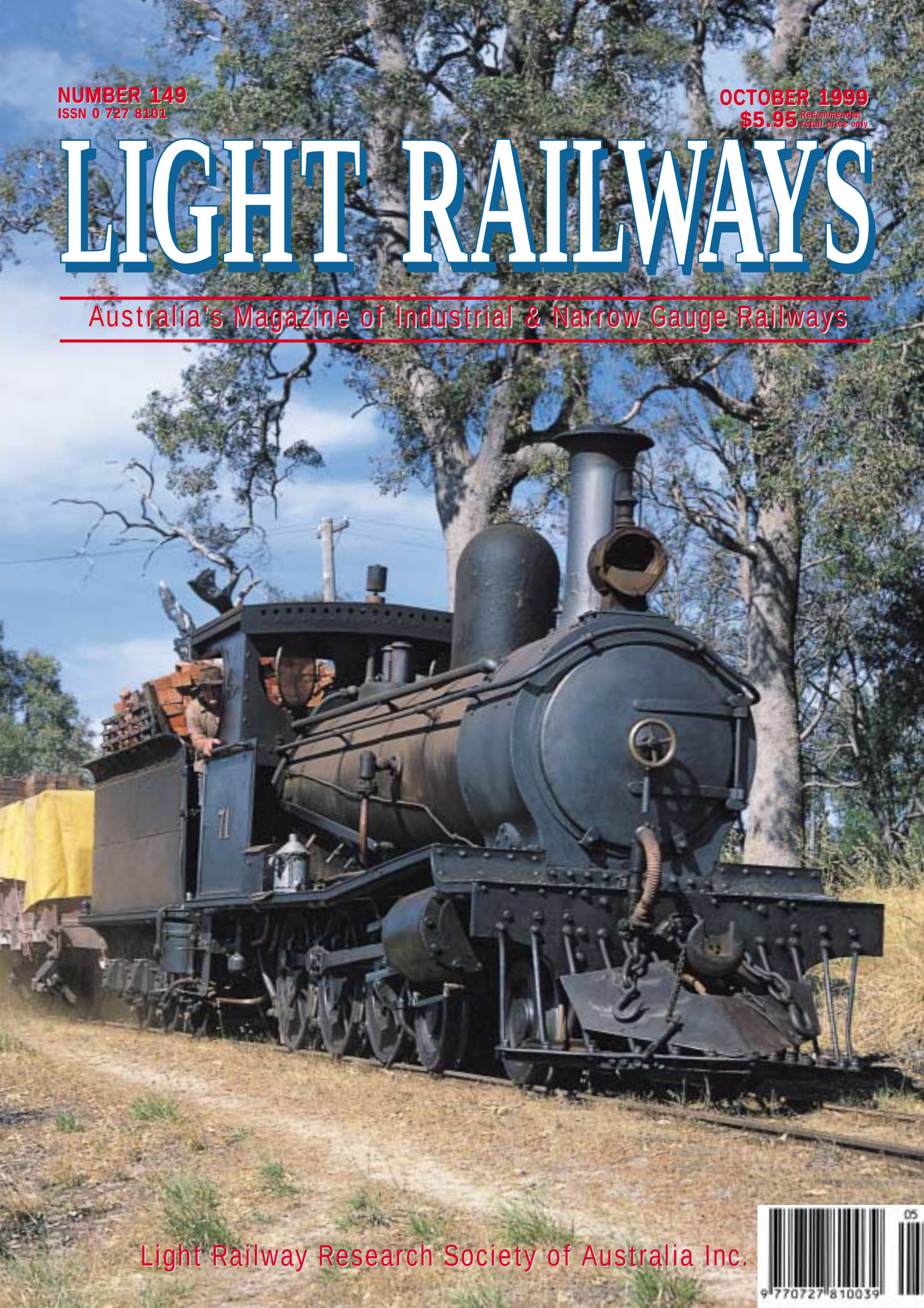
NUMBER 149
ISSN 0 727 8101

OCTOBER 1999
$5.95 Recommended retail price only

LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



Light Railway Research Society of Australia Inc.

9 770727 810039 05

LIGHT RAILWAYS
Australia's Magazine of Industrial and Narrow Gauge Railways

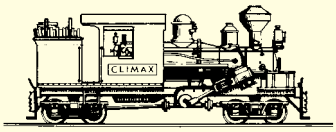
No 149 October 1999
ISSN 0 727 8101 PP 342588/00002

Editor: Bruce Belbin,
PO Box 674 St Ives NSW 2075.

Research, Heritage & Tourist Editor:
Bob McKillop,
C/o PO Box 674 St Ives NSW 2075.

Industrial Railway News Editor:
John Browning, PO Box 5646
Rockhampton Mail Centre QLD 4702.

Distributor:
GORDON AND GOTCH LIMITED.
Printed by Courtney Colour Graphics.



Light Railway Research Society of Australia Inc. A14384U
PO Box 21 Surrey Hills Vic 3127

COUNCIL
President: Bill Hanks (03) 5944 3839
Secretary: Phil Rickard (03) 9870 2285

New South Wales Division
18 Rodney Avenue, Beecroft, NSW 2119
President: Jeff Moonie (02) 4753 6302
Secretary: Craig Wilson (02) 9484 7984

South Australian Group
6 Dunedin St, Dover Gardens, SA 5048
Secretary: Arnold Lockyer (08) 8296 9488

South-east Queensland Group
54 Aberdare St, Darra, QLD 4076
Secretary: Bob Dow (07) 3375 1475

Tasmanian Representative
11 Ruthwell St, Montrose, Tasmania 7010
Ken Milbourne (03) 6272 2823

MEETINGS
Regular meetings are held in Adelaide, Brisbane, Melbourne, and Sydney. For dates, times and locations of future meetings, see LRRSA NEWS, page 24.

Subscriptions: $36.00 for year ending 30 June 1999, providing six issues of Light Railways magazine, information on Society activities, 25% discount on LRRSA publications, etc. Overseas $A52.00 economy airmail. Payment by cheque, money order, Bankcard, Mastercard, or Visa. Contact the Membership Officer, PO Box 21, Surrey Hills, Vic. 3127. Fax (03) 9888 5441. Email: lrrsa@lrrsa.org.au

Sales: Back issues of Light Railways and other publications available from LRRSA Sales, PO Box 21, Surrey Hills, Vic 3127.

LRRSA Web Page:
http://www.lrrsa.org.au

Conversions:

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

Contents

Comment

The production of *Light Railways* is predominantly a labour of love. We haven't the staff of *Australian Women's Weekly* or the freelancers' budget of *National Geographic*. With a few rare exceptions (such as press photographs reproduced) the content of our magazine is all generously donated.

The debt we owe to those who contribute these articles, photographs or news items, large or small, regularly or occasionally, cannot be overstated. Without their much valued efforts, *Light Railways* as we know it could not exist.

