2, |
| 0-4-0T | | Henschel | 18153 | 1921 | | | | *2, |
| 0-4-0T | | Henschel | 18154 | 1921 | | | | *2. |
| Asiatic P | etro | leum – prob | ably Balik | papan | | | 1000mm gauge | |
| 0-4-0DM | | Porter | 7265 | 12-1938 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 7266 | 12-1938 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 7267 | 12-1938 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 7268 | 12-1938 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 7279 | 7-1940 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 7280 | 7-1940 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8181 | 8-1948 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8182 | 8-1948 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8183 | 8-1948 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8184 | 8-1948 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8222 | 5-1949 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8223 | 5-1949 | D-20 | 145hp | 20.0 ton | *6 *4 |
| 0-4-0DM | | Porter | 8224 | 5-1949 | D-20 | 145hp | 20.0 ton | *6 *4 |
| Shell Oil | Refi | nerv. Baliko | anan. Born | eo. Bataa | fsche Petro | Mii. | 1067mm gauge | |
| 0-4-0DH | | Spooriizer | 201 | 1953 | | 120hp | 22.0 ton | *3 |
| 0-4-0DH | | Spooriizer | 202 | 1953 | | 120hp | 22.0 ton | *3 |
| 0-4-0DH | | Spoorijzer | 203 | 1953 | | 120hn | 22.0 ton | *3 |
| 0-4-0DH | | Spooriizer | 204 | 1953 | | 120hp | 22.0 ton | *3 |
| 0-4-0DH | | Spooriizer | 205 | 1953 | | 120hp | 22.0 ton | *3 |
| 4wDH | | Thomas Hill | TH216V | 1970 | | 210hp | 25.0 ton | *7 |
| 4wDH | | Thomas Hill | TH217V | 1970 | | 210hp | 25.0 ton | *7 |
| 4wDH | | Thomas Hill | TH218V | 1970 | | 210hp | 25.0 ton | *7 |
| | | | | | | | | |

*1 Detail from Australian War Memorial ,www.awm.gov.au Photos 111325 ,111326 ,110717 , 116817.

*2 Details from Deutz and Henschel Builders list - Jens Merte CD.

*3 Details from "Op de Rails" 10 -1997, history of Spoorijzer, has photo of locos being delivered .

*3 Article shows gauge as 1067mm, also shows locos as numbered 1009 - 1013.

*4 Australian War Memorial photo 116817 shows photo of a Deutz and Porter loco.

*5 Spoorijzer article also mentions diesel electric locos built by Porter, but that is probably a mistake and it should be DM.

*6 Details in email from Bob Lehmuth 9-9-00, 11-9-00 and George Buta 10-9-00.

*7 Details from email from Bob Darvill , 27-9-00.



Glenrock Railway, NSW

On Sunday 22 November 2001 a party of seven LRRSA Members from Sydney and Newcastle met close by the site of Kahibah railway station before commencing a day of exploration in the Glenrock State Recreation Reserve and along the route of the Glenrock Railway.

Coal seams outcrops had been noted in this area for many years. Some historians believe Glenrock to be the site of Australia's first discovery of coal by escaping convicts William and Mary Bryant and their party. By 1834 the land had become part of Dr Thomas Mitchell's Burwood Estate on which he erected a copper smelter and leased coal rights. Mitchell floated the Newcastle Coal and Copper Company in 1853 to acquire the various small mines and to operate the smelter. In 1860 the Coal and Copper Company opened the Red-Head colliery on the southern shore of the lagoon and engineer (their engineer Mr J L Morgan) extended their railway (as the Red Head Railway) along the coast from Merewether Beach. Their two Neilson-built locomotives hauled coal along the line right to their staithes in Newcastle.

Following Mitchell's death in 1869, the Burwood estate passed to Mr EC Merewether who worked the Glenrock mines on a small scale, operating the railway with his own locomotive, BURWOOD. In 1883 Merewether leased the coal and railway rights to the Burwood Coal Company. They sank two shafts to work the Borehole Seam and bought the locomotive NEWCASTLE to work the railway but by 1892 they had moved operations to a new mine at Whitebridge and the railway was allowed to fall into disuse.

