

Light Railway Research Society of Australia Inc.

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#### **LIGHT RAILWAYS**

Australia's Magazine of Industrial and Narrow Gauge Railways

No 170 April 2003 ISSN 0 727 8101 PP 342588/00002 Editor: Bruce Belbin.

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#### **Distributor:**

GORDON AND GOTCH LIMITED. Printed by Courtney Colour Graphics.



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Subscriptions: \$42.00 for year ending 30 June 2003, providing six issues of Light Railways magazine, information on Society activities, 25% discount on LRRSA publications, etc. Overseas \$A57.00 economy airmail. Payment by cheque, money order, Bankcard, Mastercard, or Visa. Contact the Membership Officer, P0 Box 21, Surrey Hills, Vic. 3127. Fax (03) 5968 2484. Email: Irrsa@Irrsa.org.au

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#### **Conversions:**

1 inch (in)	25.40 millimetres
1 foot (ft)	0.30 metre
1 yard (yd)	0.91 metre
1 chain	20.11 metres
1 mile	1.60 kilometres
1 super foot	0.00236 cubic metre
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

In 2003, it can sometimes be tough being a 'light railway' enthusiast. Even before the recent insurance crisis hammered our heritage railways and museums, economic rationalism had exerted its influence on the historical archives of many organisations, making the information therein more difficult for researchers to access. Perhaps involving a reduction in staff, a lack of commitment to effective conservation or, in one example, movement from a central city location to a far western suburb to save rent. In another case, complete closure was threatened (though, thankfully, avoided).

The aftermath of the atrocities in New York and Bali has seen a reduction in the amount of international travel world-wide, and many of our heritage attractions are seeing fewer overseas visitors (though, fortunately, some have reported more locals coming through the gate). This is bad news, overall, for a sector that has always struggled to preserve so much with so few resources.

The medium term effects of rising international tensions may be more insidious, however. Events beyond our control may be leading us into a new, testosteronecharged era, where all things cerebral and aesthetic will be pushed to the back-burner. Where such gentle pursuits as researching railway history and preserving its artifacts, or studying present day operations, may be viewed with suspicion. Lets hope that, as a nation, we've already moved beyond that possibility. 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.

Material is accepted for publication in *Light Railways* on the provision that the Society has the right to reprint, with acknowledgement, any material published in *Light Railways*, or include this material in other Society publications.

Front cover: As revealed in Brian Webber's article 'Trains to Lucinda', in the centre pages of this month's issue, Walkers and EM Baldwin diesel locomotives are now the regular motive power of the trains that carry bulk sugar from CSR's Victoria and Macknade Mills to the shipping terminal at Lucinda, North Queensland. In the early 1970s, however, Macknade Mill's sugar was normally hauled by one of their Hudswell Clarke 0-6-0 steam locos. On this occasion, Macknade number 5 (1548 of 1924) is seen crossing the Herbert River, heading back to the mill with a string of empty sugar boxes. Photo: Tony Griffin Back cover: On a sunny Saturday afternoon, 28 December 2002, Fowler 0-4-2T 17881 of 1928 (former South Johnstone Mill No. 10) rolls off the long wooden trestle bridge at Timbertown Heritage Park, Wauchope (see report on page 28). Photo: Bruce Belbin

# ESKBANK - an industrial crane tank locomotive

# by Bob McKillop

An iron and steelworks provides a classic setting for the industrial locomotive. Certainly the small tank locomotives working on the complex railway network of the Lithgow iron and steel works amid the clutter, noise, smoke and grime of that operation provides a lasting impression of the halcyon days of that centre's industrial past. That story has been researched by a group of LRRSA members and local history groups for a forthcoming book to be published by the Society.

Thirteen steam locomotives and one internal combustionpowered rail tractor operated at the Lithgow works. The broader story will be told in the book. As an appetiser of what is to come, this article looks at the two 0-4-0CT locomotives that were to become central figures in the Lithgow industrial landscape.

#### **HAWTHORN and her Sisters**

R&W Hawthorn built "a combination of a crane and locomotive" for use Forth Bank Works at Newcastle-upon-Tyne in 1880. Named *HAWTHORN*, this prototype crane tank locomotive was intended for use in industrial applications, such as ship building yards, iron and steel works or railway goods depots. It was a steam locomotive with the crane jib and auxiliary engines fitted as an accessory, thus giving the name 'crane tank locomotive', as opposed to a 'locomotive crane'.

Promotional material for the new crane tank locomotive highlighted the direct action of steam to a cylinder on the jib, which was pivoted and operated by direct action. This allowed the jib to be raised and lowered according to the steam pressure exerted. The cylinder was located within a dome situated above the boiler. A large steam jacket was required to keep the steam from condensing. The jib fulcrum was carried on a circular turning table with teeth on its periphery, driven by a worm gear powered by a small three-cylinder engine. The jib could take loads at three different points along its length, these being 2 tons at a distance of 20ft from the centre, 3 tons at 16ft and 4 tons 12cwt at 12ft. A large cylindrical weight behind the jib counterbalanced the load that was being lifted, while two cast iron weights were attached to the front buffer beam to further stabilise the locomotive. Operating as a locomotive, the unit was capable of hauling light loads around the plant.

HAWTHORN was the first of what became the most widely known type of British crane locomotive. The standard 4-ton capacity R&W Hawthorn, Leslie & Company 0-4-0 crane tank locomotive was fitted with traction cylinders varying from 9in to 12in diameter and 12in to 15in stroke and coupled wheels varying from 2ft 5in to 2ft 10in diameter. A total of seventy one 0-4-0CT locomotives were built to this design between 1880 and 1943. Apart from improvements in the driver's cab and the fitting of more modern valve gear, those built in the twentieth century differed little to the prototype of 1880. A larger 40-ton 0-4-0CT capable of lifting 7 tons at 12ft was introduced in 1910, with the prototype (B/No. 2768) again being named HAWTHORN. Eight more of these 7-ton capacity crane tank locomotives were built for the New South Wales Government Railways up to 1950.

# COMBINED CRANE AND LOCOMOTIVE

MESSRS. R. AND W. HAWTHORN, LESLIE AND CO., NEWCASTLE ON-TYNE, ENGINEERS



A sketch of HAWTHORN, the original R&W Hawthorn, Leslie crane tank locomotive on which ESKBANK was based. From The Engineer, 10 May 1885, courtesy Bruce Macdonald

#### William Sandford's ESKBANK

The original blast furnace of the Eskbank Ironworks had been opened in 1875 by the Lithgow Valley Iron Company. Under the leadership of a builder and railway contractor, Daniel Williams, the works were expanded in 1876-7 and a degree of success was achieved over the succeeding years, mainly in the rolling of iron rails for mining operations, street tramways and mainline railways. The works were initially served by a narrow-gauge horse-worked tramway, evidently built to the unusual gauge of 2ft 2in, but Williams was successful in obtaining a standard gauge railway connection to the Great Western Railway in 1879. The following year, the firm obtained two Neilson 0-4-0ST locomotives (394-5 of 1857), which had been imported new by the Newcastle Coal & Copper Company. At least one of these locomotives operated at the works, but it was sold in 1889.

The fortunes of the Lithgow Valley Iron Company received a major setback during 1880, when Williams, the main driving force behind the enterprise, became ill and returned to England in 1881 to recuperate, but died there on 9 May 1884. James Rutherford, the managing director of Cobb & Co, took over leadership of the firm, but had to contend with a significant decline in the price of imported iron products at the time. The blast furnace was closed in late 1882 and the works continued re-rolling iron rails under a Workers' Cooperative arrangement until November 1886, when William Sandford leased the works.

Sandford had come to Australia in 1883 to establish the wire-making works for John Lysaght Ltd at Five Dock in Sydney. He became enthused with the potential for iron-making in Australia and had taken over the pioneer Fitzroy Ironworks rolling mills at Mittagong in March 1886, before a visit to Lithgow convinced him that the Eskbank works was a more promising opportunity. The depression of the 1890s and a chronic lack of capital hindered Sandford's efforts to expand the works. Nevertheless, he opened a small open-hearth steel furnace in April 1900 and developed plans for a modern blast furnace. As optimism grew for the establishment of a modern iron and steelworks at Lithgow to meet the needs of the newly formed Commonwealth of Australia, locomotive traction was

reintroduced at the works in 1903 through the purchase of a second-hand Manning, Wardle 0-6-0ST (918/1884) from the NSW Railways.

By 1904, however, continued procrastination at the Federal level over the introduction of a bonus for local iron making and a change of government at State level led Sandford to put his plans for a blast furnace on hold. Sandford booked his passage to England to cancel his orders, but was taken ill, so his general manager, William Thornley undertook the trip instead. Thornley served his apprenticeship under his father at Howarth & Cryer's Foundry in Bolton, Lancashire, and had extensive contacts in the industry. He visited a number of English manufacturing works during this visit, including the Forth Bank Works of R&W Hawthorn, Leslie & Company. It was evidently during this visit that Thornley convinced his hosts to send one of their standard 0-4-0CT industrial locomotives to Lithgow for trials with a view to breaking into the Australian market.

The locomotive, which carried B/No. 2605 of 1905, was shipped in knocked-down condition and arrived at the ironworks in late July 1905, where it was assembled for operation. It was fitted with 12 x 15in cylinders, by then standard for Hawthorn Leslie crane locomotives, and driving wheels of 2ft 10in diameter. Sandford named his crane tank locomotive *ESKBANK* after the ironworks. There were enthusiastic reports that the locomotive had fulfilled all expectations during trials in early August, being able to pull twenty loaded trucks with ease. One report states that *ESKBANK* was painted in a dark shade of red, set off against a black smokebox and tall chimney when it first entered service.

The conditions surrounding the sending of the locomotive to Lithgow by Hawthorn Leslie have not been ascertained, but William Sandford Ltd soon assumed ownership and it remained at the Lithgow works. Here, *ESKBANK* was used for a variety of shunting and lifting tasks around the ironworks site, particularly the lifting and movement of heavy castings and ingots. The locomotive generally stayed within the confines of the industrial sidings, although she may have been used for moving and lifting construction materials at the new blast furnace site, approximately a kilometre to the east of the ironworks, from 1906.



This 1914 scene shows the crane tank locomotives ESKBANK and SHIFTER, together with a Manning Wardle 0-6-0ST locomotive heading a load of rails for dispatch to the Victorian Řailways. Hoskins photo, JLN Southern collection



ESKBANK depicted late in its life at the Port Kembla steelworks. She was transferred to Port Kembla in March 1927 to assist with construction tasks at the new works. From Hoskins, C, The Hoskins Saga



The crane tank locomotive SHIFTER stands beside the weighbridge at the Lithgow ironworks site in 1926 amid a network of narrow gauge tramlines criss-crossing the standard gauge line. Photo AE Clarke, courtesy Lithgow Regional Library



The crane tank locomotive SHIFTER at the entry to the soaking pits of the rolling mills with the steel furnaces beyond. Photo: GH Eardley collection

#### SHIFTER

Hawthorn Leslie's venture into the Australian industrial market at Lithgow was reasonably successful, as four more of its locomotives, three of standard gauge and one narrow gauge, were acquired from the firm by William Sandford Ltd and its successor G&C Hoskins Ltd. Among these was another crane tank, an elder sister of *ESKBANK* acquired second-hand from England in 1912.

This standard 4-ton crane tank locomotive (HL 2403/1898) had been built for the Patent Shaft & Axletree Company of Wednesbury, Staffordshire, where it was named SHIFTER. It had been acquired by dealers Thos W Ward of Sheffield, West Yorkshire, by 1911 and was advertised for sale in March of that year. G&C Hoskins purchased it and evidently used it for construction work for its new Pipe Foundry at Rhodes in Sydney during 1912-1914. SHIFTER was transferred to Lithgow in 1914, where it joined ESKBANK at the ironworks site. It was used for moving and stacking ingots, and for light shunting duties around the plant. Because SHIFTER was generally to be found near the weighbridge at the centre of the rail network, it was the more photographed of the two crane tank locomotives at Lithgow

#### **Subsequent Careers**

The lives of the little locomotives were generally uneventful at Lithgow. *ESKBANK* was noted 'out of service' in 1925, presumably due to problems with its lifting jib, as a new steam cylinder for this was provided in August 1926. It was the first locomotive to be transferred from Lithgow to the new site for the Australian Iron & Steel works at Port Kembla, going there in March 1927 to assist with construction duties. The locomotive continued to give valuable service there for another decade. Its crane was removed in August 1937 and it was noted out of service by November of that year. It was scrapped at Port Kembla on 16 February 1938. In contrast, *SHIFTER* was kept on at Lithgow to assist with dismantling the plant there after closure of the rolling mills in December 1931. It was finally transferred to Port Kembla in June 1933. The crane was also removed in August 1937 and the locomotive was condemned in December 1937. The last of these industrial crane tank locomotives was scrapped at Port Kembla in March 1939. They are now but a fading memory, save for the photographs taken during their careers which recorded the presence and function of these remarkable locomotives.

#### Acknowledgements:

This article is based on material collected for the Lithgow iron and steelworks project by a number of LRRSA and other researchers and the dedication of all those contributing to this project is gratefully acknowledged. Special thanks to Bruce Macdonald for the item from *The Engineer* of 1885 that prompted this article and to Richard Horne for advice on *SHIFTER's* career in England. Richard also provided relevant sections of Roland Abbott's treatise on British crane locomotives.