With much of our content arriving unsolicited, however, we often find ourselves having limited control over the subject matter on hand, so the task of keeping *Light Railways* entertaining and informative, and true to its prime directive, can sometimes feel like manoeuvring a super tanker. I agonise over this more than I probably should (given that we seem to have done alright so far), and I'm quite sure that Bob and John have grown tired of receiving my constantly updated "Feature Allocations" lists, though they're too polite to say so.

Of course, the cornerstone of *Light Railways* is the well-researched historical article, and no finer example of the genre exists than Bob McKillop's series on the mining railways of Cobar, which begins on page 5. Also in this issue, Graham Black takes us to Newcastle, to see *MARJORIE* perform at the BHP steelworks' open day, and Clarrie Cole and Robert Kingsford-Smith share with us some of their marvellous images of the last of WA timber tramway steam. *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.

Light Railways is the official publication of the Society. Material submitted is subject to editing, and publication is at the discretion of the Editor.

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: In March 1972, a year before its retirement, Millars' elegant 3ft 6in gauge ten-wheeler No.71 (Dübs 3495 of 1897), the last steam locomotive at work in the Western Australian timber industry, brings a train load of sawn timber along the one mile long private line connecting the mill with the Government siding at Yarloop. Upper back cover: State Saw Mills No.7, a 2-6-0 built by James Martin (117 of 1895), spent its final years acting as yard shunter at the Pemberton Mill, and is seen at work on a cloudy Wednesday, 27 November 1967. Lower back cover: Bunnings' No.86 is shunting at Donnelley River mill on Monday 20 November 1967. The beautifully maintained Beyer Peacock 2-6-0 (2913 of 1888) also hauled sawn timber to the WAGR siding at Yornup, 14 miles distant. Photos: Clarrie Cole. See our pictorial feature Steam through the Bush *on page 15.*

MARJORIE and her train pass centre cab diesel locos 49 and 53 (Goninans 4970-013 of 1961 and 9211-018 of 1964) near the rolling mill, during the BHP Newcastle Open Day, Sunday 20 June, 1999. *Photo: Graham Black*

Marjorie's Holiday

(aka *Steam Returns to Newcastle Steelworks*)

by Graham Black

MARJORIE, the 0-4-0ST built by Clyde Engineering (B/N 462) in 1938 for work at the Newcastle works of Lysaghts Ltd made a return visit to its industrial haunts in June 1999. The Richmond Vale Co-operative Preservation Society was approached by the Newcastle BHP Rail & Dispatch Division to provide *MARJORIE* to assist with a private open day on 20 June. This open day was to allow employees, ex-employees and their families to view the steel-making works before its closure in September.

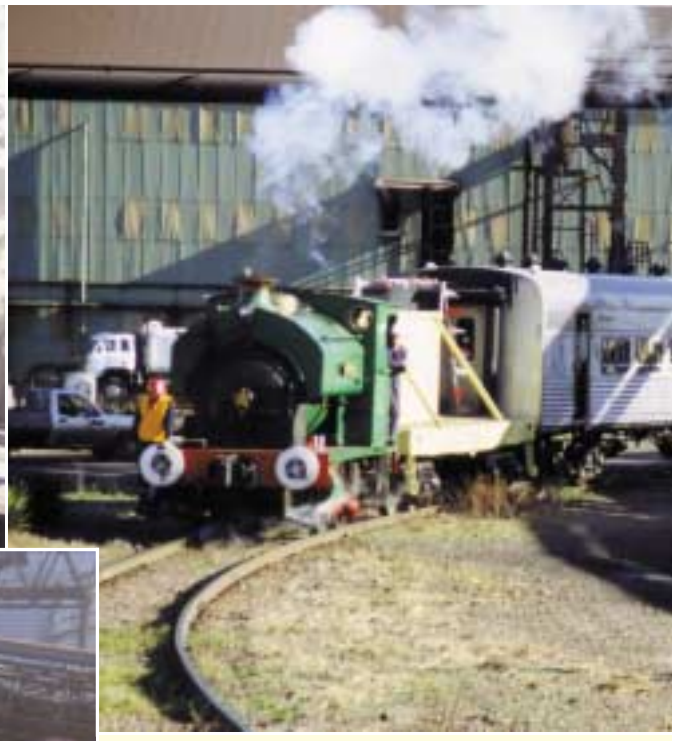
The Society arranged for the transport of *MARJORIE* and steel passenger carriage 6001 from Richmond Mail Colliery to the steelworks at Waratah by road on 15 June. On arrival, *MARJORIE* was immediately lit up for trials that afternoon. At 3.03 pm, *MARJORIE* blew off and announced to the BHP that she was alive and ready to go. The correct paperwork was filled in and at 3.20, *MARJORIE* entered the works and, under the control of the BHP Traffic Department, was taken to the Wagon Repair shop where two SP bogie flat wagons were waiting. These were added to the train, one between the loco and carriage to improve visibility for the driver on sharp curves, the other at the rear to carry the shunter.

While waiting for the trial, *MARJORIE* had a cab visit by BHP Chief Executive Paul Anderson and his wife Cathy. They chatted to RVCPS loco crew Graham Bearman and Chris Cleary. At 4 pm, *MARJORIE* set off with its train to tour the steelworks and check clearances. From the Wagon Repair shop, she headed east past the Coke Ovens, north to the Dump Station, then east to the Blast Furnace area.

Following photographs alongside centre-cab diesel loco No. 54 and two 240-ton Treadwell wagons, *MARJORIE* then headed to the wharf and the eastern end of the BHP rail system. She then travelled south-west to the Main Gate and west along the southern boundary past to Diesel Repair shop to stop short of Ingall Street level crossing, right alongside her old home 'Lysaghts'. From here, *MARJORIE* travelled east to the Coke Ovens, then set back south to the Wagon Repair shop. Here the train was stored in the shop.

On Sunday, 20 June, *MARJORIE* was gently pulled out of the shop at 6.00 am by BHP loco No. 49. The fire was lit, the motion oiled, the bunker coaled and water taken in readiness for a 9.00 am start. During the open day, *MARJORIE* ran nine journeys around the plant. Two BHP employees travelled on each train and gave a commentary on each department the train travelled through.

For the return journey to Richmond Main, *MARJORIE* and carriage 6001 were accompanied by BHP DE locomotive No. 43 (Goninan 3456-007 of 1960). This loco had been partly stripped of useable parts to keep other members of the fleet operational and the Society had been successful in obtaining the unit for its museum collection. The locomotives and carriage were loaded onto low-loaders on Tuesday, 22 June, and transported to Richmond Main. Loading and unloading the 60-tonne No. 43 required two heavy-lift cranes. The operation proceeded smoothly, with threatening rain holding off until the operation had been completed. The Planet 4wDM pushed *MARJORIE* back to the engine shed, her holiday at her old stamping ground now over.