Eventually Merewether leased coal rights to Messrs Howley and Foreshaw who opened the

Glenrock Colliery in 1900 on the northern side of the lagoon. Horses then worked the railway (as far as The Junction) and the track across the lagoon was removed. Howley acquired a Hudson vertical-boilered locomotive (nicknamed "Coffeepot") in 1910 which ran on the line for the next twenty or so years.

By 1925 the last mile or so of the line had become too costly to maintain so a new hauling tunnel was driven to Glenrock Colliery. New sidings were laid and the eroded track beside the beach abandoned. The Howley family continued to work the mine until 1945, running one train a day and utilising a succession of small, semi-derelict locomotives.

The LRRSA group tour commenced at the modern amenities and accommodation block which incorporates the much older stone dwelling ("overman's cottage") erected for the Burwood Coal Coy in the 1880's. Close to the entrance a railway wheel and a length of bullhead rail set on a stone, were dedicated to the memory of former mineworkers.

The group travelled west (inland) to the limit of the cleared area ... and were halted by a small waterway (perhaps the site of the original 1860 tunnel). In the flowing water we noted a standard gauge wheelset whilst the gap was bridged by metal girders which may have once carried sleepers, in any case if these relics date from time the mine here was closed (1892) then they are well preserved indeed.

Retracting their steps towards the ocean the group came onto the line of the embankment leading onto the lagoon viaduct. When built this was as 180ft long and 5ft above water level. It appears that the span had been reduced over the years by extending the embankments whilst time and the elements have now reduced the timber structure to a single pier. Ed Tonks noted that his photos taken in 1979 and in 1985 clearly showed two additional vertical piers and other semi-submerged timbers, whilst John Shoebridge clearly remembers in 1946 that the whole bridge was intact and passable.

Walking along the beach, we rejoined the viaduct's northern embankment on which rails and sleepers remain (corroded to tatters but still recognisable). Photographs indicate the line was initially laid in chaired track. This is clearly flat-bottomed rail though too far gone for the weight to be estimated. On the Northern bank of the lagoon right at the beach, the top split of the Nobbys coal seam outcrops right at water level. We felt that this was without doubt, the exact location where the Bryant Party had first lit their coal fire, and it was here that we ate our a sandwiches before turning inland along the northern shore of the lagoon.

We had hoped to be able to investigate the (first) Glenrock Colliery sidings (which were never lifted) but the site was overgrown with bitou bush and lantana so as to be totally inaccessible. Leading westerly from this point, the Great North Walk (recently constructed by the NSW National Parks and Wildlife Service) utilises one of the skiproads from Glenrock mine, passing through clearly evident cuttings. The party walked this route inland as far as the lagoon headwaters of the lagoon, noting several subsided mine entries, a set of narrow gauge rails still in place, overgrown stone embankments and finally the top of a stone-walled ventilation shaft.



On the Great North Walk, narrow gauge rails are still in place in the vicinity of the original Glenrock mine. Photo: John Shoebridge

Retracing our steps we regained the beach and saw the Burwood coal seam clearly exposed in the adjacent cliffs. Interfaced with the coal outcrops, from this point for a kilometre or so the railway ran on a "platform" excavated in the cliff face, in places no more than a metre above the level of the beach and it is difficult to imagine a more exposed site to operate a railway. Along this exposed seaward face of the cliff, occasional rails and sleepers remain, a most interesting industrial/geological horizon gradu-

ally being reclaimed by rust and erosion. Pressing on, we observed the skeletal remains of coal hopper wagons half-buried in sand at the site of the (second) Glenrock Colliery sidings, the tunnel mouth and skipway on the bare exposed hillside eluding our investigations. The bridge over Burwood Creek (an 80ft span 18ft above water level) has been reduced to a few piles. From this point Northward the track was lifted in the 1940's so that no rails or sleepers were found, indeed the exact route was difficult to trace through the sand dunes.