#### References

1 The Engineer, 10 May 1885, 'Combined Crane and Locomotive'. This article evidently describes the 2ft 9in gauge prototype built in 1880 which was used for a time by Hawthorn for promotional purposes. It was given the builder's number 1877 after the second crane tank locomotive (B/No 1863) had been delivered in 1881. B/No. 1877 was sold to Denny & Company at Dumbarton who named it LEVEN. Reference, Abbott, Rowland AS, Crane Locomotives: A Survey of British Practice, Goose & Son.

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8 Richard Horne, personal communication, September 2001.

<sup>2</sup> Abbott, Rowland AS, as above, pp.34 and 73-6.

<sup>3</sup> Cassie Thornley, correspondence on her family history research, 15 April 2002.
4 Lithgow Mercury, 22 March 1904, p.2, 'Mr Sandford Goes to England'; 1
April 1904, p.4, 'Local Industries'; 21 October 1904, p.4, 'Mr Thornley's Return'; 4 August 1905 'Local Industries'.

<sup>6</sup> The Sydney Mail, 9 August 1905, p.387, 'Industries on the Mountains'; 16 August 1905, p.445, 'Industries on the Mountains'.

# **'Hatfuls of Cargo' from the little port of Eden**

# by Jim Longworth

Despite vigorous lobbying by local interests, the NSW government railway never stretched along the south coast beyond a terminus at the town of Bomaderry, located on the north bank of the Shoalhaven River, opposite Nowra. So people living further south along the coast, on the hinterland behind the coastal range, and on the Monaro Tableland, were reliant on carting their produce over poor roads across the range to small ports that were developing wherever shipping could tie up in a sheltered position. Town jetties were built at Moruya and Narooma. Masonry quays were built at Wollongong, Shellharbour, Kiama, and Ulladulla. Public wharves were built into the sea at Bermagui, Tathra, Merimbula, and Eden. In addition, there were many private wharves, which were often laid with rails along their length, for transhipping coal, timber, or various kinds of quarried rock. At some, but not all of the public jetties (eg Moruya), quays (eg Ulladulla), and wharves (eg Eden), light railways were used to reduce the energy that was required to transport goods between shore and shipside, and vice-versa.

#### **Hatfuls of Cargo**

Henry Lawson is remembered as an evocative chronicler of the Australian culture of a century ago. On his journey from Eden to Sydney along this coast, his impressions of south coast shipping were boldly stated. Lawson described the south coast shipping trade as fuelled by "haste, razor-edged competition, and greed", all in the race for profit "snatching hatfuls of cargo from every little port". Lawson's focus for the source of his Australian culture was on the outback, and he overlooked the significance of the sea and the coastal rivers to the people who were living on the far south coast.

The far south coast of NSW is a narrow region constrained between the Pacific Ocean on one side and the eastern escarpment on the other. A cool climate and generally nutrientpoor soils restricted agricultural development, though the area around Bega has a history of productive dairying. Twofold Bay commenced as a whaling port in 1828 and the town of Eden was established in 1843. Although Eden went into general decline following the closure of whaling, it continues to be an important commercial centre for the region. The principal goods to be exported along the Eden wharf have included structural hardwood timbers, butter, farm produce, fish (especially tuna) and sheep from the Monaro. The export of live pigs was so significant that it gave the name of the 'Pig and Whistle Fleet' to the Illawarra Steam Navigation Company's steamers. In addition an enormous number of sleepers for the expanding government railway networks of NSW. New Zealand and China were exported through the port. Many others were loaded directly from sleeper depots on the shore around the bay. Sleepers were slid down greased timber skids to the water line. Incoming goods included chaff for feeding the local horse teams and all manner of domestic and minor industrial items required by small settlements that were effectively isolated by poor roads. However the area remained overshadowed by more productive agricultural areas elsewhere, hence the cargoes



SS MERIMBULA at Eden at the time when the wharf boasted a double line of rails. 30 December 1925. Photo: Humphery Collection, National Library of Australia



Shed leased to Craig Mostyn & Co., with tramway to sleeper depot in foreground. October 1937. Photo: Government Printing Office

were only ever small. Mere 'hatfuls' yes, but significant to those living along the far south coast. Following the demise of coastal trading shipping, the wharf was used by the local fishing fleet.

#### The Tramway on the Eden Wharf

The entrepreneur Ben Boyd established a commercial centre and whaling station, Boydtown, on the southern shore of Twofold Bay in the 1840s. However after Boyd's financial position collapsed and he left for the Californian goldfields in 1849, Eden on the northern shore took over as the principal port on the Bay.

Built prior to the 1880s, 280ft of the jetty was reconstructed and a double line of rails laid along its whole length at a cost of  $\pounds$ 1,430 during 1894-95. Three years later, a large portion of the wharf had to be renewed, the tramline relaid, sidings rearranged, and a wall constructed. Into the twentieth century, two additional trucks were supplied during 1901-02, and four years later the trolley line was partially renewed by contract. During 1909-10 a new cargo shed with tramlines to the site of the depot for sleepers, and a 5-ton hand-powered derrick crane were erected at a cost of  $\pounds$ 1,207,18s,10d. 1917-18 saw minor repairs to the jetty trucks and tramway completed, followed by further minor repairs to the jetty trucks and tramway

the following year. In 1919-20, work was started on putting in a new cross-over for the tramline, followed by relaying and renewing the tramline in places, and completion of the new crossing two years later.

The rail tracks were repaired during 1945-46. As at March 1952, the wharf tramway had been reduced to a single line of rails, and was operated as a horse drawn line, equipped with three flattopped trucks, and laid out as shown in the accompanying plan. The rail tracks were again repaired during 1957-58. Had either of the proposed standard gauge or narrow gauge government lines between Eden and Bega been built, or the proposed line southward to link up with the Victorian government railways at Orbost, or the proposed narrow gauge forest line to Timbillica eventuated, the wharf at Eden might have become a major railway centre. But they weren't, and Eden didn't. Nevertheless, the narrow gauge tramway stretching along the wharf at Eden did fulfil its function for a very long time – for at least 63 years in fact.

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Layout of the Eden wharf and tramway during the later single line era. March 1952 (GHE/JKL)

# Pioneer Tramway Technology in Victoria

# by Norm Houghton

The Wombat Forest in Victoria's Central Highlands region was the first area where, from 1853, sawmillers experimented on full scale, heavy load bearing tramways over long distances of 5 to 20 km. Archaeological and documentary research has now enabled a full picture to be developed of the evolution of the timber tramway in this forest.

It is first necessary to examine logging regimes to see what tasks the sawmillers expected their tramways to perform. In the Wombat Forest from 1853 trees for the mill were felled by axe and cross cut saw, and usually sawn into two or three manageable sections of 3 to 3.6 metres with a round volume of 1.5 to 2 cubic metres and a mass of up to 2 tonnes. At that time timbers longer than 3.6 metres were rarely needed in the building trade and the sawmiller could design the mill and log yard around the most marketable scantling length. Horse and bullock teams were used to haul the logs along the ground, in jinkers or on four wheel wagons. The logs were loaded onto wagons by cross hauling on the surface using wooden ramps.

Two jinkers seemed to be the usual number for the nineteenth century mills and the longest jinker haul appeared to be up to, and not more than, three kilometres. Wagon haulage seems to have been around the same distance.

It appears that jinkers and wagons were sufficient for every

short-range haulage task, including those in very steep terrain. During field surveys the author came across jinker and wagon tracks running up and down severe slopes, and cut stumps can be found at the bottom of the narrowest and most twisting watercourses, so the loggers and carters found a way to get the logs out without winching. Under the animal powered regime, the easily accessible logs on the high ground were taken first and the gullies left until the miller had no other source to draw upon. Logs were extracted from the deeper gullies and creeks by waiting until summer weather had dried the bottoms and then running horse drawn jinkers and wagons along them, pulling the logs downslope. Roadways were built along the mud flats for this purpose.

Mechanical haulage of logs along the ground to a mill or remote landing was not then in use in the bush. The mills were in proximity to gold mines where shaft winding engines were in daily use; but if it occurred to sawmillers to apply this principle on a horizontal rather than a vertical plane, and use a rope to haul in logs, then not one Wombat sawmiller ever acted on it. The relatively short length of the Wombat's steep slopes, say up to 500 metres maximum, and on hard ground, when compared to the 800 to 1200 metre lengths in the Otways or Gippsland on soft ground, where winching was essential, was no doubt a factor in the dominant use of animal powered haulage. In addition the capital cost of a winching plant was probably beyond most millers, as were the technical difficulties in securing a water supply to the boiler. Only in one instance did a Wombat sawmiller use a winding winch, and this was to haul timber trucks up and down three inclined tramways in the steep valleys north-east of Blackwood.



This fuzzy enlargement of the log yard at Anderson's Dean Mill, circa 1865, shows a two-horse team on a broad gauge log truck alongside the sloping unloading ramp. The log truck is a solid floored, flat top type about three metres in length. Note how the floor height of the truck is as elevated as the horses' legs are long, one disadvantage of the broad gauge for loading logs. Photo: Daylesford Historical Society



A log jinker in action, showing how the device was designed to lift most of the log off the surface to minimise friction. The trailing end of the log gouged a groove in the forest floor and these grooves or snig tracks can be read to determine logging methods and sequences. Photo: Daylesford Historical Society

Based on the foregoing data it appears that a tramway would be required for log hauls of more than three kilometres distance, for minimum log loads weighing at least two tonnes and with a log length of less than four metres. It could not be routed through very difficult terrain where heavy earthworks would be needed. In other words, sawmillers with plants of medium to high capacity in fixed locations required wide gauge tramways traversing long distances over very hard ground and of robust construction. These should be capable of bearing gross loads of three to five tonnes, say two logs instead of one as per a wagon or jinker, without the trucks capsizing. For the pioneering sawmiller there were plenty of examples of tramways close to hand in the gold mines, but mining trams were too short in length and of too narrow a gauge to offer any guidance, so the millers turned to contemporary railway and industrial tram road practice. British ideas were mostly adopted, including construction methods and gauges.

At first the sawmillers simply copied prevailing railway practice of sleeper and rail, but using wooden rails instead of iron ones. Spaced sleepers were laid straight onto the ground, and  $4 \times 3$  inch wooden rails fixed to the sleepers by grooves and wedges. Nails were not then favoured as fasteners because the nail hole weakened the rail and the nails protruded dangerously upward when the rail broke. The space between and under the protruding woodwork was filled with earth to form a level path for the horses. One of the pioneering tramways was that of the Trial Sawmills Company at Buninyong and documentary sources indicate that the company first built its tram on concepts derived from contemporary engineering precepts that the route be kept as level as possible, employing curves to go around peaks and troughs. Experimentation and experience revealed that curves and gradient routes need not



Wheel tracks from jinkers have survived on the forest floor for a long time after the wheel passed over. This is a typical example. Photo: Norm Houghton

be so complicated, and in fact were an operating nuisance, and after a short while the company eased the curves and laid the track straight over the bumps and dips. Simpler was better.

The gauges first tried were broader than mining tramways but less than the 5ft 3in railway gauge adopted for Victoria from 1854. The Trial Sawmills Company used a gauge of 4ft 6in in 1855. At Warrenheip and Bungaree George Graves initially tried a gauge less than this (exact details unknown) in the same year but soon settled on 4ft 6in. It seems that James Wheeler was the first to adopt the 5ft 3in gauge in 1857 on a sleeper and rail tram six km in length at Kangaroo Creek, near Daylesford, and this gauge was later copied by other millers as the de facto common gauge for most of the Wombat Forest.

Wheeler was an entrepreneur merchant who had no engineering background and ran his sawmills at a distance. He would have relied on professional engineering opinion and the advice of his bush foremen for ideas on tramways. At that time the colony of Victoria was in the midst of a broad gauge railway building boom on lines in suburban Melbourne and trunk routes to Geelong, Ballarat and Bendigo, and it is this author's surmise that Wheeler took advantage of advice from one of the many railway contractors. These same contractors or their supply agents would have surplus and redundant broad gauge wheel sets, axle boxes, truck frames and iron rails available. It appears that Wheeler used this source because his tramway was laid with sleepers and iron rails. The tram would not have been built to Victorian Railway standards as it was laid straight onto the ground and ballasted with earth to form a path for the horses. When the logging site was cut out in 1862, Wheeler advertised the tramway plant for sale and discontinued using a tramway at his next mill, although he returned to tramways

for the following five mills. Nevertheless his Kangaroo Creek tram was sufficient precedent for other millers to copy the gauge even if only for the pragmatic reason of the easy availability of broad gauge wheel sets and trucks. Perhaps the Telegraph Sawmill Company at the nearby Old Tom Creek site bought Wheeler's wheels and trucks.