BHP Newcastle Open Day, 20 June; clockwise from below: MARJORIE with her train, consisting of flatcar SP 202, stainless steel carriage TF 6001, and flatcar SP 3, on the first run of the day. ❑ *The special train beside No.4 Blast Furnace. In the background, a 240 ton Treadwell ladle car is being loaded.* ❑ *Beside the Ore Wharf, as a ship discharges its load of iron ore.* ❑ *Passing redundant buildings, MARJORIE and her train head for the Coke Ovens dump station.* *Photos: Graham Black*

Mining Railways at Cobar

by Bob McKillop

1. Great Cobar Copper Mining Company (Limited), 1875-1889

Cobar is one of the great stories of Australian mining folklore. The discovery of rich copper ore at an outback waterhole in 1870, the struggle to establish the mine in such an isolated, desolate location, the rise and fall of The Great Cobar copper mine through two cycles, the collapse of the industry in 1920 and stagnation of the town until 1965, then the rebirth of the "copper city" over the past 30 years are all fascinating chapters in the history of Australia's inland. Two general histories of the Cobar mineral field have been published and John Shoebridge, with assistance from Ken McCarthy, wrote a detailed history of "The Railways of the Great Cobar" that appeared in the *ARHS Bulletin* of September 1969.

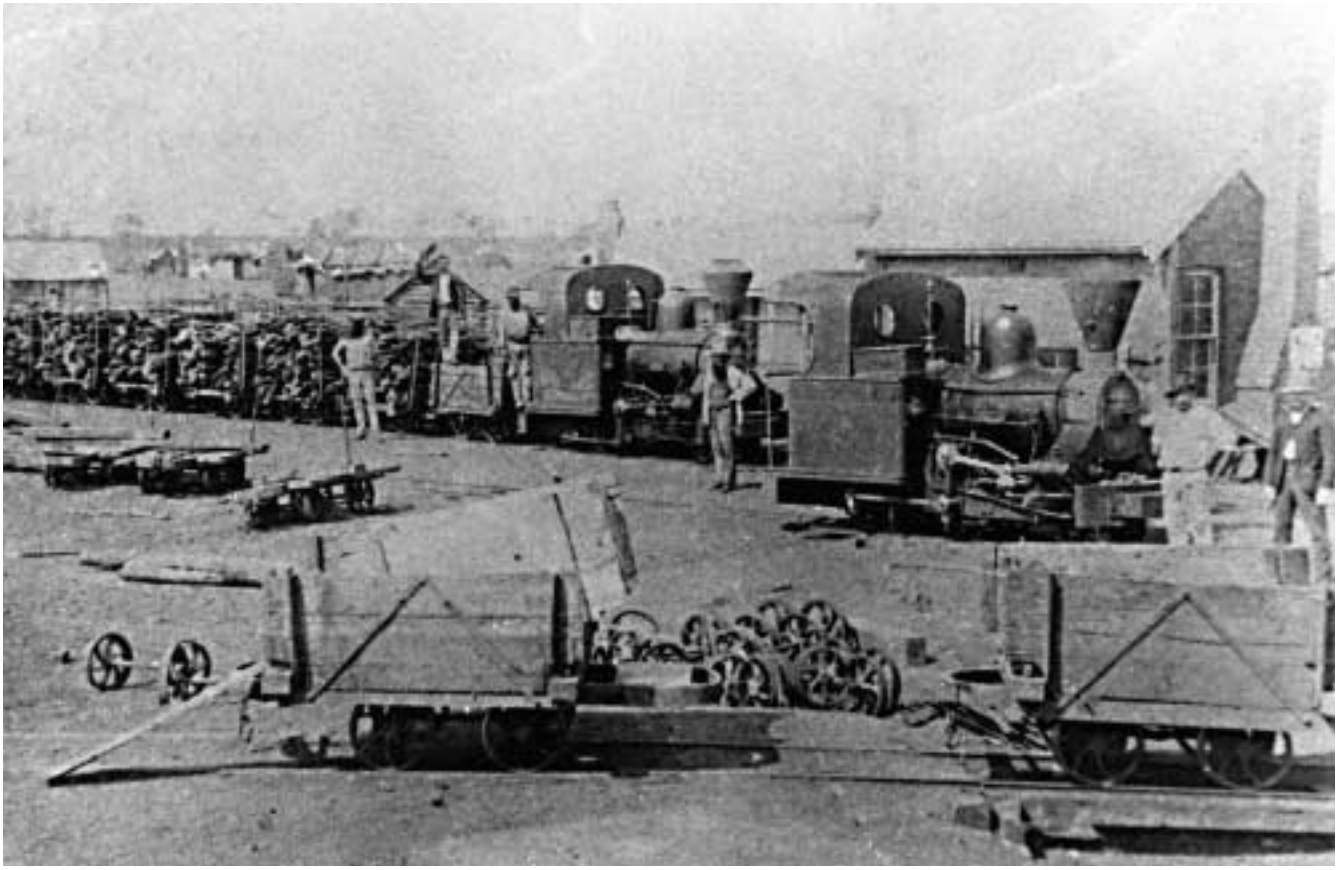
The author has revisited Cobar as part of a wider project to interpret how railways shaped the economic and social history of the Orana Region of New South Wales. Cobar - together with the neighbouring operations at Nymagee and Mount Bobby - dominates the mining history of this region. This article reexamines the history of Cobar's mines and associated industrial railways in the context of recent literature on economic development. It goes back to the original newspaper reports to capture the underlying economic, social and political forces to the events that shaped the region's history.

The Great Cobar Mine

The discovery of the Cobar copper lode in 1870 is linked with the natural forces of drought and flood which dominate the western plains. It was made by two young Danes, Ferdinand E Kemph (alias Charles Campbell) and Thomas A Hartman - together with George S Gibb - who arrived in Australia to seek their fortunes in the Victorian goldfields in 1859.[1] They stayed on as contractors doing brick work and excavating water tanks for stations in the inland, and by 1869 they were working in the Bourke district. Widespread flooding in 1870 forced the team to head south. They set off via Louth to Wittagoona, following the route known to local Aborigines that linked the permanent watering places in the vast plain. Guided by two Aborigines, Boney and Frank, they camped overnight at Kuparr waterhole about 100 miles south of Bourke.[2] Local Aborigines had obtained brightly coloured clay from the waterhole with which they painted themselves. Charles Campbell and his party found blue and green streaks in the sides of the waterhole and were sufficiently impressed to take samples of the minerals.

Legend was made when the party met up with the Krudge family at Gilgunnia and displayed their mineral samples. Mrs Sidwell Krudge, a Cornish woman who had been employed as a "bal-gel" sorting minerals in mining areas, immediately identified the samples as copper. The first mining selection was applied for by Charles Campbell, Thomas Hartman, George Gibb and Joseph Becker (a Bourke businessman), on 6 October 1870.[3] A few tons of samples were collected to be sent to Adelaide for assay. In March 1871 news came though of the remarkable 33 per cent assay of fine copper from the ore collected at the Kubbor waterhole. With the price of the metal then at £100 per ton, the prospects of a payable mine looked promising. The Aborigines' decorative paints and the surrounding land were about to be usurped by the Western world to build locomotives and other machines of the industrial age.