The beach continued to provide easier walking so we skirted the Hunter Water land (Murdering Gully screening plant and sewer outfall) and regained the line of the track close to the site of the Burwood Copper Smelter. For a works that was demolished in 1880, there is quite a deal remaining. The foundations of several buildings are clearly apparent and we believe that we located the site of the railway siding that delivered coal and ore to the furnaces.

Now we came to perhaps the most remarkable feature on the Red Head Railway, the two timberlined tunnels, completed in 1862, thus pre-dating the original Picton Tunnel (first on the NSWGR) by 12 months. Concrete plugs, installed by BHP Collieries when the line closed in 1945, sealed both tunnels. Subsequently the cliffs above the portals have collapsed, so that the location of No 2 tunnel (450ft long) was evident only from the mound across the right of way. At No 1 Tunnel, after a bit of a scrabble, it was possible to stand on top of the Southern seal (16ft above rail level) and look up into the immense subsidence fissure developing in the cliff face. The tunnel itself appears to have collapsed. On the hillside between the tunnels, a few timbers still remain from the chute from which coal from one of Marhein's collieries was loaded into trains in the 1920's. Scrambling back down from the tunnel site, overlooked by the ocean-view housing on suburban Merewether Heights, we came across one small gem, a underline brick culvert.

All the participants had a great day and extend their thanks to Ross Mainwaring for organising the outing.

John Shoebridge

A selection of books from the LRRSA Sales Department ...

LRRSA Publications

The Innisfail Tramway The History and Development of the Geraldton Shire Tramway and the

Geraldton Shire Tramway and the Mourilyan Harbour Tramway by John Armstrong & G.H. Verhoeven

Describes a public 2 ft gauge tramway in north Queensland which had 13 steam locomotives, 13 passenger cars and about 250 goods wagons. 128 pages, A4 size, 99 photos, 22 maps/diagrams. **\$37.90** Hard cover (LRRSA members \$28.43) Weight 650 gm.

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Books from Other Publishers

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The Life and Times of a Steam Man 1895-1984 by Dorothy Owen, published by Brunel Gooch Publications

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176 pages, soft cover, A5 size, 48 illustrations. \$22.95 (LRRSA members \$20.66) Weight 375 gm

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&Tourist

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Digital photographs for possible inclusion in Light Railways should be sent direct to Bruce Belbin at: boxcargraphics@ozemail.com.au

NEWS

New South Wales

AUSTRALIAN WAR MEMORIAL.

Canherra 610mm gauge Former Gin Gin sugar mill War Department 4-6-0T No. 306 (Hunslet 1218 of 1916) has been acquired from David Revell (LR 158, p.27) and arrived in Canberra in December 2001. This locomotive was part of the first batch (of 10) delivered by Hunslet in 1916 and sent to the Somme area, in France, where she or one of her sisters most likely was operated by AIF railway men. WD 306 will be restored to WWI configuration by the AWR for display in the new Anzac Hall. Here, she will represent the key role of light railways in the transportation networks of the Western Front, particularly in carrying artillery ammunition. It is proposed that the loco be displayed next to horse drawn vehicles and motor transport, and adjacent to a massive 9.2 inch howitzer.

Mark Whitmore, 01/02

RICHMOND VALE RAILWAY 1435mm gauge

Richmond Vale Preservation Co-operative Society Ltd

Recent events on the RVR include a special day for the members of the Morris Minor Owner/Wolseley Car Club on 30 September and the Santa Specials on 18 November 2001. The former included two passenger train runs behind ex-SMR 2-8-2T No.30.

No.30, 0-4-0ST MARJORIE and the 4wDM Planet operated trains on 18 November. After MARJORIE had completed the Santa Special run, a brake valve problem emerged and the Planet was substituted on Mulbring Road trains for the remainder of the day.