The trucks employed on the Wombat tramways were twin axled, long wheelbase types, reflecting the mainstream broad gauge plant of the day. Bogie trucks were not used. The broad gauge wheel sets, and the trucks they supported, would be a fair weight by themselves, being based on the design of a standard railway truck, so the tram rails and their foundation would suffer a load bearing problem even before a log was loaded onto the truck. The broad gauge trucks proved suitable for bearing heavy loads of logs but in operation, when wooden rails were used, it was found that the rails rapidly broke up under the stress of the ponderous rolling loads and flexing between the sleepers. Iron rails were a solution but were not an economic option for most millers because of the cost and their tendency to contribute to brake skidding as well as runaways on anything but the shallowest grades.

One economical remedy to rail flexing was to lay iron strap along the top of the rail as a stiffener and rubbing surface but this was not a complete answer as flexing still occurred and the strap could curl at its ends. Furthermore, as with iron rails, the strap could not safely be laid on long slopes graded with the load as it caused skidding when the wheel brakes were applied. The remedy finally adopted by the early 1860s was to change the way the rail was supported by laying it full length along a heavy stringer. The resulting paired stringers were kept in gauge by a cross tree or principal bearer, hence



Loading a log onto a wagon by cross-hauling. The horse team is pulling at a right angle to the wagon to lift the log up a pair of skids. Photo: Daylesford Historical Society



A section of a principal and stringer tram without earth infill and probably constructed by Wheeler. Assuming that the rail width is four inches, it is possible to scale mark across the gap between the rails to reach a rough calculation of gauge at around 5ft 3in. The building methods are revealed in this accidental cross section. The crosswise principals rest on the surface, the stringers run at right angles on top, the rails are nailed to the stringer and a crosswise wooden deck is laid from stringer to stringer. The missing section of deck was probably salvaged by local farmers as over time the woodwork that had any useful value on a farm was retrieved. Bushfire and decay finished off the remnants and by the late 1990s there was no woodwork left on any of Wheeler's trams. Woodwork has survived on the infill trams, and the author came across samples on the trams of Anderson, Midgley, Telegraph Company and Hayden. Photo: Daylesford Historical Society

the description 'principal and stringer' given to these tramways by the sawmillers. The arrangement was a near copy of English practice as used, for example, on Brunel's Great Western Railway and in Victoria's first tramway at Wayman's Richmond quarry in 1846. Wayman was said to have had railway building experience in England and he promoted his design as being an efficient, practical and robust one for industrial applications.

The first practitioner of principal and stringer tramway was probably the Telegraph Sawmill Company at Old Tom Creek in or around the years 1861 to 1863 but the leading exponent was Anderson Brothers at Barkstead from 1864, and these two companies can claim the title as initiators.

In the Wombat Forest the principal and stringer method commonly involved laying 10ft long principals at 12ft 6in intervals to which were attached 12in squared stringers. The wooden rails were then nailed to the stringers and, if needed, iron strap was fixed to the top of the rails. The gap between the woodwork was filled with earth, usually rammed, to form a level path for the horses. The hardness of the soil and the relatively low rainfall meant that churning of the horse path was not a great problem. In a few instances the principal and stringers were not infilled and instead a continuous wooden deck was laid crosswise between the stringers for the horses to walk on. Naturally, this latter type of tramway left no surface imprints, only long gaps between occasional cuttings for the archaeologist to ponder over. Wheeler was the leading practitioner of this form of decked tramway because in difficult terrain it enabled him to avoid heavy earthworks or even any earthworks at all. In one instance he routed the tram literally in the bed of a gully for over a kilometre by resting the principals on rocks.

A broad gauge tramway built on the principal and stringer method was an expensive undertaking, involving ten feet wide earthworks and 627 cubic yards of timber per mile, at an all up cost of between  $\pounds720$  to  $\pounds960$  per mile. Average weekly earnings in 1865 were  $\pounds1,17s,1d$ , so a mile of tram could represent the weekly wage for up to 520 workers. The cost could be reduced by minimising earthworks, as Wheeler and several others tended to do, but there could be no savings on the woodwork component. Sawmillers obtained the timber in the immediate vicinity at no royalty cost, such were the timber licensing arrangements then applying, but had to bear the labour component for felling, preparation and assembly.

In practice most of the sawmillers used a combination of principal and stringer and sleeper and rail methods depending on the terrain, durability of the construction timber used and the hardness of the ground.

Principal and stringer was inflexible on curves because it was designed to solve a load bearing rather than a route selection problem. Principal and stringer had to be taken around bends by a series of chords through shortening the principal bearer placement to 5 feet and laying the short length stringers off centre to the next principal. As a result of this drawback, sharp curves were rarely built. Instead, principal and stringer trams tended to run more or less straight over long distances but had frequent minor changes of direction, just a few degrees here and there, to follow the lie of the land. When sharp curves were required, short lengths of sleeper and rail construction were used to form the bends.



A section of Wheeler's tram at Bullarto showing how a fully decked principal and stringer tram would have looked. Photo: Daylesford Historical Society



The height disadvantage of the original broad gauge trucks was gradually realised and over time the log trucks were redesigned to a lower profile. This view shows a typical, low profile log truck of the later era. Photo: Daylesford Historical Society

Principal and stringer resistance to curves would, on the face of it, make it suitable only for relatively gentle terrain. This was generally true, but the tram builders could overcome this deficiency by avoiding the high spurs and ridge face returns that demanded curves, by dropping the road bed into the bottom of creeks and gullies. Wheeler, Lyon and Laver did this when circumstances demanded it.

The principal and stringer trams were built from the early 1860s to 1898, with most construction taking place in the 1870s and 1880s, by Anderson Bros, Wheeler, Lyon, Telegraph Sawmill Company, Midgley Brothers, Hayden and Laver. All of these trams show a surprising uniformity in route selection and construction technique and this suggests that they were surveyed and built by very few persons, perhaps two surveyors and three contractors. The route surveys are similar in how the trams master the terrain, surmount rises and enter and leave creek valleys. The construction techniques show a rigid consistency, and the only differences from tram to tram are in whether the principals are spaced 12ft 6in or 13ft apart.

The Wombat sawmillers mentioned above were tied into their existing broad gauge technology after 1860 and did not, apart from an exception at Blackwood North, revisit the narrow gauge tramway notions of the 1850s. It was the newcomers of the 1870s who took another look at the idea that narrow gauge trams of say 3ft 6in might perform just as well in logging as broad gauge trams, and be more economical to construct. The first new-generation suggestion for a narrow gauge log tram came from James Muir in 1870 who proposed a 3ft 6in gauge tram at Axle Creek in the East Trentham area. A file note gives an estimated construction cost for the proposed tram of  $\pounds 224$  per mile, the equivalent of 121 weekly wages, representing a considerable saving on principal and stringer costs. This tram does not seem to have been completed. At the mill site is evidence that one cutting was formed to start the tram road bed but there is nothing further on into the proposed logging area. Muir's area of operation was along a wide, flat marshy string of watercourses where the soil was easily manipulated and where heavy constructions would probably subside into the mud. Muir did not proceed with the sawmilling business because of a market slump in 1871 and the tramway idea lapsed until 1874 when George Laver looked at rebuilding the mill. Laver's other trams were a mix of broad gauge principal and stringer, and sleeper and rail, but even he conceded that Muir's idea was a sound one and that he intended to build a narrow gauge log tram along Muir's surveyed line. Yet, again, the venture was not implemented owing to Laver's death.

In the following year the narrow gauge tramway notion was put into practice by John Wightman of Barrys Reef when he built a 3ft 6in gauge tram. Wightman's logging area was north of his mill, over a very precipitous gully and was not a great distance, just short of a mile. It would have been a very expensive proposition to build a broad gauge tramway bridge over the gully and a disproportionate outlay to form a principal and stringer tram such a short distance, which represented half the length of the industry's standard maximum jinker/wagon haul. Wightman's innovation was to use a bed of continuous split slabs laid straight onto the ground and to which the wooden rails were attached. The reason for this was that the soil on the south side of the gully is soft so Wightman used the continuous packing to support each rail along its entire length.

This concept was not entirely new because in 1855 the Trial Sawmills Company had used a 'closer', but not 'closely', spaced sleeper arrangement at a wet section on its tramway.



The 3ft 6 in gauge log trams of the post 1875 era were much simpler to construct than principal and stringer and allowed an easier handling of logs both on and off the tram truck. This view is possibly the top end of Wightman's tram. Photo: Daylesford Historical Society

Wightman applied the 'closely' in a literal sense and, although he may not have been the first to implement the idea generally, he was the first to do so in the Wombat forest. Wightman possessed a practical engineering background and he was known at Barrys Reef as a person who could come up with solutions to mechanical problems so he obviously thought through the notion of devising an economical tramway that would meet his logging requirements.

Other millers imitated Wightman. In 1879 Robert Henderson developed a modified solution by building four km of 4ft 6in gauge sleeper and rail tram on a narrow road bed through difficult terrain south-east of Daylesford. The soil here is very hard so Henderson could use spaced sleepers with earth infill instead of a continuous bed of slabs. Although the gauge was only nine inches narrower than broad gauge, the sleeper length and earthwork width were disproportionately reduced to six feet in contrast to the broad gauge's ten feet. Henderson's tram was for the carriage of sawn timber only so he could afford to be adventurous, although in one short section at a swampy area he conceded the use of principal and stringer as a bridging arrangement.

At Blackwood North the narrow gauge influence did have a slight impact on the traditionalists. Hayden's trams that were built from 1883 to 1894 were broad gauge principal and stringer, but two of the company's short length inclines of less than 300 yards installed at remote locations to the main mill from 1893 to 1898 were built to a narrower gauge. The remains of one at Billet Creek is a hybrid with principal and stringer on the slope and sleeper/packing and rail on a short feeder line along the creek. The remains suggest 3 ft 6 in. The other principal and stringer incline on Clearwater Creek has scarcely any remnants and its barely discernable 6ft principals and one narrow cutting indicate a gauge somewhere near 3ft 6in. The overall conclusion is that the Wombat millers from 1853 to 1900 were very conservative, and their tramway solutions were conditioned by prevailing mainstream engineering thinking, the terrain and the relative hardness of the ground. As well, their investments sunk into this heavy infrastructure



A testament to the hardness of the Wombat Forest soil. The imprints for one of Hayden's principal and stringer routes photographed in 1999 over 100 years after the tram closed. The principal's position is marked by the gap across the mound. The mound represents the earth infill between the stringers, and by measuring the width of the mound and, allowing for erosion and slumping, one can reached an approximation of the stringer separation gap and therefore the gauge of the rails placed on the stringer. Photo: Norm Houghton

and access to cheap labour and free timber for repair and maintenance did not encourage alternatives.

The Muir/Wightman model had solved the problem of rail flexing without a stringer by laying a continuous crosswise bed and disproved the broad gauge stability argument by demonstrating that 3ft 6in gauge was as good as 5ft 3in and a lot cheaper. This example set the standard for the future

Principal and stringer concepts did not migrate well to other forests and 20th century forest regulatory regimes because principal and stringer was designed to do a specific job in a specific forest at a particular historical era.

There was one exception and this was at Apollo Bay in 1885 when the Barham River Timber Company built 5km of 3ft 6in gauge principal and stringer tram. The company principal, Henry Costin, had worked mills in the Wombat forest, but not with tramways, and although he copied a familiar tramway construction method, he was apparently flexible on the gauge. The gentle topography along the river valley flat and coastal plain at Apollo Bay allowed for the long straights associated with principal and stringer and the gauge adopted was the, by then,



Road bed and imprint remains along the Telegraph Co tram at Stony Creek, photographed in 1998. The route looks as if it was cleared yesterday but it is over a century since the last tram truck passed this way.. Photo: Norm Houghton



Sleeper impressions on the Trial Sawmills Company tramway at Buninyong photographed in 1998, over 140 years after abandonment. This archaeological evidence confirms the documentary sources of the 1850s. Photo: Norm Houghton

local standard of 3ft 6in. Otway weather would wreak havoc with the earthen horse-path between the stringers, so it is likely that a wooden deck was laid. This tram had only a short life because the company became insolvent in 1890 and the poor timber market for the next few years did not encourage a revival, so this tram hardly represented a precedent for the Otways and it was not copied. The contemporaneous trams at Apollo Bay employed the Muir/Wightman model.

Proof of the passing of principal and stringer was verified by the fact that the 20th century Wombat millers using tramways, such as McCashney, Frith, O'Hehir and Alec Anderson chose the Muir/Wightman model. Further confirmation was provided by the former principal and stringer millers themselves who, when moving to the soft surfaced, tangled terrain, wet mountain forests in the UpperYarra and the Otway Ranges, built trams like the Muir/Wightman model of 1871-1875, not the Telegraph/ Anderson model of 1861-1864. A simple observation would be that a principal and stringer tram in most parts of the Otway Ranges would not be worth building because it would have to be more curves of sleeper and rail than straights of stringers. There was a similar echo in Gippsland and the only principal and stringer look-alike was on Skinner's tram at Yarragon in 1879.

#### Sources

Department of Agriculture, State Forest Sawmill Return Statistics 1875, 1883 and 1884 for an analysis of jinker use, log volume and log mass. The following newspapers contain articles or advertisements giving precise technical details or other evidence of tramway construction philosophies and techniques:

Ballarat Miner and Weekly Star, 20/12/1857

Melbourne Age, 6/6/1866

Daylesford Express, 14/12 /1862

Geelong Advertiser, 1/8/1846

Port Phillip Gazette, 29/7/1846

Port Phillip Patriot, 15/8 /1846

Colac Herald, 29/12/1885

The Lands files on Muir, 440/1029 have technical details and comments by Laver.