Transport to and from this remote spot presented a major constraint to exploitation of the resource. The inland water route of the Murray-Darling river system offered the most



A busy scene at the Great Cobar mine woodyard in 1887, with two of the Fowler locomotives in front of the tally office. This photo was the basis for the etching which appeared in LR 146 (p.5). *Photo: Bruce Macdonald collection*

Miners sinking the first shafts, under Captain Lean's supervision, in the early 1870s. *Photo: Cobar & District Historical Society*

likely option, despite the long and unreliable journey. The first ore samples were transported to the Darling River port of Louth by bullock team, and thence by the river-boat *Princess Royal* to Adelaide.

With news of the rich copper assay, the partners in the Cobar Copper Mining Company moved to exploit their find. Bourke businessman, Mr Russell Barton had connections in Adelaide and guided the partners to the expertise available in the copper mining areas of South Australia, particularly the "copper triangle", Australia's "little Cornwall". The Company recruited mine captain, Thomas Lean, and miners, and transported them and their equipment from South Australia on the *Princess Royal*.[4] On arrival, Captain Lean set about assessing the potential of the mine and reported to his partners that he had *seen nothing to equal this deposit of ore, since the Burra Burra of SA was discovered… There is also an abundance of excellent timber for mining purposes and wood fuel, and clay I believe well adapted for making fire bricks.*[5]

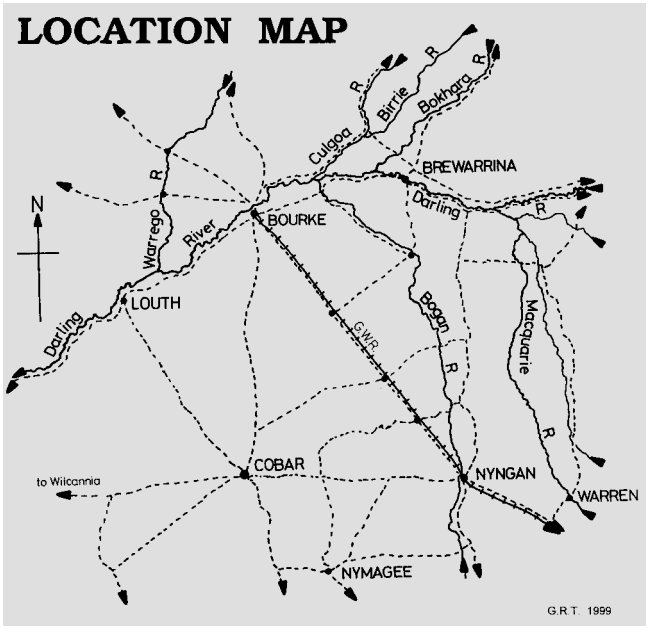
With Lean's stated opinion of the extent of the rich ore, the pace of exploration in the Cobar district reached "gold rush" proportions. The year 1871 saw the discovery of both the United (Occidental) mine and the Cornish, Scottish and Australian (CSA). Although these mines were to prove valuable in time, early working proved disappointing and they closed down when immediate commercial success was not forth-coming.[6] Many other claims proved worthless, although two important mines - the *Chesney* and the *Queen Bee* - were later to be developed on the prospects.

Under Lean's direction, the Company sunk Becker's Shaft adjacent to the original waterhole, and Barton's Shaft 600ft to the south. The ore was of two kinds: first class ore gave 30 per cent and upwards of copper, and thus gave sufficient return to warrant transport to the smelting works in Adelaide. The second class ore, which gave 15 per cent copper on average, was stacked near the shaft pending the erection of a smelter at the mine.

The first grade ore had to be transported over 100 miles of waterless plains to Louth or Bourke by teams. There were eight horse teams carting ore to the river in loads of four tons. In average weather, each team made two round trips from the mine to the river each month. At the ports, the ore was stacked until the river was navigable, when it was conveyed to Hallett's smelting works or the other principal smelters at Port Adelaide or Dry Creek, north of Adelaide. Transport to the river cost £3 per ton and the river trip to the smelters a further £2.10s.

Water was essential for a community to prosper in this isolated location. By the beginning of the summer of 1873-74, shortage of water forced a suspension of mining operations

Captain Thomas Lean, who brought his team of miners and tools from South Australia. to develop the Great Cobar mine.
Courtesy: Cobar & District Historical Society



on the Cobar field.[7] The local publicans were paying £4 to £6 per tank of water (equivalent to $400-600 in 1999 terms). Lack of water soon undermined the early confidence of the new mining township. The drought continued for another year, by which time the lack of water was driving people away from the town and the local businessmen were in a desperate situation. In August 1878 it was reported that the mining company had constructed immense tanks and had commenced building an even larger tank to relieve the existing storages.[8]

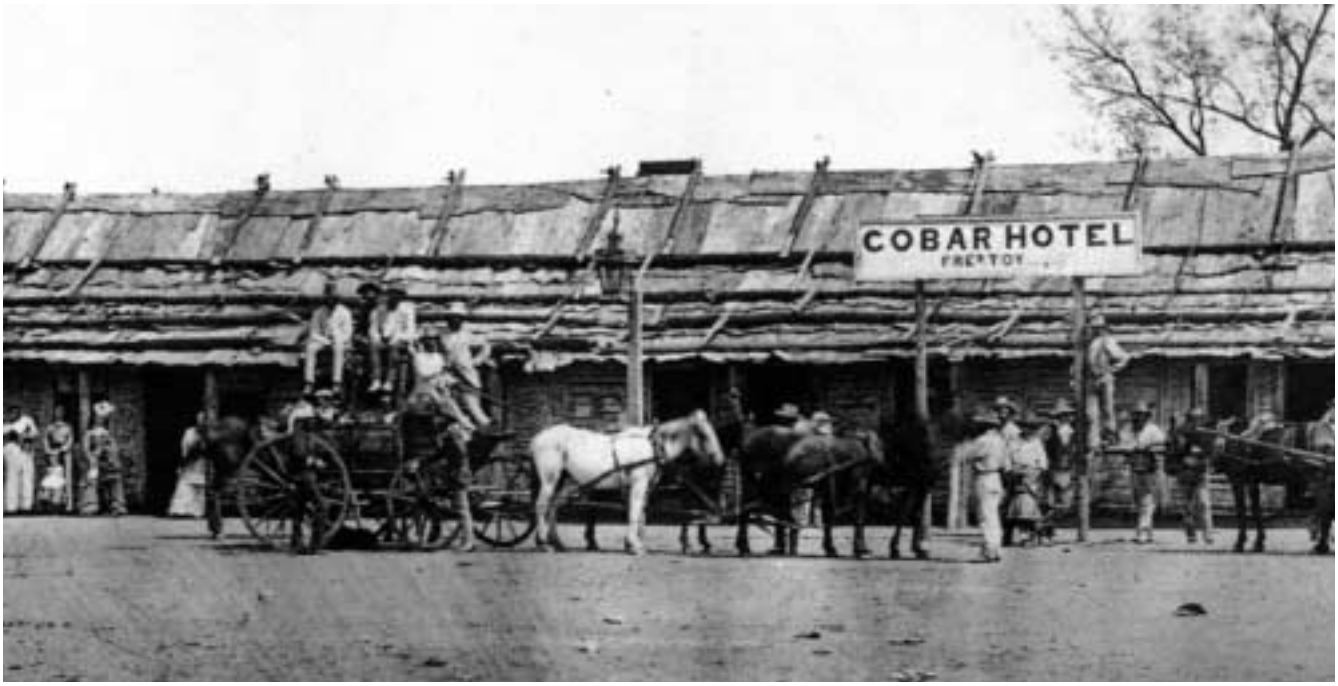
The long-awaited smelter equipment arrived on the steamer *Excelsior* in August 1874. Six reverberatory furnaces were initially constructed, two in 1875 and the remainder the following year.[9] The smelting works brought about important changes in the operation of the mine. Timber cutters and draymen were employed to cut and cart fuel-timber to feed the furnaces; and furnace men were employed to run the smelting plant.[10] In 1875 the neighbouring Southern Cobar Copper Company constructed two furnaces and commenced a third.