The RVR is developing a major collection of industrial locomotives and rolling stock from the former BHP steelworks at Newcastle. Items currently at Richmond Main are: Wagons:

CB 227, 4-wheel match truck for steam cranes;

DC 259, bogie general purpose side-tip wagon (70-ton capacity); HMC 1, bogie hot metal ladle wagon:

SL8, bogie BOS slag ladle wagon; S11, bogie blast furnace side tip ladle wagon:

Jordan ballast spreader (Jordan Car No.1035 of 1937);

H 307 (ex JD 3543), 121/2-ton steel underframe, non-air coal hopper wagon (steel hopper);

JD 17, 121/2-ton steel underframe, non-air coal hopper wagon;

JD 247, 121/2-ton steel underframe, non-air coal hopper wagon; Gollin 57 (ex JD 504), 10-ton steel underframe, non-air coal hopper wadon

MM 3606 (ex P 606), 10-ton steel underframe, non-air coal hopper wagon;

MM 4368 (ex JD 511), 10-ton wooden underframe, non-air coal hopper wagon;

MM 4412 (ex JD 3522), 121/2-ton steel underframe, non-air coal hopper wagon.

Rail Cranes:

No. 2, Industrial Works (Builder's No.2967 of 1913), 60-ton capacity bogie steam crane;

No. 5, Industrial Works (Builder's No. 4146 of 1920), 15-ton capacity steam crane;

No.5, Coles (Builder's No. 19299 of ?), 7-ton capacity 4-wheel dieselelectric crane.

Locomotives:

Owned by RVRM:

34, 70-ton diesel-electric Bo-Bo, A. Goninan & Co. (builder's No. 3/S1003 of 1954);

43, 80-ton diesel-electric Bo-Bo, A.Goninan & Co. (builder's No. 007 of 1960).

Privately owned:

42, 80-ton diesel-electric Bo-Bo, A.Goninan & Co. (builder's No. 006 of 1960).

Link Line 11/01. Jeff Mullier, LocoShed E-Group

STATE MINE RAILWAY & HERITAGE PARK 1435mm gauge **City of Lithgow Mining** Museum Inc.

State Mine has recently taken delivery of a 4wBE underground mine locomotive, No.33, from the Nebo Portal of the Elouera Collierv (see p.18). It was built by BHP Newcastle, circa 1949, to a BHP design using Australian built components and is the last example of its type. It will be restored for display with other mining equipment, in the bath house house building. In the longer term, it is intended to make it operational, for use with the museum's 1067mm gauge man transports.

A correction to our report in LR 162: The locomotives delivered from BHP Port Kembla on 2 November were D20 and D21 only. Sister loco D24 is being dismantled at Port Kembla for spare parts.

Brad Peadon 12/01; John Oates 01/02

Victoria

ALEXANDRA TIMBER **TRAMWAY & MUSEUM** 610mm gauge

Restoration work during the latter part of 2001 focused on the recently acquired Malcolm Moore 4wPM 1023 (LR 160, p.28). The wheels and frame were cleaned, reassembled, painted and placed back on the

tracks prior to the November running day. On that day, the chain was fitted and the chassis was then given a test run around the track by Malcolm Moore 4wPM 1049. The ride on the essentially new 1023 was noticeably better than that of the well-worn 1049. The group has also had to invest many hours fixing up the results of unauthorised movement and derailing of locomotives and rolling stock in the yard.

Timberline No. 63, Dec. 2001

COAL CREEK BUSH TRAMWAY.

Korumburra 610mm gauge Following up the report in LR 157 (p.29), there has been a revival in the fortunes of this tourist railway operation. The Bush Tramway has been restructured, with a volunteer committee taking over from the Shire of Gippsland under a licence agreement. 0-6-2T COUNT STREZ-ELECKI (Bundaberg Foundry 7/1952) operates trains most weekend and public holidays. It is also available for charter. Coal Creek Bush Tramway Inc. is also operating the vertical boiler at the coal mine and the colonial boiler at the winch house. Both of these recently passed their inspection tests. Midweek charters for school groups have been popular and the CCBT group will be operating trains every day during the 2001-2002 Christmas school holidays.

Coming Events

FEBRUARY 2002

3 Wee Georgie Wood Railway, Tullah, TAS. Steam train rides, 12 noon-4pm. Also on 16th (Twilight run, 3-9pm) and 17th. Phone (03) 6473 2228. **9-10 Puffing Billy Railway, Belgrave VIC.** *Thomas the Tank Engine* comes to Puffing Billy – a family fun attraction at Emerald town. Also on 23-24th. Book with the Fat Controller: 03 9754 6800.