Field surveys were conducted to every mill and along the entire route of every tram mentioned in the text to note logging areas and methods, undertake snig track analysis, look for wagon roads, examine ground marks for the exact construction techniques used for the tramways and to note the topography and ground surface conditions over which the tramways passed.

Research assistance was provided by Colin Harvey and Mike McCarthy. Historic photographs supplied by the Daylesford Historical Society.

# **Trains to Lucinda**

# by Brian Webber

The railways operating for the sugar industry exist to convey cut cane to the mill. Only Macknade and Victoria Mills in the Ingham district nowadays carry the sugar produced at the mill to the port for shipment. In the past QR's Innisfail Tramway hauled sugar to Mourilyan Harbour from the Mourilyan and South Johnstone Mills, although following the sale of the Tramway to the mills in 1977 only Mourilyan Mill continued rail haulage of sugar, until 1997. A number of mills hauled bagged sugar to the port. These included from Plane Creek Mill at Sarina to Louisa Creek until 1939, while Mossman Mill's sugar was hauled to Port Douglas by the Douglas Shire Council Tramway until road haulage to Cairns commenced in 1959. Of course, the 1067mm gauge QR also hauls sugar to Townsville and Mackay Harbours and once hauled sugar to Cairns [Bangalow], to a point only a short distance from the wharf, to which it was moved by road transport.

Sugar terminals were constructed at several Queensland ports when the industry moved from bagged sugar to bulk sugar from the 1950s. The State government provided the terminals in much the same way as it provided other port facilities. Recently, like most other government enterprises, ownership has passed to the industry. One of the features of the terminals was that each had its own shunting locomotive, 1067mm or 610mm gauge.

This situation today remains only at Lucinda, the terminal that receives raw sugar from Victoria and Macknade Mills. Lucinda is not a natural deep water port but has a very long (5.8km) jetty which when viewed from the shore can be seen to follow the curvature of the earth!! Lucinda is about 12.5km from "the Triangle" east of Cordelia where the 610mm gauge tramway routes from the mills join. The Triangle is about 2.5km from Macknade Mill and about 9.5km from Victoria Mill. Each mill generally hauls its own sugar to Lucinda in sugar boxes, one to a wagon. The shared route runs through the outskirts of the small town of Halifax, and most of the last 4km is on a causeway through mangroves. At Lucinda there are four loops and the mill locomotives detach the sugar boxes in a loop or on the main line. From here they are hauled by the terminal's locomotive across a road to the unloading facilities.









Photos, clockwise from above: Victoria Mill's Walkers B-B DH CLEM H McCOMISKIE heads the sugar train towards Lucinda, 13 July 2002. Sugar is loaded day and night at Victoria Mill, 13 July 2002. Macknade Mill's EM Baldwin 0-6-0DH 14 with its brake wagon waits at the Lucinda loops while the sugar terminal's Com-Eng 0-6-0DH hauls empty boxes for return to the mills, 14 July 2002. The terminal's Com-Eng 0-6-0DH hauls loaded boxes towards the massive sugar shed, 14 July 2002. Macknade Mill's E.M.Baldwin 0-6-0DH 14 rolls down onto the Herbert River bridge as it returns empty sugar boxes to the mill, 14 July 2002. Lucinda Sugar Terminal's Com-Eng 0-6-0DH hauls sugar boxes towards the terminal facilities, 14 July 2002. Photos: Brian Webber

The main loco at the terminal is a yellow Com-Eng 0-6-0DH (G1023 of 1958), which does not venture beyond the loops. However, a rarely seen small Motor Rail "Simplex" 4wDM (4159 of 1926) is also used to move the weighbridge test units and for other small shunting jobs. This unit was supplied new to CSR, and had its petrol engine replaced with a diesel in 1956. A mill locomotive is sometimes loaned to the terminal when the Com-Eng

other small shunting jobs. This unit was supplied new to CSR, and had its petrol engine replaced with a diesel in 1956. A mill locomotive is sometimes loaned to the terminal when the Com-Eng is out of service for maintenance. During the crushing season (approximately July to November) the mills crush seven days a week and usually haul one train load to Lucinda per eight-hour shift. Victoria is Australia's largest sugar mill so its train generally comprises about 100 wagons while Macknade's train comprises 60 wagons. At periods of high sugar production at Victoria, the Macknade

locomotive can assist in the haulage of Victoria sugar with loads being interchanged at Braemeadows, about 3km on the Victoria side of the Triangle.

Victoria Mill usually employs their Walkers B-B DH CLEM H McCOMISKIE (605 of 1969; rebuilt Walkers 1991) on the Lucinda sugar haul. This locomotive was once a QR DH-class, DH23, and is dedicated to the sugar trains. Macknade Mill's EM Baldwin 0-6-0DH 14 (6/2490.1.7.68 of 1968) is normally that mill's sugar loco. When not required on raw sugar haulage it also hauls cane.

Thanks to Chris Hart for information provided to assist the preparation of this item.







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# **NEW SOUTH WALES**

**BHP BILLITON LTD, Newcastle** 

(see LR 169 p.16)

1435mm gauge

The remaining Treadwell hot metal ladles from the steelworks had been moved to Carrington and were expected to be exported to China. This did not eventuate, and by the end of 2002 scrapping was well in progress. Brad Peadon 12/02

#### **BHP STEEL LTD, Port Kembla**

(see LR 168 p.16)

#### 1435mm gauge

On 17 January a freshly painted D38 (GEC Australia Bo-Bo DE A.239 of 1972) was observed basking in the sun at Steelhaven. It has been painted in a new BHP Steel yellow and blue colour scheme. Its return to service was delayed while awaiting replacement bogies, which had still not been fitted a month later. The first reported sighting in operation was on 26 February with the handover due on 4 March.

English Electric (Aus) Bo-Bo DE D19 (A.033 of 1960) is receiving a full overhaul including a remodelled cab. A higher cab roof profile has been selected to accept a new air conditioning unit, while the cab interior will be completely refurbished with many new fittings. This loco will be the second BHP Steel repaint and is expected to be outshopped in April. The bogies from D45 (GEC Australia Bo-Bo DE A.273 of 1975) have been giving problems and were noted sitting in the shops. D45 itself was not seen so it can be assumed it is running on spare bogies - most likely contributing to the delay in getting bogies for D38.

English Electric (Aus) Bo-Bo DE locomotives D16 (A.030 of 1959), D19 (A.033 of 1960) and D31 (A.084 of 1964) are gradually being cannibalised for parts and will be scrapped in due course. The bogies have been removed from D16 which was parked in front of the paint bay with a tarpaulin over the cab area. It was put out of commission after being damaged in a collision in March 2002. Chris Stratton 12/02 & 2/03; Chris Walters 1/03 & 2/03 (all Locoshed internet group)

#### CENTENNIAL COAL CO LTD, Angus Place Colliery, North Wallerawang 1067mm gauge

Centennial Coal Co Ltd acquired the assets of Powercoal from the NSW government at midnight on 6 August 2002. It is reported that the new owners will be disposing of the underground rail system at Angus Place (see LR 158 p.17). Diesel and battery locos and personnel cars were used to haul men and equipment to and from the coal face. It is expected that rubber tyred vehicles will be used instead.

Dick Holland 12/02 (Locoshed internet group); Editor

#### CRT BULK HAULAGE PTY LTD, Yennora

(see LR 165 p.18)

1435mm gauge

Following the establishment of Pacific National, CRT were asked to purchase outright the two Walkers 73-class B-B DH locomotives originally leased from Freightcorp, 7322 (684 of 1972) and 7334 (696 of 1972). It is believed that CRT declined to offer the price requested and that, as a result, the lease was to be terminated and the units returned to Pacific National. It is now understood that 7333 (683 of 1972) has been purchased by CRT from the Great Northern Locomotive Syndicate to replace the leased units. Brad Peadon 2/03



**Top:** BHP Steel's newly overhauled GEC Australia Bo-Bo DE D38 (A.239 of 1972) emerges from the shop at Steelhaven in its new livery, 17 January 2003. Photo: Chris Walters **Above:** Walsh's Pyramid makes a stunning backdrop as Mulgrave Mill's Walkers B-B DH GORDONVALE (595 of 1968 rebuilt Bundaberg Foundry 1995) heads its train of empties towards a road-rail bridge on Barbagallo Road during the 2002 season. Photo: Neville Conder

#### THE MANILDRA GROUP

(see LR 164 p.19) 1435mm gauge

On 17 December, Walkers B-B DH 7340 *GEM OF THE WEST* (702 of 1972) was in use at Manildra for shunting duties while Clyde Co-Co DE MM01 (62-257 of 1962) was shut down. It seems as if the "73" is used about once a month to keep everything in running order.

Brad Peadon 12/02; "Don" 12/02 (both Locoshed internet group)

#### TRISTAR PACIFIC PTY LTD, Kalaroo Road, Redhead

(see LR 167 p.19)

610mm gauge

This company has added a number of other items of underground rail equipment to its 'equipment for sale' web page besides Hunslet 4wDM 8824 of 1978.

The two additional locomotives are two F&M Baldwin 8-tonne 4wDH locos, 8T194 and 8T294 of 1994, built for the Katoomba-Lawson-



**Top:** A rare scene in recent years at Isis Mill has been two EM Baldwin B-B DH locos on cane haulage. Here 11 (10130.1 6.82 of 1982) and 10 (7267.1 6.77 of 1977) cross on Cordalba Hill during the 2002 season. Photo: Carl Millington. **Above:** The season is drawing to an end at Moreton Mill as Clyde 0-6-0DH MORETON (63-289 of 1963) crosses Yandina Creek on its run from Jamaica, 13 December 2002. Photo: John Browning

LIGHT RAILWAYS 170 APRIL 2003

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Hazelbrook Sewerage Tunnel Construction. They were last reported stored at Vineyard (see LRN 119 p.8) and are believed to be numbered DL1 and DL2 respectively. They are described as being stored in sea containers and are maximum height 1600mm, width 1180mm and length 4500mm. There are also two rail-mounted boggers offered for sale, one an Atlas Copco Model LM36E and the other an Eimco 21B.

Enquiries to David Reid on 0402 054 506. Editor; http://www.rpdata.net.au/cgibin/eqmsg /homepage.p?login=n91126

# QUEENSLAND

#### BUNDABERG SUGAR LTD, Babinda and Mourilyan Mills (see LR 168 p.20)

610mm dauge

Further information has been received about the collision between a mill locomotive and a helicopter at Eubenangee on 19 September last year. This in fact involved a Babinda locomotive, not surprising in view of the location. The locomotive was Com-Eng 0-6-0DH 7 MORRISON (AD1239 of 1960) which was hauling a rake of empties. The helicopter was being refuelled with spray chemicals from a tanker truck on the opposite side of the track with the hose across the rails. In the panic to get the hose off the rails as the train approached, the pilot did not realise that the helicopter was foul of the track. The helicopter rotor blades were still turning at the time of impact and gashed a hole in the side of the locomotive and took off a sidelight. Peter Lukey 12/02

#### BUNDABERG SUGAR LTD, Bingera and Fairymead Mills MILLAQUIN SUGAR CO PTY LTD, Bundaberg

(see LR 169 p.16 & 154 p.18) 610mm gauge

All major maintenance on Bundaberg area locomotives has now been centralised at Bingera Mill. There has been talk of constructing an unloading pad on the Bingera line to the southern side of Cedars Bridge. This would enable a low loader to transport Millaquin locomotives by road to this point and they could then travel across the bridge to Bingera. This has not happened as yet and no Millaquin locomotives are due for major maintenance this slack season.

Three Fairymead Mill EM Baldwin B-B DH locomotives without their bogies were observed at Bingera on 19 February as follows:

DELAN	5800.3 7.75	1975	
MIARA	8988.1 6.80	1980	
FAIRYDALE	10048.1 6.82	1982	

In addition, EM Baldwin 0-6-0DH 70 (3406.1 7.70) and Clyde 0-6-0DH 55 (DHI.6 of 1954)

# Industrial NEWS Railway

were also present. These were both observed at Bingera last year, and appear to have moved there. Bingera Mill's three bogie locomotives including Walkers B-B DH *KOLAN* (633 of 1969 rebuilt Bundaberg Foundry, 1996) also had their bogies removed. *KOLAN* is to receive a reconditioned engine after a failure towards the end of the 2002 crush. The bogies are sent to a local engineering firm to have the wheels reprofiled.

Lincoln Driver 2/03; Editor 2/03

#### BUNDABERG SUGAR LTD, Moreton Mill (see LR 169 p.17)

610mm gauge

The 2002 crushing season finished on 17 December. The last working before Christmas was on 20 December when B-B DH *COOLUM* (5565.1 10.74 of 1974) hauled in to the mill a work train that had been parked in the river depot area. The consist was made up of a bogie open wagon, Malcolm Moore 4wDM *JIMPY* (1051 of 1943), 8-metre flat wagon, 9-metre container on wheels, 4-wheel tool box and the bogie galvanised iron "smoko" shed. The train travelled at a very slow speed as the Malcolm Moore was prone to jump the rails.