By the close of 1875, the Cobar and Southern Cobar mines had raised a mere 3000 tons of copper ore since mining began. The introduction of on-site smelting had made enormous savings in transport costs, but very little of the second grade ore had been treated or even mined. Pressure grew for amalgamation of the two mines, together with the North Cobar Copper Mining Company. However, this mine had limited prospects and directors who were members of both the Cobar and South Cobar boards used their influence to organise amalgamation excluding the North Cobar Mine. A special general meeting held on 1 December 1875 endorsed the articles of association and the new company, the Great Cobar Copper Mining Company (Limited), was registered on 10 January 1876 with 80,000 shares of £1 each.[11] The real development of the Cobar mining industry now commenced.

The new company immediately moved to expand the mine and lift production. In 1877, Captain James Tozer Dunstan was appointed as the manager of the Great Cobar operation. The mine flourished and two more furnaces were erected in 1878.[12] There were now four shafts sunk on the Western Lode to between 214ft and 324ft. A 40hp steam engine operated the cage in the main Barton Shaft and worked the ore-breakers. About 120 miners were employed, plus wood-cutters, draymen and contract labourers. The ore was won under the "Cornish" system - by public "setting" or survey every two months. The estimates on the contracts were based on allowing good miners to earn £3 per week. Firewood was considered to be abundant, but suitable timber for mining purposes was difficult to obtain locally.

Improved rainfall following severe drought in 1877 helped to boost confidence in the community. The township of Cobar was rapidly taking on permanency, as described by local historian William Clelland:

The long low hill adjacent to the Bourke-Hillston stock route was now disappearing beneath the iron and bricks of 19th century industrial progress. Each day men trudged along the dusty streets between the temporary and permanent shops and dwellings to replace their workmates on the previous shift. At night, the furnaces lit the sky and cast long shadows over the surrounding settlements, the puffing



The Cobar Hotel offers a busy scene in the pioneer settlement of 1875 as a coach prepares to depart with passengers.
Photo: Bishop Museum Hawaii/Cobar Regional Museum

and clanking of machinery echoed each evening emphasising the silence of forced periods of interrupted production. In those silent nights all that could be heard was the clip-clop of a passing wagon, the tinkle of a piano accompanying a chorus of voices from one of the many hotels and the occasional burst of noise from children playing past their normal bedtime.

The general standard of housing had only improved imperceptibly and then usually only in cleanliness, in keeping with the steadily increasing population of women and children in the town. A typical cottage of the time was about 20 feet square and consisted of two rooms; a kitchen and a bedroom. There was usually a small verandah in the front. One end of this verandah was constructed of mud or of upright pine slabs imperfectly fitted together. The roof was a skillion type of bark lashed down with poles or sheet iron and there was no ceiling.[13]

With its rapid expansion, the Great Cobar had become the largest and richest metalliferous mine in the colony of New South Wales. During the first six months of 1880, 8334 tons of ore was smelted to produce 1181 tons of copper.[14] The company's workforce had increased to 650 in 1881, including 170 underground miners, 125 workers in the smelters, 150 woodcutters and carters, and some 205 ore dressers.[15] The population of the town then exceeded 2000. The company's workforce continued to expand until it numbered 900 men in 1884.

Cobar township was taking on an air of permanence with substantial houses of commerce. MA Haynes, proprietor of the Commercial Hotel, advised the public in December 1881 that *rebuilding of (the) hotel is now complete, and for extent, pure water, good air, and general accommodation, this establishment is admittedly not surpassed, if equalled, outside Sydney or Melbourne.*[16] Sydney merchants Kum Yoon Jang opened a branch store in Cobar and advertised they were *prepared to sell their goods at a Cheaper Rate than any other firm in the district and are now dispensing them at Sydney Prices!*

Reliable water supplies were a constant problem in this desolate location. The Great Cobar Company constructed a large water reservoir south-west of the mine in 1882 to supply water for the mining and smelting operations. The embankment was 1243 feet long and 30 feet high with a potential capacity of 26 million gallons.[17] It was billed as the largest artificial water storage reservoir in New South Wales. Nevertheless, Cobar faced another water famine in April 1884. The town supply tank was exhausted, reserves in the stock tank would not last a week, and the Great Cobar Company reservoir was so low that the water was unfit for human consumption.[18] To meet the needs of Cobar residents, the Government was persuaded to construct a larger public reservoir in 1885. However, pipes were not provided to bring the water to the town, and the local council agitated for this facility for several years before a visit by the Minister for Mines in September 1888 finally brought some action on the matter.