14 Puffing Billy Railway, Belgrave VIC. St Valentine's Night Train. Enquires and bookings: 03 9757 0770.

18-20 Australian Forest History Conference, Hobart TAS. Fifth national conference with papers on a wide range of forest history topics. Contact John Dagaval (02) 6259 9102 for details.

18-21 21-22 Australian Forest History Tour, Geeveston TAS. Tour of the Southern Forests, covering the sites of the Huon Timber Company operations. Contact John Dagaval (02) 6259 9102 for details.

MARCH 2002

3 Wee Georgie Wood Railway, Tullah, TAS. Steam train rides, 12 noon-4pm. Also on 17, 30-31st. Phone (03) 6473 2228. 9-10 Redwater Creek Heritage Museum, Sheffield, TAS. SteamFest 2002 – traction

engines, road rollers and Sentinel steam lorry. Enquires: (03) 6491 1613. 9-10 Goulburn Waterworks Museum, NSW. Steaming Days. Phone: (02) 4823 4448. 16-17 Puffing Billy Railway, Belgrave VIC. Thomas the Tank Engine comes to Puffing Billy – a family fun attraction at Emerald town. Also on 23-24th. Book with 10 The Fat Controller: 03 9754 6800.
29-31 National Live Steam Railways Convention, TAS. Further details unavailable.

30-31 Zig Zag Railway, Lithgow, NSW. Two steam train timetable in operation. Phone: (020 6353 1795.

APRIL 2002

6-7 Puffing Billy Railway, Belgrave VIC. Thomas the Tank Engine comes to Puffing Billy -- a family fun attraction at Emerald town. Also on 20-21st. Book with the Fat Controller: 03 9754 6800.

7 Wee Georgie Wood Railway, Tullah, TAS. Steam train rides, 12 noon-4pm. Last

28 State Mine Museum, Lithgow, NSW. Ironfest 2002, with official opening of museum and railway. Phone: (020 6353 1573 for details.
 28 Puffing Billy Railway, Belgrave VIC. The Great Train Fair Fun Run, commences 9.30am. For entries ring (03) 9757 0775 or email: info@pbr.org.au.

Ex-ER&S 4wDM No.3 (Hudson-Hunslet 4582/1955) has been purchased from ILRMS, Albion Park, to supplement the Ruston Hornsby 4wDM and arrived at Coal Creek during September (LR 162, p.26). The Hudson-Hunslet undertook trial runs on the Bush Tramway soon after arrival, but will undergo a fit-out, including the installation of a full driver's cab, before entering regular service. When it does enter service, the Ruston Hornsby 4wDM will have its engine replaced. The previous management installed an inappropriate 80hhp Perkins 4236 engine in this loco. The original 2cylinder 18/22hp Ruston-Hornsby engine will be restored and refitted to the locomotive.

The CCBT group plans to commence

a steam driver's/fireman's course in March 2002 if there is sufficient interest. They are also seeking volunteers for various duties on its train stationary boiler operations. Please contact Coal Creek Bush Tramway Inc., PO Box 262, Korumburra VIC 3950; or phone (03) 5672 2963.

John O'Neill, 12/01

PUFFING BILLY RAILWAY 762mm gauge Emerald Tourist Railway Board

Puffing Billy News In December 2001, the locomotives in traffic were 12A, 14A, D21, DH59, 862 and the 'little engines', *PECKETT* and *CARBON*. 2-6-2T 7A was out of service due to problems with her rear tube plate, while restoration work continued on 6A and 8A. However, on 18 December, immaculately restored locomotive 6A, emerged from the workshop in steam for the first time since 1983 and finished in heritage green livery. 6A ran under its own steam from Belgrave to Menzies Creek and return and was later returned to traffic in time for six trains per day running during the peak holiday period. This locomotive was 100 years old in July 2001 and is now the oldest NA locomotive operating in the fleet.