Weed spraying commenced on 16 January with EM Baldwin 0-4-0DH *MAROOCHY* (6/12064.1 11.64 of 1964) commencing work north of the Maroochy River.

By late February, Clarks Bridge, the little lifting bridge over Petrie Creek was slowly being dismantled.

Carl Millington 12/02, 1/03 & 2/03

#### **CSR LTD**

(see LR 167 p.19)

CSR will maintain ownership of its sugar division after going through a demerger process, which is to be presented to shareholders for approval on March 25, and then will be subject to final approval by the Federal Court. http://www.thefarmshed.com.au

#### **CSR LTD, Herbert River Mills**

(see LR 168 p.21 & 169 p.17)

610mm gauge

According to the December 2002 Australian Sugarcane, the combined rail system has 560km of track and 96 bridges.

The Plasser KMX-12T ballast tamper (445 of 1998) that was "on tour" to Plane Creek and the Burdekin in late 2002 was on track recording duties as it is fitted with the necessary equipment.

Both Victoria Mill's EM Baldwin 4wDH Sugarworld Shuttle (9109.1 9.80 of 1980) and Macknade's Clyde 0-6-0DH 16 (DHI.1 of 1954) have been used on track maintenance duties during the slack season, moving from one mill to the other as is required.

Brad Peadon 12/02 (Locshed internet group); Chris Hart 12/02, 2/03



**Top:** Moreton Mill's EM Baldwin B-B DH COOLUM (a.k.a. LORRY) crosses Lefoes Road, Bli Bli, with the last movement of 2002, the return of a work train to the mill. Note Malcolm Moore 4wDM JIMPY (1051 of 1943) marshalled after the first wagon. Photo: Carl Millington. **Centre:** One of Kalamia Mill's two 3ft 6ins gauge transition wagons that are modified QR C17 steam locomotive underframes. The mill's 2ft gauge Tamper is in the background. Kalamia Siding, Ayr, 31 January 2003. Photo: Peter Murray **Above:** Tully Mill's EM Baldwin 0-4-0DH 3 (6/1082.1 2.65 of 1965) on a navvy train at Lizzio's, just north of the Midgenoo branch junction, 18 September 2002. Photo: Brad Peadon

#### CSR LTD, Kalamia Mill

#### PIONEER SUGAR MILLS PTY LTD, Pioneer Mill (see LR 168 p.21)

610mm & 1067mm gauges

Each mill has been carrying out work on its link line from QR to mill, over which QR rolling stock regularly passes. A visit to Ayr on 31 January revealed that the main line through the dual gauge Kalamia siding had been resleepered using steel sleepers. The mill's tamping machine (Tamper 4375626 of 1976) was present and Com-Eng 0-6-0DH DELTA (FD5094 of 1965) arrived with nine loaded ballast wagons ready to start ballasting. The two transition wagons used to connect 2ft gauge locomotives with 3ft 6ins gauge rolling stock are normally stabled in the yard. The loop line on the 1067mm gauge main line connection from QR to Pioneer Mill - about 100 metres from the junction - is being reconstructed. Peter Murray 1/03

# **GYMPIE ELDORADO GOLD MINES PTY LTD**

(see LR 168 p.21)

610mm gauge

On 13 December 2002, a 3-ton Gemco 4wBE locomotive marked "No.15" was dismantled for refurbishment in the workshop. It was stated that the new Bermagui Foundry diesel was "going OK". Editor 12/02

#### HAUGHTON SUGAR CO PTY LTD, Invicta Mill, Giru

(see LR 168 p.21)

610mm gauge

Nine of the mill's ten bogie locomotives were sighted in the mill yard in 31 January with bogies removed for servicing, the only exception being EM Baldwin B-B DH BURDEKIN (10215.1 7.82 of 1982).

The brake wagon constructed in 1982 from Com-Eng 0-6-0DH CLARE (AH4080 of 1964) was noted partly dismantled at the end of the mill yard. Peter Murray 1/03

#### **ISIS CENTRAL SUGAR MILL CO LTD**

(see LR 169 p.21)

#### 610mm gauge

Because of the depressed state of the sugar industry, only minimal maintenance is being done this slack season. Rail-related maintenance will include the overhaul of one set of level crossing lights and the fitting of pneumatic couplers to the locomotives not already fitted. A brake van may also have pneumatic couplers fitted. Walkers B-B DH 2 (598 of 1968 reb. Walkers 1994) will have a full overhaul after a major failure last season. Another DH may be lifted for bogie attention, as will two brake wagons. Modifications will be done to the bin reader in the full vard. In addition, several new cane bins will be built, and the mill's wooden to concrete sleeper replacement program will continue.

As part of workforce rationalisation, a number of loco drivers' positions have been made redundant. By late February, two wooden trestles beside Mill Road at Cordalba had been removed for replacement while there had been some track relaying on Rudd's Line and sleeper replacement

between Barnes School points at the top of Kelly's. Carl Millington 1/03, 2/03

#### MACKAY SUGAR CO-OPERATIVE ASSOCIATION LTD

(see LR 169 p.22)

610mm gauge

The Mackay Sugar and Transfield Services Alliance was due to begin on 3 March, with Transfield Services taking over responsibility for all maintenance and rail operations, and many Mackay Sugar personnel transferring to employment with Transfield. Editor 2/03

#### **MOSSMAN CENTRAL MILL CO LTD**

(see LR 168 p.22)

610mm gauge

It appears that arrangements have been put in place to allow the financially-troubled Mossman Mill to crush in 2003.

Scott Jesser 1/03 (Locoshed internet group)

# SOUTH AUSTRALIA

#### AUSTRALIAN SOUTHERN RAILROAD, Whyalla

(see LR 166 p.22) 1067mm gauge

The two ex-BHP Clyde Co-Co DE locomotives involved in the accident in April 2002, DE8 (65-429 of 1965 rebuilt MKA 1993) and DE9 (65-430 of 1965 rebuilt MKA 1993) were scrapped before the end of the year. The engine from DE9 was fitted to sister loco DE3 (56-116 of 1956 rebuilt MKA 1995) which was outshopped from EDI Rail's Port Augusta workshops in December 2003 in the Australian Rail Group orange and black livery, renumbered 1302. It is understood that all the other ex-BHP Clyde DE class are being renumbered as follows:

. B/n	Date	reb.MKA	New No.
56-109	1956	1995	1301
56-122	1956	1994	1303
57-137	1957	-	1251
61-236	1961	1995	1304
	56-109 56-122 57-137 61-236	B/n         Date           56-109         1956           56-122         1956           57-137         1957           61-236         1961	Date         reb.MKA           56-109         1956         1995           56-122         1956         1994           57-137         1957         -           61-236         1961         1995

The reason for the different number series for DE5 is that it was never rebuilt by Morrison Knudsen Australia. This locomotive was noted back in service at Whyalla in mid-December. It had previously been withdrawn but was required following the loss of two units in the accident. An ex-ANR NJ class arrived at the end of February to assist in replacing the scrapped units and it is reported that some ex-Westrail DB class locomotives may follow.

Brad Peadon 12/02; Christopher Jones 12/02; "Bob" 1/03; Peter Knife 2/03 (all Locoshed internet group); Chris Carpenter via Brad Peadon 2/03

## WESTERN AUSTRALIA

#### **BHP IRON ORE**

(see LR 167 p.22)

Problems with the 1999-built GE Model AC6000CW Co-Co DEs have seen a number out of commission with engine and wheelslip problems. On 11

# Industrial NEWS

December, 6070 PORT HEDLAND (51062) was stopped with engine vibrations, and repairs were being carried out. At about the same time, 6077 NIMINGARRA (51069) was derated to 4400hp. On 18 December, 6071 CHICHESTER (51063) was withdrawn with engine vibrations and 6073 FORTESCUE (51065) with low oil pressure. On 20 December, 6075 NEWMAN was stopped with fluctuating power and repairs were being attempted. In late December 6076 MOUNT GOLDSWORTHY (51068) was having its wheels re-turned.

It is reported that the purchase of four or five second-hand locomotives from the USA is being considered as a way of overcoming the motive power shortage.

Six leased ballast wagons from Chicago Freight Car Leasing were noted in blue livery on 1 January. Richard Montgomery 12/02, 1/03, 2/03; Tony Burgess 12/02 (both Locoshed internet group)

#### LOONGANA LIME PTY LTD., Parkeston & Rawlinna

(see LR 165 p.21)

1067mm gauge

Goninan Bo-Bo DE BHP 50 (014 of 1961) was acquired from the Newcastle steelworks fleet in early 2001. Its performance at Rawlinna, a remote location 373km east of Parkeston, was so pleasing that Loongana negotiated the purchase of BHP 49 (013 of 1961). BHP 49 arrived at Parkeston from Newcastle in August 2001 without its cast numberplates and it was decided to fit BHP 50's plates to it. This was because the locomotive would be working more under the public gaze at Parkeston near Kalgoorlie and the company was keen to allow it to demonstrate its BHP heritage. Leon Oberg 1/03 (Locoshed internet group) & 2/03

#### PILBARA RAIL

(see LR 168 p.23)

1435mm gauge

It is reported that another twelve locomotives have been placed to allow the replacement of the Robe River "Dash 8" fleet in the next twelve months. Richard Montgomery 2/03 (Locoshed internet group)

#### ERRATA

In LR 158 (p.20) Mossman Mill's Com-Eng 0-6-0DH DOUGLAS is given the wrong builder's number, it should be AL2562 of 1963. Thanks to Chris Walters.

In LR 168 (p.22) Mount Isa Mines Com-Eng 2788 is shown as 0-6-0DH. It should be 4wDH. Thanks to lan Hughes.

Daven Walters has pointed out that the ex-ANR Windhoff "Tele Trak" remote control units used at Loongana Lime (LR 155 p.21) and EDI Rail, Port Augusta (LR 158 p.19) should be recorded as B-B DH, not 4wDH. There are of course four Clayton electric locomotives at the Olympic Dam mine (LR 168 p.22).



# Focus on...Victoria's Narrow Gauge Whitfield Line

#### Compiled by John E. Thompson

48 pages, 297 mm x 210 mm, 51 photographs. Published by Puffing Billy Preservation Society. Available from LRRSA Sales Department. Recommended retail price \$35.95, price to LRRSA members \$32.35 plus postage and packing.

This follows the style of its already published companion volume on the Walhalla line, being a soft-covered landscape format book, with mainly one large photograph per page. The technical production quality is excellent, and all the photographs are printed as duotones to improve the tonal range of the black and white images. The 30 mile long Wangaratta - Whitfield railway was the first of the VR's 2ft 6in gauge lines, and the most remote from Melbourne. Compared to the VR's other narrow-gauge lines, it lacked the steep grades and sharp curves, and had few trestle bridges. Despite this, the country it ran through was very picturesque, with mountain ranges visible in most directions.

Photographs taken on the line are relatively rare, which is not surprising since trains were few and far between, with a very inconvenient timetable. That helps to explain why seventeen of the photographs in this book are portraits of locomotives and rolling stock, including Vauclain compound locomotive 4A, and the unique 1NH van. Others show scenes along the line, including stations and scenic track locations.

Taking pictures of trains on this line must have involved a fair amount of effort, so those included in this book are precious for that reason. These include (amongst others) a goods train arriving at Docker station, approaching a trestle bridge at Croppers Creek, taking water at Edi, and various scenes at Whitfield. Most of these were taken between 1940 and 1945.

Most of the photographs were taken by Ted Downes, author of *Speed Limit 20*, but a couple date from the line's earliest days. These include a picture taken at Edi in 1899, with loco 2A near the water tank. The tank stand is unbelievable, and would be a great challenge for a railway modeller. This book is a must for those interested in VR narrow gauge, there is so much detail in the photographs, enhanced by skilful use of the duotone process. *Frank Stamford* 

# 4.000 km auf 610mm Spur oder die Zuckerrohrbahnen im australischen Queensland ("4000 kilometres of 2ft gauge -Queensland's sugar cane railways")

#### by Walter G. Steingahs

A4 size, 48 pages on art paper with colour card cover. 31 black & white and 16 colour photos, and 35 rolling stock diagrams. Published by Feld- und Schmalspurbahn-Verlag Karl Paskarb, Landstallmeisterring 22, D-29227 Celle, Germany, 2002

I was surprised when casually browsing the internet a few weeks ago to discover news of this recently published booklet, and was quick to order a copy from a British distributor of narrow gauge publications. My lack of German didn't prevent me wanting to see how a German author and publisher would handle the production of a cane train book. It arrived promptly and initial impressions were good - a colourful, attractive, and professional-looking cover, plenty of colour photos inside, and more than 30 small locomotive diagrams derived from the work of Queenslander Jim Fainges. The LRRSA website was included in the references. On the face of it. I thought, maybe better in some respects than what we have managed to produce so far here in Australia.

My lack of German prevents me from making comprehensive comment on the approximately 10 pages of text, which deal with the sugar industry, cane transport, locomotives, museums and tourist railways. The information is current to 1999, when it appears Herr Steingahs made his visit to Queensland, taking the photographs in the book and mostly visiting mills near established tourist areas. However, my doubts were roused when I recognised and translated an incorrect claim that Tully Mill was the first to use a rebuilt government railways Walkers bogie diesel, while the first steam cane locomotive was also incorrectly identified.