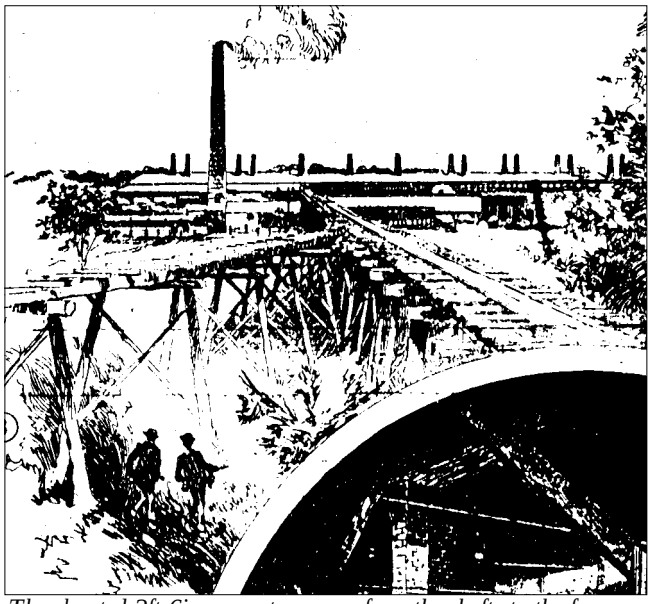
The Transport Question

Cobar's isolation in the far west of the colony presented the mining company with the constant challenge of remaining viable in the face of the high costs and unreliability of transport. In 1878, drought conditions had resulted in the Darling being unnavigable for an extended period, and large quantities of copper were accumulating at Bourke and at the mine. Wright Heaton & Company was granted a contract to carry the mine output to the nearest railhead and return with supplies. Trial shipments were made to Blayney, then Orange, but the mining company claimed the railway freight rates were too high. A delegation, introduced by Mr John Davies MLA, waited on the Minister for Works in August 1878 to seek a reduction in railway freight rates.[19] Russell Barton, by now a Great Cobar director and a representative for Bourke in the Legislative Assembly between 1880 and 1886, argued that a reduction in rates would create a favourable opportunity to divert the mine trade from Adelaide before strong business connections were established between the centres.

The directors advised that arrangements were being negotiated for the carriage of the whole of the company's produce overland to the nearest railhead and the following March, Wright Heaton & Company advertised in rural newspapers for 100 horse and bullock wagons to carry copper from Cobar to Orange (a distance of 260 miles) at £8 per ton.[20] In 1880 four wagons carrying ingots from Cobar to the railhead at Dubbo were reported at the future site of Narromine.[21] The extension of the railway to Nyngan in 1884 made for some improvement in transport costs, but there was still a 90-mile haul across outback tracks from Cobar to the railhead. A railway league was established in Cobar in December 1881 to push for a branch line from the Great Western Railway at Girilambone to Cobar and there was initial enthusiasm *that the day is not far distant when the whistle of the locomotive is heard through the streets of Cobar.*[22]

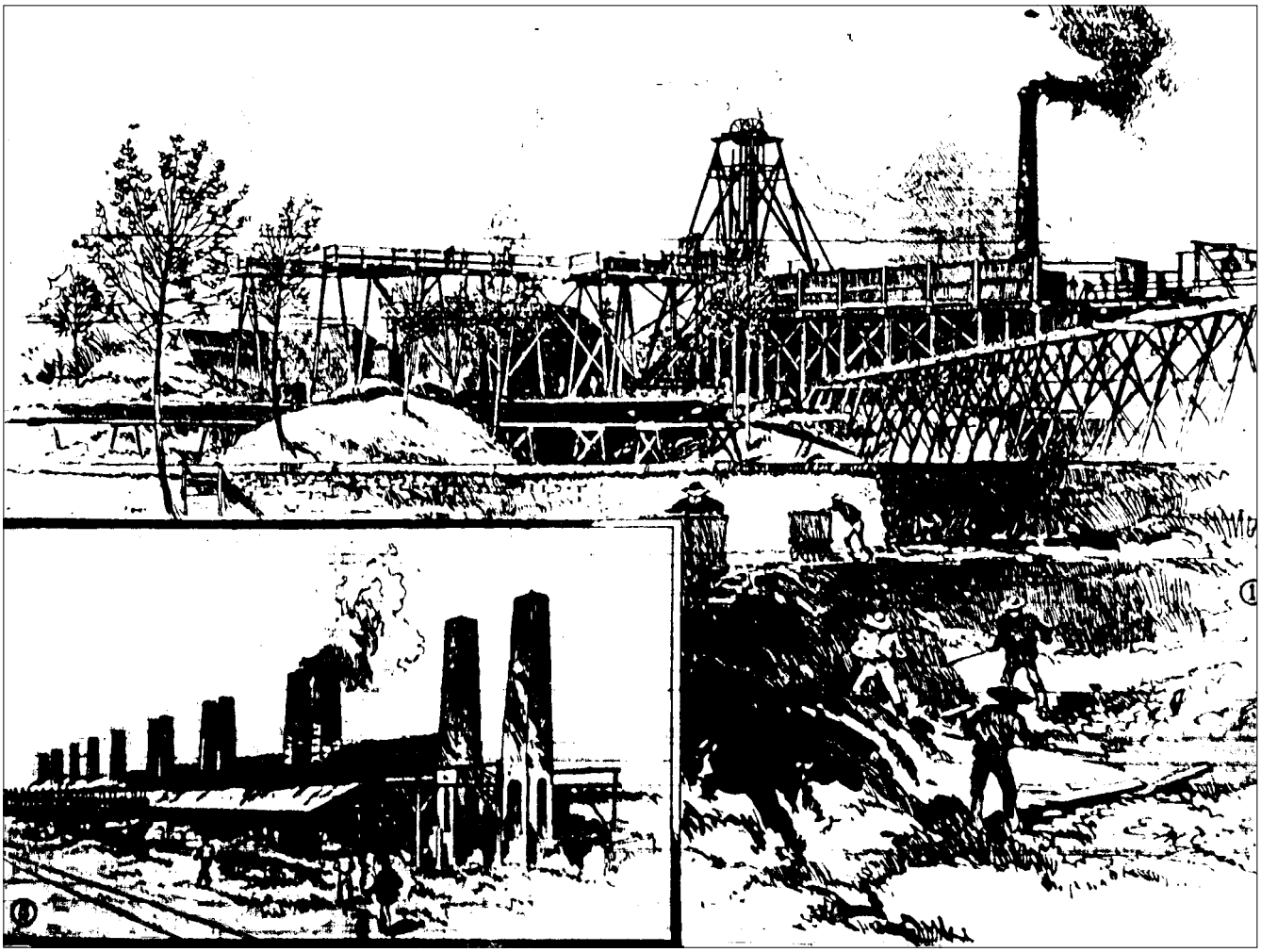
The Tramway Systems

Light railways were used in a range of mining operations at Cobar. A tramway about a quarter of a mile (400m) in length, to convey the ore from the crushing plant to the smelter shed that housed the reverberatory furnaces was constructed in 1879.[23] Early photographs depict a single line tramway on a wooden trestle, probably of 2ft 6in gauge. It used iron rails rolled at the Eskbank Iron Works at Lithgow.[24] Ores were hand-trucked over the tramway to the furnaces. In 1881 there were 14 trucks in service, with a further three in the course of construction.[25] About 100 tons of ore was transported over the tramway each day. The elevated tramway system was extended as the mining complex developed. By 1888 a 750-metre line from Barton's Shaft and a 1000-metre line from Becker's Shaft, both on impressive trestles, conveyed ore to the furnaces.