History was made on 10 January 2002 with locomotive 8A, doubleheading with locomotive 14A, as far as Menzies Creek, on a Gembrook bound train, after an absence of 9 months in the workshops. This is the



Newly aquired Hunslet 4-6-0T 306 about to be unloaded at the Australian War Memorial's store at Mitchell, ACT, on 6 December 2001. Photo: courtesy Mark Whitmore



At the Millenium Park open day on 5 November 2001 (see report in LR 162, p.26) LRRSA members and friends take a ride on some original bogie flatcars, propelled by one of the newly restored 4wBE locomotives. Photo: Bob McKillop

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first time five NA locos were in operation on the line at the one time. *PBR Monthly News*, 12/01; Peter Ralph 01/02

WALHALLA GOLDFIELD RAILWAY 762mm gauge Walhalla Tourist Railway Committee of Management

As at 16 November 2001, construction of bridge 2 was complete and the foundations for bridge 3 were well advanced. The steel beams for bridge 2 came from former VR bridges in north-eastern Victoria, the larger centre span being recovered from the former VR line across Eastern Road, Yallourn. The recovery and restoration of this span was a joint effort by WGRs Community Jobs Program day labour force, Work for the Dole and a dedicated group of ex-Army sappers. This team expected to complete bridge 3 by the end of November, leaving just a short section of track work to join the current terminus at the end of bridge 4 with the line out of Walhalla yard. Once the replica railway station is erected at Walhalla, the yard precinct will be reinstated to a configuration as close as possible to the VR era of the 1930s. Services to Walhalla are scheduled to commence in late January 2002.

Rail News Victoria, 12/01

Tasmania

ABT WILDERNESS RAILWAY

1067mm gauge

The first AWR trains made a lowkey departure from Strahan on 26 December 2001. One of the original Mt Lyell Company diesel locomotives made two trips from Strahan's Regatta Point to Dubbil Barril, 19km from the harbour town into the wilderness. The restored line was originally due for completion by 26 December, but a delay in work on the final 4km of line between Dubbil Barril and Rinadeena means the first train to cover the entire journey from Queenstown to Strahan was still some weeks away. "The track has been laid but we still have to ballast and tamp it," chief executive Eamonn Seddon said. Abt Wilderness Railway officials deliberately kept Strahan's first

Heritage &Tourist

departure's low-key to allow staff time to adjust. Mr Seddon said two trains had made the 2-hour return journey from Strahan, while the steam engine continued its twice-daily runs from the Queenstown end. "It went pretty well. There was a lot of new stuff, so we kept it low key," he said. Picnic spots and walks had been developed at Dubbil Barril, as part of the attraction. Mr Seddon said the Strahan station was "pretty much finished" and contractors were taking a break.

The AWR has restored its Sunday afternoon services, which had been postponed because of poor numbers. Bookings for both the Queenstown and Strahan departures can be made by phoning (03) 6471 1700.

However, the passenger service from Strahan was suspended, just four days after it began, following a second derailment. The derailment happened about 7.30pm on Friday 28 December, when one of the bogies on a passenger carriage jumped the track near Lower Landing on the section between Strahan and Dubbil Barril. A derailment had also occurred on the first day of the operation from Strahan. *Hobart Mercury*, 26 & 30 December

2001 via Trevor Gibbs; Mark Plummer 01/02

Western Australia

BENNETT BROOK RAILWAY 610mm gauge WA Light Railway Preservation Association

The BBR is in summer mode, with the steam locomotives out of service for their annual inspections and the diesel fleet operating the intensive services for the Bush Dances and school holiday schedule. Each Saturday evening the Society provides half-hourly train services between 1830 and 2130 to transport patrons between Mussel Pool and Whiteman Village Junction. A 7-day a week service was to be operated during the school holiday period. Three locomotives, the Planet 4wDM, Gemco 4wDM and Fowler 0-6-0DM, are available to operate these trains.

BBR Members Newsletter, 12/01



Malcolm Moore 3ft 6ins gauge 0-6-0DM 11 KEMIRA (built 1951) at Clarence on the Zig Zag Railway 25 October 2001. This ex-colliery underground locomotive has had a high profile cab fitted at Zig Zag and is now used for maintenance duties. Photo: Brad Peadon



Hudson-Hunslet and Ruston Hornsby 4wDM locomotives at Coal Creek, October 2001.