A study of the photograph and drawing captions soon led me to question further the accuracy of the publication as a whole. Three of the photographs were identified at the wrong mill location (including the one on the front cover), two locomotives were misidentified by builder, and there were other errors of fact relating to dates, wheel arrangements and locomotive histories, including the misspelling of sugar mill, locomotive builder, and place names. Checking with the LRRSA website would have prevented most if not all of these errors!

One strong point of the book is a pleasant range of well reproduced black & white and colour photographs, including a variety of shots of rolling stock and mill yard scenes. The colour photographs are fairly well reproduced, although only one shows cane actually being hauled. In fact almost all the photographs were taken in mill yards. It is also pleasing to see a good selection of Jim Fainges' drawings, both steam and diesel. Their reproduction at a small size mitigates against the sketch like quality of some of his drawings when seen at a larger scale. However, I found it irritating that the drawings were not presented at a common scale. The booklet is reasonably priced (by European standards) and you can order it on the web at http://www.narrowgaugeandindustrial.com (credit card facilities available).

Good for the modeller or for anyone who collects cane railway books, but not necessarily recommended as a factually reliable reference on cane trains (especially if you understand German!) John Browning



There will be a discussion about private locomotives used by railway contractors in South Australia in the period 1910-1920. Location: 150 First Avenue, Royston Park. Date: Thursday 3 April. Contact Arnold Lockyer (08) 8296 9488

#### BRISBANE: "Light Railways on 8mm"

At the April meeting, Bob Deskins will be presenting historical 8mm films of light railway operations.

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 11 April at 7.30 pm. Entry from 7 pm. Contact Bob Dow (07) 3375 1475

#### MELBOURNE: "How Canada Conquered 3ft 6in Gauge."

In the 1870s outbreaks of 3ft 6in gauge were occurring all over eastern Canada, to add to the 5ft 6in and standard gauge confusion. Frank Stamford will describe how an Australian type three-gauge mess was avoided.

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

Date: Thursday, 10 April at 8.00 pm.

#### SYDNEY: "Victorian Light Railways"

Respected photographer Peter Charrett will show slides from his vast collection of historical Victorian industrial railways, and selected preserved railways, from the early 1960s.

Location: Woodstock Community Centre, Church Street, Burwood, (five minutes walk from Burwood railway station). Date: Wednesday 23 April at 7.30pm.

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

#### New / Focus on Victoria's Narrow

Gauge Walhalla Line Photographs by Edward A.Downs and others, published by Puffing Billy Preservation Society. Very high-quality landscape format book of duotone photographs dating from circa 1940 to 1956, most never previously published, 48 pages, soft cover, A4 size. \$35.95 (LRRSA members \$32.35) Weight 280 gm

#### New! Railways, Mines, Pubs and People

and other historical research by Lindsay Whitham published by Tasmanian Historical Research Association. Fascinating collection of 18 historical research projects, including tramways around Catamaran, Zeehan, Sandfly, Waddamana, Port Arthur and many others. Essential reading for anyone interested in Tasmanian tramways, 264 pages, soft cover, A5 size, 64 photos, 33 maps. See Review in Light Railways No. 166 **\$25.00** (LRRSA members **\$**22.50) Weight 425 gm

#### Echoes through the Tall Timber

The Life and Times of a Steam Man 1895-1984 by Dorothy Owen, published by Brunel Gooch Publications Life story of Harry Matheson, who drove logging winches, and mill engines in the Warburton-Powelltown area. 176 pages, soft cover, A5 size, 48 illustrations.

\$22.95 (LRRSA members \$20.66) Weight 375 gm

#### The Bonanza Narrow Gauge Railway The Story of the Klondike Mines Railway by Eric L. Johnson, published by Rusty Spike Publishing. History of a 3 ft gauge 31 mile long railway at Dawson City, Yukon Territory, near the Arctic Circle - Canada's most northerly public railway, which operated from 1906 to 1913. 164 pages, soft cover, near A4 size, 82 photographs, 13 maps, 34 drawings and other graphics.

See Review in Light Railways No.166 \$40.00 (LRRSA members \$36.00) Weight 560 gm

#### Rails to Rubicon

A History of the Rubicon Forest by Peter Evans

200 pages, A4 size, over 200 photos, many maps and diagrams.

\$37.95 Hard cover (LRRSA members \$28.46) Weight1000 gm.

#### Powelltown

A History of its Timber Mills and Tramways by Frank Stamford, Ted Stuckey, and Geoff Maynard.

150 pages, soft cover, A4 size, 150 photographs, 22 maps and diagrams, references and index.\$22.00 (LRRSA members \$16.50) Weight 550 gm.

#### The Innisfail Tramway

The History and Development of the Geraldton Shire Tramway and the Mourilyan Harbour Tramway

by John Armstrong & G.H. Verhoeven 128 pages, A4 size, 99 photos, 22 maps/diagrams. **\$37.90** Hard cover (LRRSA members \$28.43) Weight 650 gm. **\$29.95** Soft cover (LRRSA members \$22.46) Weight 470 gm.

#### Modernising Underground Coal Haulage BHP Newcastle Collieries' Electric Railways by Ross Mainwaring

60 pages, soft cover, A4 size, 18 photographs, 13 maps and diagrams, references and index. \$16.50 (LRRSA members \$12.38) Weight 230 gm.

#### Tasmania's Hagans

The North East Dundas Tramway Articulated "J" Class by Geoff Murdoch, published by the author. 71 pages, soft cover, A4 size, 42 photographs, 2 maps, 38 diagrams/drawings, references and bibliography.

\$20.00 (LRRSA members \$18.00) Weight 300 gm

#### Mountains of Ash

#### A History of the Sawmills and Tramways of Warburton - by Mike McCarthy

Describes a complex network of over 320 km of tramways which linked 66 major mills to the Warburton railway.

320 pages, A4 size, 280 photos (incl. 52 duotones), 50 maps/diagrams, (incl. 14 four-colour maps). **\$59.95** Hard cover (LRRSA members \$44.96) Weight 1500 gm.

#### Settlers and Sawmillers

A History of West Gippsland Tramways and the Industries they Served 1875-1934 by Mike McCarthy

168 pages, soft cover, A4 size, 96 photographs, 17 maps and diagrams, 6 graphs, one loco diagram, references and index.

\$31.90 (LRRSA members \$23.93) Weight 700 gm.

#### Bellbrakes, Bullocks and Bushmen A Sawmilling and Tramway History of

Gembrook 1885-1985 - by Mike McCarthy 104 pages, soft cover, A4 size, 71 photographs, 17 maps and diagrams, references and index. \$26.00 (LRRSA members \$19.50). Weight 500 gm.

#### Arsenic and Molasses

#### A Pictorial History of the Powelltown Tramway and Timber Milling Operations

by Frank Stamford. All photographs are different to those in *Powelltown*. 88 pages, A4 size, over 100 photographs, 8 maps and diagrams, glossary and index.

\$36.00 Hard cover (LRRSA members \$27.00) Weight 650 gm.

**\$24.00** Soft cover (LRRSA members \$18.00) Weight 470 gm.

#### Laheys' Canungra Tramway

by Robert K. Morgan, revised by Frank Stamford Describes Queensland's largest timber tramway. 32 pages plus soft cover, A4 size, 28 photographs, plus maps/diagrams and index. **\$9.95** (LRRSA members \$7.46) Weight 220 gm.

Postage and packing: Within Australia, up to 500 gm: \$4.80; 501 gm to 3 kg \$9.00 Send to: LRRSA Sales, P.O. Box 21, Surrey Hills Vic 3127, Fax (03) 5968 2484. Payments may be made by cheque, money order, Mastercard, Visa or Bankcard.

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 If joining in February or March, pay \$14.00 (\$17.50/\$19.00 overseas) and receive 2 issues of Light Railways (Nos 170-171).

If joining in April or May, pay \$49.00 (\$60.00/\$66.50 overseas) and receive 7 issues of Light Railways (Nos 171-177).

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

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#### Dear Sir,

#### The Locomotives of ER&S (LR 169)

Many thanks for your presentation of "The Locomotives of ER&S" in LR 169. The photos of the small electric locomotive and original No.2, not to mention the excellent map, added images that were not available from my collection.

Unfortunately, the photograph of No.1 did not illustrate the driving wheels, while the caption under the photo of the second No.2 refers to the "more conventional driving wheels" that were one of the differences between the two Andrew Barclays.

Enclosed is another photograph [below] that better shows the unusual driving wheels of No.1. The reason for the inclusion of the extra crank pin holes has been debated by many friends without a suitable resolution to the mystery.

Perhaps a reader may have more information on the logic behind these unusual wheels.

Again, congratulations on the high quality of the magazine.

Ron Preston Cardiff, NSW

#### Dear Sir

#### The locomotives of ER&S (LR 169)

Ron Preston's very interesting article mentioned thirteen 2ft gauge overhead-wire electric locomotives used at the ER&S Port Kembla plant, and featured a photograph of number 12. Can anyone provide any more details of these units? I merely have a note of six unidentified Jeffrey locomotives that were supposed to have been here. I presume that the narrow gauge electrics were replaced by the Hunslet diesels, at least around the electrolytic tank house, from 1953.

#### John Browning Rockhampton, Qld

Rocknampton, Qid

#### Dear Sir

#### Babinda Mill's Jogo Line (LR 167)

The caption under the photograph of Babinda Mill's ComEng locomotive 5 on page 15 informs the reader that it is being operated by an all female crew. The crew operating the locomotive *BRAMSTON* is in actual fact driver Wayne Johnston and assistant Paddy Gallen. I do not think they would be very pleased to be known as the all-female crew, although their co-workers had a bit of a chuckle when they saw it. Babinda Mill did employ four female crew during the 2002 crushing season but none of these feature in this photograph.

#### South Johnstone Mill (LR 166, 168)

The Jung locomotive referred to in Mr Henry's letter is indeed in Graham Chapman's yard at Murrumba Downs and had been reunited with its boiler some time before it arrived at Graham's. It still has *E M Loveday* painted on it in several strategic places.

Peter Lukey Babinda, Qld

#### Dear Sir.

#### The TACL Tractor, Patent and Derivatives (LR 168)

A couple of comments on this interesting article in LR 168:

#### Patent

In 1924, Malcolm Moore Pty Ltd applied for a patent for an improved means of converting petrol or kerosene tractors into locomotives. The patent, 19568/24 was accepted on 2nd October, and the complete specification lodged on 11th June 1925. The actual inventor was said to be Malcolm Moore, civil and mechanical engineer.

The patent specification gives the idea underlying the TACL, much the same as the section of the article on pp 2 and 3 describing the conversion from road to rail. (Whether it was worthy of the protection of a patent is a question in itself.)

The essence was that the tractor, after removal of the four wheels, front axle, steering gear, mudguards and starting handle was dropped into a frame and secured without alteration. The locomotive *per se* was a specially designed frame, supporting the tractor at three points, two near the ends of the rear axle casing, the third the centre of the front axle. The frame was the same length whatever the gauge, and couplings could be provided at various heights. Ballast weights were to be placed at each end to provide the correct tractive effort.

A disc with teeth on its circumference (gear wheel) was to be placed at each end of the rear axle in place of the tractor wheels, the disc of a type which suited the gauge. A counter shaft running in suitable bearings was to be placed at the rear of the frame beneath the tractor axle, driven by pinions engaging the above gear. On the countershaft between the frames, rotating freely on



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LIGHT RAILWAYS 170 APRIL 2003



The 1928 Fordson locomotive at the Caledonian Colliery tramway southern terminus, at the siding from the QR Main Line near Walloon, west of Ipswich, on 14 September 1957. Photo: John Knowles

it but incapable of lateral movement, were to be a gear wheel and a chain sprocket, each with dogs. Between the gear wheel and the sprocket was to be a clutch, capable of lateral movement on the counter shaft, and capable of engaging the gear or sprocket.

The back axle of the locomotive was to be provided with a gear wheel engaging the gear wheel of the counter shaft, and a sprocket chain driven from the sprocket on the countershaft. The rear axle was to be sprung. No arrangement was provided, however, to allow for relative movement of counter shaft and axle, ie to ensure that the gears meshed under all circumstances, but for the likely extent of relative change in position, this was probably not a difficulty. Additional gears could be introduced into this arrangement, it was specified, to provide further speed ratios and reversing between engine and rear axle.

The front axle was to be powered by a chain drive from the rear axle.

A starting handle was to be provided on the power take-off shaft on the right side. This was needed on account of the coupling/ballast castings in front of the radiator.

#### **Caledonian Colliery Tractors**

The Caledonian Colliery, between Ipswich and Rosewood Queensland, had a 2ft gauge tramway between its various pits and its siding off the QR. On this ran two Fordson tractors converted to rails, the first in 1928, the second in 1938. They were both built by Forrers Pty Ltd of Ipswich. They were converted to rails on much the same principles as the Moore patent, but with various differences. Whether their builder had any idea of the Moore patent is not known.

The history of this tramway was given in an article in ARHS Bulletin, August 1969, page 178, and a letter in that Bulletin, April 1971, page 94.