The elevated 2ft 6in gauge tramways from the shafts to the furnaces were well established in this c.1887 scene.

Source: Town & Country Journal



This sketch of the Great Cobar mine c.1887 shows men hand-trucking ore to the calcinating heaps. Insert: The smelters with railway track in the foreground. *Source:* Town & Country Journal

Firewood was the main industrial fuel in the Australian interior at this time. Drought in 1880-81 had caused partial suspension of work in the mines due to shortage of water. All the teamsters employed in drawing wood for the mines were obliged to move their stock away from Cobar in order to obtain feed and water. Rains in January 1882 only compounded the problem, as boggy tracks stopped firewood deliveries and forced the closure of the smelters. The company found it almost impossible to get its product to Sydney under these conditions and Captain Dunstan reported 668 tons of copper ingots had accumulated at the mine in February 1882.[26] In addition expanded production now meant that more and more wood had to be obtained and, as the closer timbered country was cut out, greater haulage distances were involved.

A potential solution to this problem had recently emerged with the development of low cost narrow-gauge light railways in France and England for the movement of produce over uneven country to central processing plants. John Fowler & Company of Leeds commenced building narrow gauge steam locomotives in 1878. The head of Fowler's light railway department, Alfred Greig, developed a range of narrow-gauge locomotives with a jackshaft drive, which was patented on 29 July 1880.[27] The design raised the working parts above the ground, claiming thereby to overcome the problem of wear and tear from dirt and dust experienced with small-wheeled engines. Robert Henry Fowler actively promoted the new product in Australia and Hawaii, travelling extensively from 1881.

To the directors of the Great Cobar, Fowler's light railway system appeared an ideal solution to their problem of how to supply fuel to the energy-hungry mine. The directors recommended to the half-yearly meeting in February 1882 that *the only way to meet this difficulty [firewood shortage] will be by the construction of a tramway. When this is done, firewood can be delivered in sufficient quantities to meet all requirements, and at a less price than any former period*.[28] The meeting authorised borrowing power to the directors up to £50,000, for the tramway and this was extended by a further £20,000 at a special meeting on 16 May.[29] In addition to delivering greater quantities of wood more reliably and at a lower cost, it was also anticipated that the tramway would enable teams to be diverted from firewood haulage to the transport of copper to the railhead.[30]

In May 1882 an order was placed with John Fowler & Co. for 10 miles of 2ft 6in gauge railway, four locomotives and firewood trucks. It was decided to construct 7 miles of tramway initially as this would serve a large belt of timber estimated to be sufficient to meet the mine's needs for four years.[31]

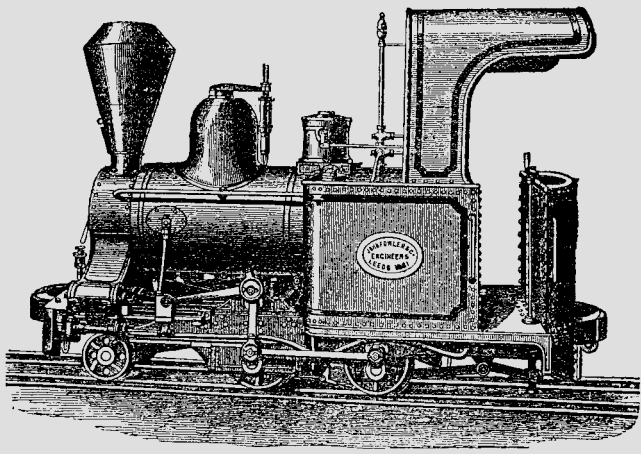
Tracklaying was initially delayed by the high cost of railway freight from Sydney to Dubbo. However, following the extension of the Western railway to Nevertire, 300 tons of tramway materials were at the mine by January 1883 and one mile of track was ready for use by the end of February.[32] Legal authorisation for the company to construct and operate its tramway was not formally obtained until June 1884, when the *Great Cobar Copper-Mining Company Tramway Act* of 1884 was gazetted.[33]

Research in the John Fowler records at the Rural History Centre at Reading University has identified the locomotives as Fowler Patent 2-4-0T engines with 5½ x 9in cylinders, which received works numbers 4370 to 4373 of 1882.[34] Fowler records show that 4370/1 were dispatched from the works in August 1882 and the remaining two locomotives the following month. Ron Madden has recently shown that only two of the locomotives reached Cobar.[35] They arrived early in 1883, and one commenced trials on 3 March of that year. It is likely that the locomotives and other railway equipment were transported from Sydney to the railhead at Nevertire, then transported by Wright Heaton & Company teams overland to Cobar. Both locomotives were in service by mid-year.

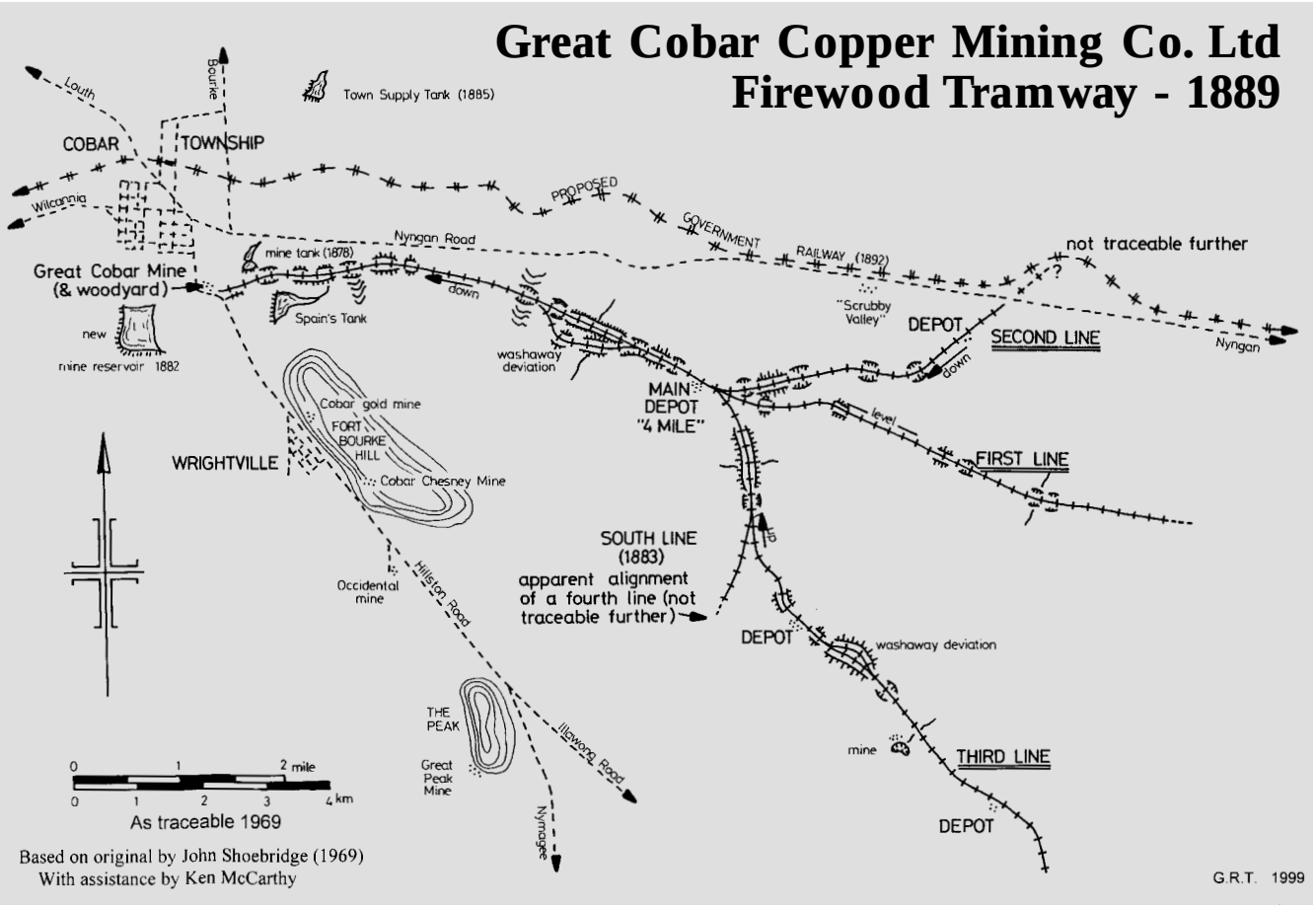
Two more locomotives were ordered from Mort's Dock Engineering Company in Sydney, followed by two additional Fowler Patent 2-4-0T engines in 1883. These Fowler locomotives (works numbers 4631/2) were dispatched in June 1883.[36] Both arrived at Cobar in early October and were soon put to work on the firewood tramway.[37] In August 1885, the *Sydney Mail* published a sketch of one of the Cobar locomotives "exhibited" by John Fowler & Company at the National Agricultural Show.[38] *(See sketch opposite)*