Photo: John O'Neill



At Belgrave station, on 4 January 2002, the Puffing Billy Railway's newly restored 2-6-2T 6A (Newport/1901), now the oldest NA loco in service, shows off its immaculate heritage green livery. Photo: Peter Ralph

MINING HALL OF FAME,

Kalgoorlie 610mm gauge Officially opened by the Deputy Prime Minister, John Anderson, on 30 October, the Mining Hall of Fame is being developed as an important heritage site and a centre of learning about all aspects of the mining industry. It is to be a monument to the individuals and organisations who devoted their lives to searching for that elusive vein in the rock, that faint glimmer of gold. State of the art, interactive display galleries are being developed with the assistance of \$6 million funding from the Federal Government, \$2.5 million for the State Government and cash and

in-kind donations in excess of \$7 million by Normandy Mining Ltd and Homestake Mining Company, the joint owners of the Kalgoorlie-Boulder Golden Mine.

The Prospecting Gallery is the first of five to be completed. It focuses on discovery and exploration, with exhibits such as the Philosophers Hut, displays outlining the advancements in metal detecting, global exploration and a fully equipped 4x4 as used by Mark Creasy when he made his fortunate gold nugget discovery. A 610mm gauge track has been laid around the museum grounds and a Gemco 4wBE locomotive and a train of miner's cars was noted on site in late October. At that time, the train was not yet ready for operation. Any further information on this operation would be appreciated. David Burke, 11/01; Mining Hall of Fame Web site

Overseas

LYNTON & BARNSTAPLE LIGHT RAILWAY COMPANY LTD,

United Kingdom 610mm gauge Further to LR 162 (p.26), Baguley Drewry 0-6-0DM locomotive *LEICHHARDT* from the Illawarra Light Railway Museum Society arrived at Tilbury Docks, Essex on Thursday 8 November 2001. It was transported by road to the West



Gemco 4wBE locomotive and a train of miner's cars at the Mining Hall of Fame, Kalgoorlie, in October 2001. The loco apparently requires some repairs before it can be operated. Photo: David Burke



The magnificent Chelfham Viaduct, on the route of the former Lynton & Barnstaple Railway in Devon, has recently been restored to its former glory, at a cost of £450,000. Photos: Railway Heritage Trust via Richard Home

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Country, arriving on the West Somerset Railway on Tuesday 20 November. It is now at Williton diesel depot on the WSR, where volunteers will undertake basic restoration work to return the locomotive to service.

LEICHHARDT was purchased by the Lynton & Barnstaple Railway Trust for an ambitious project to restore the 30km narrow gauge line from Lynton to Barmstaple in North Devon. Opened in 1898, the line served rural communities in the miniature Devon Alps, reaching the heights of Exmoor, and was once the jewel in the crown of the West Country. The line closed in 1935 and the track was taken up over succeeding years and the property sold off.

The Lynton & Barnstaple Railway aims to rebuild the railway in the image of the original company, its atmosphere, its charm, and the unique way in which it was part of North Devon life.

The first phase of the project is the construction of the line from Woody Bay Station at Martinhoe Cross, to Killington Lane near Parracombe. Several items of rolling stock have been acquired and the B&B Railway Trust is currently in the process of building a full working replica of 2-6-2T YEO, the first of the Manning Wardle locomotives to arrive on the original L&B. The project commenced in 1996, and construction of the chassis has commenced at the Daventry workshops of Winson Engineering. The target cost for the first phase of the project is in excess of £1million.

The major engineering feat on the line was a graceful viaduct, 21 metres high and built of yellow Marland bricks. Although not part of the first phase project, a £450,000 repair and restoration programme of Chelfham Viaduct has recently been completed. Assistance was provided by the Railway Heritage Trust, together with a £25,000 contribution by the L&BR Trust. The work has brought the Grade II listed viaduct back to working order, complete with parapet walls.

L&B Home Page; Railway Heritage Trust, Annual Report 2000/01