The principle of placing the tractor, without its rear wheels and front axle, across a wheeled frame was much the same as in the Malcolm Moore patent. The basis of each locomotive was the frame of the leading bogie of a QR 3ft 6ins gauge locomotive, but with the 2ft gauge wheels inside the frame. On top of the former bogie frame on each side, rolled steel channels some 8 inches high were bolted. The tractor with all road wheels and steering gear removed was placed on top of these channels, with the rear axle extending on each side, and the differential between the frames.

Sprockets on the end of the tractor axle were located directly above sprockets on the ends of the rear rail axle. Chains connected the sprockets, with sprockets and chains enclosed in a metal shield. The two axles of the QR locomotive bogie were sprung by an underslung spring between them, but in the conversion the rear axle was locked to be unsprung. A further chain connected the front axle to the rear, so all wheels were powered. The main difference in this drive from the Moore/TACL arrangement was the absence of a counter shaft and additional gearing.

The tractor radiator, fuel tank, seat, gear box and differential, and starting handle, retained their original positions. No starter motor was fitted. The steering wheel was connected to a braking mechanism. Wooden buffers and facilities for attaching link couplings were fitted to each end, but the buffer on the rear was later replaced by sprung side buffers from an Orenstein and Koppel steam locomotive. A metal canopy covered the entire vehicle.

On the 1928 conversion, the flanges of the channels faced out, on the 1938 vehicle, they faced in. Otherwise, the two vehicles were basically the same. Several replacement engines and wheelsets were fitted to both over the years.

The locomotives operated the line until it closed in 1965. They passed to the Australian Narrow Gauge Railway Museum Society, and are extant, derelict at its site at Woodford, Queensland.

John Knowles New Maldon, UK

Dear Sir,

#### Narrow Gauge Railways in Borneo (LR 143, 144, 145, 148, 162, 163)

I thought your readers might be interested in seeing this photo [below] I obtained via a workmate.

No details are available other than that it was taken in the early 1950's at the Ratan River area, Sarawak, Borneo. The chap standing beside the carriage with his hand on the tree branch is the late Lester Minchin who was, I am told, the uncle of the present finance minister, and this shot is supplied courtesy of his wife Jean Minchin.

John Wicks Drummoyne, NSW



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#### Queensland Timber Tramways Book

The LRRSA is planning to publish a book by John Kerr describing the timber tramways of Queensland. The text has been completed, and we are now searching for suitable photographs to illustrate it. Queensland had relatively few timber tramways and most were confined to the south-east of the state. Two notable exceptions were the Turulka - Evelyn tramway and the Peeramon tramway, both on the Atherton Tableland, Also included in the book are two sleeper tramways built by the QGR, one running from near Chinchilla north-west to Barakula, and the other running from near Blair Athol west to Birimgan.

Any suggestions for sources of suitable photographs illustrating Queensland timber tramways, or early logging scenes in Queensland, would be very welcome. This includes photographs of Laheys' Canungra tramway other than those we have already published in the book *Laheys' Canungra Tramway*. Please contact Frank Stamford, phone (03) 5968 2484; Email fstamford@nex.net.au; or by mail to P.O. Box 401, Emerald Vic 3782.

#### Hidden Bush Railway – Coman's Gold Mine and Tramway.

It's a very large country we live in and rare and what can be found amongst the trees and mountains is sometimes rare and unusual. History abounds all around us, particularly if we have to look a little closer to find it. On these occasions it can surprise us.

In January 2002 my partner and I were drawn to the south coast for a bit of quiet coastal relaxation at Narooma, and in the process I generally ruled out any real chance of pursuing any rail photography opportunities. However on the first day out I came across local references to a nearby railway relic. A State Forest brochure informed us of the nearby Coman's Mine and it's associated tramway infrastructure. A walking track had been cleared along the old tramway formation and various relics of both the mine and railway infrastructure had been preserved on site for public viewing.

Of the mine and its history little seems to have been recorded, however what is known is that the operation was founded by one EJ ('Ned') Coman in the 1880s. Coman mortgaged his local property *Tyrone* to assist in financing the gold mining operation at the head of North Creek north of the Nerrigundah, itself 19 kilometres west of Bodalla on the NSW south coast. Coman worked the mine with his partner Bloomfield with little success until c.1889 when the facility was abandoned.

The mine then seemed to disappear into something approaching rumour and myth with the possibility that others may have taken up the challenge to operate the facility until it was officially reopened in 1938 by Radiant Mines Ltd. It soon changed hands again and was maintained by Immarna Mines Pty Ltd from 1947 to 1950. Again unconfirmed reports suggest that the mine may have seen operation by unknown parties up until the 1960s. It would appear however that drawing returns from the mine was not an easy or profitable task.

Most of the relics that are found on site today date from the Radiant Mines period of 1938 onwards. State Forests have taken steps to preserve the stamper battery dating from the post-1938 period with the 1999 installation of a new roof for the display that also includes the antique petrol generator. While the roof obviously clashes with the antique mining equipment, it does not intrude too much on the appreciation when inspecting the equipment from ground level.

The mine tramway was dug into the side of the mountain from just east of the two mine shafts, past the battery and on into the bush east of the walking track. Just where it ends is not known. Although the walking path follows the tramway from the stairs that lead down from the car park through to the mineshafts, rails remain only in the section from just above the battery through to just west of the mineshafts. In some

## **Coming Events**

#### APRIL 2003

2 Wee Georgie Wood Steam Railway, Tullah, Tas. Steam trains (610mm gauge) operating 1200-1600. Also on 20 April (last run of the season). Phone Anne Drake, (03) 6473 2228 (W)/ 6473 1229 (H).

11-12 Puffing Billy Railway, Belgrave Vic. Night Train operates. Bookings on (03) 9754 6800.

12-13 Richmond Vale Railway, Kurri Kurri, NSW. Steamfest, the annual Hunter Valley Festival of Steam with steam train rides, traction engines, machinery displays and stalls. Phone: (02) 4937 5344.

13-14 Puffing Billy Railway, Belgrave Vic. 'Day Out With Thomas' -- School Holiday attraction, with 'Thomas Show' at Emerald and 'Thomas' trains from Emerald to Nobelius as part of the entry ticket. Information on (03) 9754 6800.

19-20 Australian Narrow Gauge Convention, Parramatta, NSW. The 6th convention features narrow gauge modelling. Information: Peter Knife, (02) 9487 8881 (AH); Email: austnarrowgaugeconvention@yahoo.com.au

19-21 Alexander Timber Tramway & Museum, Vic. Easter Gala Event with narrow gauge steam trains, traction engines and other attractions; 1000-1545 (1445 on 21st). Steam running day also on 13 April. Information: Rowan Millard, 0409 941 884.
20 Cobdogla Irrigation & Steam Museum, Barmera, SA. Steam Open Day with

20 Cobdogla Irrigation & Steam Museum, Barmera, SA. Steam Open Day with steam train and traction engine rides, plus Humphrey Pump operating; 1100-1630. Phone (08) 8588 2323.

26-27 Ironfest 2003, State Mine Museum, Lithgow, NSW. The 4th *Ironfest* is now recognised as a Regional Flagship Event by Tourism NSW and will feature train operations on the new line to the State Mine Museum and a wide range of heritage ectivities at various sites around Lithgow. Information on (02) 6352 1096 or Email: statemine@lisp.com.au

#### MAY 2003

4 Puffing Billy Reilway, Belgrave VIC. Great Train Race, 13.2km run from Belgrave to Emerald against the train commencing at 9.30am. Information on (03) 9754 6800. 17-18 Compbelltown Steam & Machinery Museum, NSW. Rally, with steam traction engines, steamrollers, machinery and 610mm gauge railway rides, with steam, diesel, petrol and battery locomotives on display. Adults \$10. Information at (02) 4626 3500 (on open days).

17-18 Richmond Vale Railway, Kurri Kurri, NSW. Model Exhibition at the museum, with steam and/or diesel trains operating. Phone: (02) 4937 5344.

18 Cobdogla Irrigation & Steam Museum, Barmera, SA. Steam Open Day with steam train and traction engine rides; 1100-1630. Phone (08) 8588 2323.

#### **JUNE 2003**

7 Cobdogla Irrigation & Steam Museum, Barmera, SA. Steam Open Day with steam train and traction engine rides, plus Humphrey Pump operating; 1100-1630. Phone (08) 8588 2323.

12-13 Richmond Vale Railway, Kurri Kurri, NSW. Coalfields Steam Weekend, steam train rides, traction engines, mechinery displays and stalls. Phone: (02) 4937 5344. NOTE: Please send information on coming events to Bob McKillop --

rfmckillop@bigpond.com - or the Editor, Light Railways, PO Box 674, St Ives NSW 2070.

places the track has spread and rusted away quite badly, although other short sections are very much intact, giving a very interesting visual insight into the tramway operations. It is believed that these were constructed to 610 mm gauge, and are of extremely light construction.

Three ore cars remain on site, with one on display at the battery and the other two lying askew to the track opposite the mine shafts, with one rusted out and lying on its side adjacent to the track and the other some way down the slope. It is believed that these vehicles were horse-drawn and there is certainly no evidence at this point to suggest any more advanced forms of traction saw use at the mine.

A visit to the mine does require a little bit of effort as it is somewhat off the beaten track, although it is not too far from civilisation, or requiring of a 4WD vehicle and hiking gear to access. In fact, as long as one is prepared to 'head off into the hills' for a bit, it's a remarkably easy walk and one suitable for all members of the family. To reach the mine, the Eurobodalla Road needs to be taken west from Bodalla. The turn off is on the Princes Highway more or less in the middle of Bodalla township and is clearly sign posted. Follow this road west for 12 kilometres until encountering the Nerrigundah Mountain Road that branches off to the north. This road becomes unsealed approximately half way to this hamlet, but is quite suitable for any 2WD vehicles.

Once Nerrigundah is reached, the Miles O'Grady Memorial monument is encountered in the centre of what remains of the town and here one needs to turn right onto Comans Road and follow this for approximately 5 more kilometres. The 'car park' (little more than a cleared section beside the road) is marked by a sign post on the western side of the road and from here a short staircase descends into the valley a little way before reaching the tramway formation.

I strongly recommend any visitor to the region to give Coman's Mine a go! *Chris Walters* 



News items should be sent to the Editor, Bob McKillop, Facsimile (02) 9958 8687 or by mail to PO Box 674, St Ives NSW 2075. Note new email address for H&T reports is: rfmckillop@bigpond.com

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

#### NEWS

# Queensland

#### **BEAUDESERT RAIL**

1067mm gauge

Following the failure of the Brisbane Light Rail project, a \$5 million Federal Government grant for this project was given to a group aiming to reopen the QR Beaudesert branch as a tourist railway. The new operator, Beaudesert Rail, started running trains between Beaudesert and Logan Village on 18 December using ex-Emu Bay Railway Walkers B-B DH 1105 (642 of 1970). The locomotive had been repainted in Tasmania at Deloraine prior to the move to Beaudesert. As Beaudesert Rail does not have access onto QR tracks, operations between Logan Village and Bethania Junction, where connections to Gold Coast electric trains are available, require push-pull operation. Accordingly, a second locomotive is required before services can commence on this section.

Brian Webber 12/02; Peter Neve, 2/02

#### DURUNDUR RAILWAY, Woodford 610mm gauge Aust. Narrow Gauge Railway

#### Aust. Narrow Gauge Ranway Museum Soc. Inc.

This season, the railway once again operated successfully throughout the Woodford Folk Festival, between Christmas and New Year,

with passenger numbers up from last year. The following Sunday, 5 January, numbers were more modest, at around 6-8 riders per trip. with Bundaberg Fowler 0-6-2T No.5 (Bundaberg Foundry 5 of 1952, ex-Pleystowe mill) in operation all day. Around midday, the 1965 Gemco-Funkey 4wDM 2 (ex-Marian mill) was started up and given a short run for the benefit of a visiting enthusiast. The Gemco-Funkey 4wDM is used for train operations at Woodford during days of total fire ban. Public liability insurance cover remains a major problem for steam train operators in Queensland and ANGRMS has announced that its Durundur Railway will close to the public, from 28 February 2003.

As reported below, ANGRMS has initiated a fund raising campaign for the purchase of the Baguley 0-6-0DM locomotive (3377 of 1953) and carriages from the St Helena Island tourist tramway.

Bruce Belbin, 1/03; Bob Gough, 2/03; Peter Neve 2/03

#### DREAMWORLD GOLD COAST RAILWAY, Coomera

610mm gauge

The ex-Rocky Point sugar mill Fowler 0-4-0WT (B/N 16249/1924), which has been on static display at Dreamworld for some time, was transported back to its home on 4 December 2002. Staff at Dreamworld advise that Bill Heck, the owner of the Rocky Point mill, intends to rebuild the locomotive for use on a tourist line at the mill. On Monday 6 January, Perry 0-6-2T 5643.51.1 of 1951 (ex-Bingera mill) was in charge of the 'Dreamworld Express', which consisted of three 'toastrack' cars plus a combination guards van/ 'wheelchair and pram friendly' open car. As is usual at this site. everything appeared immaculately maintained. Clyde 0-6-0DH DHI-7 of 1955 (ex-Proserpine mill, see LR 167, p.27) was seen, with a few other miscellaneous items, stored in the open behind the large engine/carriage shed. The 4-6-0 Baldwin locomotive (46215 of 1917) undertook a steam test on 27 January after lying idle for some 18 months, during which time a new internal steam pipe was fitted and several other repairs carried out. Bruce Belbin, 1/03; Bob Gough, 2/03

#### ST HELENA ISLAND TRAMWAY 610mm gauge

This operation was closed in mid-2002. Three ANGRMS members visited the island in August at the invitation of the operator to assess safety concerns. Train operations had ceased and the locomotive and carriages - ex-Mulgrave Mill 0-6-0DM No.1 (Baguley/RMP 3377 of 1953) and 12 covered passenger cars (ex cane bins) - were stored at the loading platform near the jetty. The safety issues included restrictions on the management of grass along the tracks, which generated operating difficulties, especially during night tours when heavy dew caused slipping and braking problems. A few days later, the decision was taken to close the line permanently and to remove the locomotive and rolling stock from the island. This movement took place in late 2002. ANGRMS has initiated a fund

raising campaign among its members to purchase and ensure the preservation of the equipment. Lynn Zelmer, LocoShed E-Group 1/03; Bob Gough, 2/03

## **New South Wales**

## MELALEUCA STATION,

Chinderah 610mm gauge This tourist park, built within a tea tree plantation, is fully operational only when pre-booked tour parties are present (see LR 156, p.28). On Friday 3 January, only the coffee shop was open for business, though visitors were encouraged to wander around and have a look. On the 1.5km railway, Perry 0-6-2T 2601.51.1 of 1951 (ex-Marian mill) and its two-car train were parked in the open over near the coal pile. Although clearly serviceable, the loco was looking a bit worse for wear, with the headlight glass and reflector gone, cladding on the right hand steam pipe missing and sections of the stack rusted through. Bruce Belbin, 1/03

#### RICHMOND VALE RAILWAY 1435mm gauge Richmond Vale Preservation Co-operative Society Ltd

After an extended period of closure, the RVR has obtained Public Liability insurance and the provisional reopening date was set for 2 February 2003. The museum is now expected to be open for the 2003 *Steamfest* on 12-13 April. Work has continued on getting 0-4-0ST *MARJORIE* (Clyde 462 of 1938) and 2-8-2T No.30 (Beyer Peacock 6294 of 1925) back into operating condition



Beaudesert Rail's ex-Emu Bay Railway Walkers B-B DH 1105 (642 of 1970) crosses a road near Jimboomba as red flags are flown, 19 December 2002. Photo: Brian Webber

LIGHT RAILWAYS 170 APRIL 2003

# Heritage &Tourist

and this has taken a vast amount of work by the Society's volunteers. Meanwhile, the per way gang has connected up the three roads into the car shed and work was nearing completion on the turnouts in December 2002.

Link Line, Dec-February.

### STATE MINE HERITAGE PARK & RAILWAY, Lithgow

1435mm gauge

Following the setback of the October 2001 fire, this museum has plans for a strong revival in 2003, with the Ironfest events of 26-27 April a highlight. The blacksmith shop is being fully developed and regular blacksmithing classes are now being held. On the railway side, new passenger platforms have been constructed at the State Mine and Blast Furnace Park, while work commenced on the construction of a new carriage shed in January. It will be fitted with light and power, as well as security and fire suppression systems. Restoration and repainting of ex-AIS Port Kembla steelworks English Electric B-B DE D20 (A.041 of 1960) was nearing completion on 12 January 2003. The future of ex-Portland Cement 2-6-2ST 2605 (Dübs 2794 of 1891), which was badly damaged in the fire, remains in doubt. While the insurance company has agreed to pay out \$100,000, restoration of the locomotive to operating condition is estimated to cost \$240,000. It is to be cleaned down, painted and put on display as a static exhibit while its long-term future is determined. Gully Gazette, Jan 03; editor 1/03

#### TIMBERTOWN HERITAGE PARK, Wauchope 610mm gauge Timbertown Steam & Oil Engine Club

Further to LR 167 (p.29), we continue to receive positive reports on the revival of this tourist park railway. A visit on Saturday 28 December, found this attraction well patronised and the train rides particularly so. John Fowler 0-4-2T 17881 of 1928 (former South Johnstone Mill No.10) in shiny black livery, was hauling the three-car trains. Hudswell Clarke 0-6-0 1862 of 1953 (ex-Macknade Mill No. 6) was seen peeking from the workshops shed, whilst Motor Rail Simplex 4wDM 4214 of 1929 (ex-Harwood Mill) was parked in the siding at Broken Bago. The railway is now crewed by volunteers and, on the day of our visit, a driver, fireman, guard and station master/ticket seller were all on hand - a far cry from the 1980s, when then driver Trevor Jones often ran the whole operation by himself!

A Timbertown Steam Festival is scheduled for 5-6 July 2003. Features include regular steam train operations, Saturday night dinner and steam train rides and open tours of the engine sheds.

Bruce Belbin, 1/03

# Victoria

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

For many years the ex-Yallourn Power Station Malcolm Moore 4wPM 1049 of 1943 has been the mainstay locomotive for mid-week coaches at the ATTM. Its electric start makes it easy to operate and its livery matches that of the passenger coaches, making up an attractive train. In operation, however, it had a major drawback. As received at the museum, its wheel profiles were in poor condition, with thin flanges and a deep "U" worn in the tread of the tyres and several teeth were missing from the final chain-drive sprocket. Over the intervening fifteen years, this problem has not got any better. The recent purchase of an unused locomotive chassis in the form of Malcolm Moore 1023 (LR 160, p.28) offered a tailor-made solution – a repair that could be made without losing the services of 1049 for more than a day.

On 9 February 2003, MM 1049 rumbled out of the goods shed and staggered in its usual drunken fashion across the points of the stabling sidings. Its drawbars were then removed and added to the preassembled frame of 1023. The brakes, chain drive and exhaust were disconnected on 1049 and, in a series of lifts, the entire cab, controls, engine and gearbox unit were gently separated from the chassis. This was then gingerly lowered onto the chassis of 1023 and lined-up with the pre-existing bolt holes. The final-drive gearbox was then removed and the unused unit from 1023 substituted, providing a final drive train in "as new" condition on a chassis with "exfactory" wheel profiles. The controls, brakes and exhaust were reconnected and, in the late afternoon, the hybrid locomotive 1049/1023 moved under its own power for the first time. When public running ceased for the day, the hybrid was tested on the main line hauling two coaches with complete success.

The transformation was a precision operation that required careful planning and preparation. This included the provision of over \$400 worth of high-tensile bolts to replace those missing from the "kit-set" 1023. The laborious removal of rusted and frozen bolts, the grappling with grease-covered chains, and the careful realignment of bolt holes, controls and exhaust pipes were some of the "grunt tasks" that took place during the transplant process. When time and funds permit, the chassis of 1049 will be repaired and the wheels built up and re-profiled. Several Ford V8 engines have been obtained to be rebuilt into one good engine to replace that missing from 1023, and the locomotives will eventually reassume their original identities. Peter Evans, 2/03

#### KERRISDALE MOUNTAIN RAILWAY 610mm gauge Andrew Forbes

A further project in the development of this private railway (LR 165, p.27), namely the design and construction of a passenger carriage, has been completed. Member Don English secured two ex-SAR 1067mm gauge axle, wheel and hub sets for conversion to 610mm gauge. These were stripped apart, the axles shortened, the bearings checked and cleaned, and the wheels were re-profiled to match the KMR 2010/yard rail. Initially a 4-wneei, semi-enclosed coach was planned, but the design was changed to an open toast-rack 'scenic' carriage. Channel iron (100 x 50mm) was used for the chassis and 200 x 12mm plate steel was used for the buffer beams. Fourwheel fully compensated brake gear is utilised, with red gum brake blocks, which have proven to be very quiet, wear resistant and dust free. The seats, constructed of jarrah timber, have a capacity of 12 people. A KMR builder's plate was fitted to commemorate the erection of the carriage. The carriage rides well and is considered to be very comfortable. Andrew Forbes, 12/02



ex-Mulgrave Mill 0-6-0DM No.1 (Baguley/RMP 3377 of 1953) and 12 covered passenger cars (ex cane bins) stored out of use on St Helena Island, Moreton Bay, 9 August 2002. Photo: Bob Gough



On Monday 6 January 2003, oil-burning Perry 0-6-2T 5643.51.1 of 1951 is in charge of the 'Dreamworld Express' (a misnomer, since it stops at all stations) as it passes the oilrig themed environs of the 'Giant Drop' and 'Tower of Terror' rides. Photo: Bruce Belbin



At Woodford, on the previous day, Bundaberg Fowler 5 (5 of 1952) reverses out of the station with another run to Storeybrook Cottage, as passengers from the trip before relax on the platform. Photo: Bruce Belbin

Heritage &Tourist

## Tasmania

#### WEST COAST WILDERNESS RAILWAY, Queenstown 1067mm gauge

Federal Hotels & Resorts Ltd Further to our report in LR 169 (p.29) trains commenced running over the full length of the line from Queenstown to Strahan on 27 December 2002. After the long wait, operations settled down to a smooth schedule during January, with only a couple of minor incidents, including the cancellation of one train due to a tree across the track. There are two trains daily each way, steam hauled between Queenstown and Dubbil Barril, over the rack, whilst the (blue V) diesel hauled train from Strahan meets the one from Queenstown at Dubbil Barril where the locos are swapped. A full round trip takes about 81/2 hours leaving Queenstown or Strahan at 10 am and returning about 6:30pm. The morning train from Strahan arrives at Queenstown at 2:15pm and leaves again on the return at 3pm. The round trip fare is \$95, but passengers can go one way on the train for \$65 and return by a connecting coach service for an additional \$10. This gets you back to Strahan about 3:30pm, and Queenstown about 5pm.

An interesting innovation is the operation of "goods" trains at the Strahan end to take beehives and the logging contractors into the Teepookana Forest reserve. A trial run was scheduled in mid-January to transport logging contractors' equipment into the forest. An excavator was unloaded off the train at the Teepookana Bridge and walked across the bridge, then reloaded for the rest of the journey. Rob Bushby, 2/03

# Western Australia

#### BENNETT BROOK RAILWAY, Whiteman Park 610mm gauge WA Light Railway

### Preservation Assoc. Inc.

The closure of the BBR due to the Public Liability insurance crisis (LR 169, p.30) was short lived, as WALRPA obtained satisfactory insurance cover on 30 January 2003.

# Heritage &Tourist

While considerably less than the cost offered by other insurers, the Society faces a stiff increase in the cost of premiums previously paid an experience shared by other preservation railway groups around Australia. The situation also requires WALPRA to meet stringent safety standards for re-accreditation under the Rail Safety Act. It was planned that the railway would recommence operations on 2 March. Initially, operations will be confined to the Mussel Pool to Whiteman Village Junction section. Due to an error in the BBR Newsletter, our report in LR 169 had the wrong name for Brian Woodward, the WHR volunteer who developed the design of the boring machine used to re-bore the chests of steam locomotive NG123. BBR Newsletter, 2/03

# **Overseas**

WELSH HIGHLAND RAILWAY. United Kingdom 597mm gauge Further to the report in LR 168 (p.31) on the restoration of Beyer Garratt 0-4-0+0-4-0 K1 (Bever Peacock 5292 of 1909) at the Boston Lodge Works of the Festiniog Railway, there has been a set back to hopes for its early return to service. During December 2002, the progress of work on K1 finally overtook the available funds. The work did not quite succeed in completing the engineering tasks planned for completion by Christmas as a necessary precursor to line trials early in 2003. As a result, the WHR took the difficult decision to halt work on K1 by the Boston Lodge staff after 20 December until the further funds become available. Work by volunteer parties has continued and a new fund raising appeal has been launched. Volunteer working parties concentrated on completing work that was in progress by the Permanent Staff in January and February, with the aim of performing a trial steaming at the earliest possible opportunity. Unless funds can be raised urgently, however, the planned launch of K1 to coincide with the grand opening of the Welsh Highland Railway to Rhyd Ddu is now under serious threat.

WHR Home Page, 02/03



Seaworld, on Queensland's Gold Coast, features an elevated monorail and ground level 610mm gauge railway to move its visitors around the park. Motive power for the latter is an 0-4-2DM based on the QR A10 class locomotive No.6. On 29 April 2002, Harry Wright was riding the monorail, with camera in hand, when he spied the train below him.



On an overcast Friday 3 January 2003, sheep graze in the background as they and former Marian Mill Perry 0-6-27 2601.51.1 of 1951 patiently await their next call to duty at Melaleuca Station, Chinderah. Photo: Bruce Belbin



Jeff Mullier photographed this group of former BHP Newcastle Steelworks wagons on display at the Richmond Vale Railway, which has recently reopened to the public.



Ex-AIS Port Kembla steelworks locomotive D20 (English Electric A.041 of 1960) shows off its restoration to original livery at the State Mine Museum, Lthgow, on 12 January 2003. Photo: Bob McKillop



The newly completed Kerrisdale Mountain Railway tourist carriage No.3 at Top Points. Photo: Andrew Forbes



The platform clock is at 2.54pm as WCWR locomotive No.1 (Dübs 3369 of 1896) is ready to departQueenstown with the 3pm train for Strahan on 29 December 2002.Photo: Rob Bushby





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