The firewood trucks appear to have been standard products from the Fowler catalogue of the era. Only 84 trucks arrived at Cobar in 1883 and there was a shortage of trucks until 40 additional wagons were obtained in 1885.[39] On the basis of relics located in the area, John Shoebridge reports that they were of iron construction with ends and no sides, mounted on four cast-steel wheels, coil springs and outside journals with plain brasses, and that they were chain coupled.[40]

John Shoebridge and Ken McCarthy were able to trace and map the firewood tramways in 1965-66. With the aid of an early shire map and aerial photographs, they identified tramway formations and followed them on the ground.[41] The tramline commenced in a woodyard close to the furnaces on the south-eastern side of the mine. Leaving town, the line climbed over the low hills, then ran roughly parallel to the Nyngan track for about four miles. A major depot, including loop sidings and locomotives facilities, was established here. The first line continued in an easterly direction and reached a distance of 7½ miles from the mine in 1883. The line was extended to a terminus 11 miles from the mine in July 1884.[42] Construction of a 3-mile branch line to the south commenced in August 1883 and operations over portion of this line commenced in October.[43] It branched from the original line just beyond the four-mile depot. In contrast to the eastern line, on which grades favoured loaded trains, this line would have had significant grades against the load.[44] Quite possibly, it was abandoned after a few years as other branches were constructed into new areas of forest.



JOHN FOWLER and CO.'S
Patent Narrow Gauge Locomotive and Portable Railway, suitable for Collieries, Mines, Sugar Estates, &c., &c.
Exhibited by JOHN FOWLER and CO., 43, York-street, Sydney.



Firewood Tramway Operations

The tramway made a significant improvement to the firewood supply for the mines. By July 1884, with all six locomotives in service, wood was being transported to the mine by the trains at the rate of 62,000 tons annually.[45] Each locomotive was making four round trips per day, or about 100 miles, and brought in from ten to fifteen tons of wood each trip. The 14 furnaces then at work consumed 70,000 tons of wood a year, the balance of 8000 tons being supplied by bullock drays. The Great Cobar engaged as many wood carriers as they could to cart wood to the mine. Some 180 men and boys were employed in the woodcutting and carting industry serving the mine. With the tramway transporting the bulk of the firewood, the Company was able to resist a strike of teamsters demanding higher wages.[46]

The tree species cut for the mine were mainly box, yarran, myall and ironbark. Loaded trains arrived at the woodyard where there was a weighbridge and a tally office, from which the wood cutting and transport operations were controlled and accounted. Several ground-level sidings served the furnaces and loop sidings terminated the trains. A single-road engine shed was used for any running repairs, washouts, etc. However, the locomotives were normally worked day and night, and were stabled along the various depots in the bush as convenient. The tramway enabled the Company to build up a large store of firewood at its wood yard by November 1884.[47]

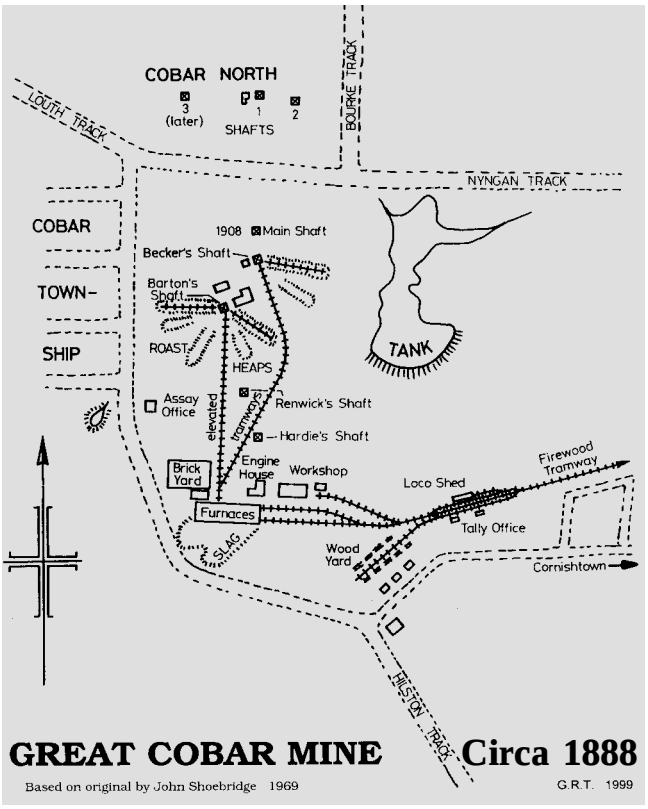
Subsequent lines, the first to the north-east and the other running south-east, also deviated from the four mile depot (see map). By 1886 it was reported that trains were running over 15 miles of track and two years later the system had been extended to 20 miles. Depots were established at various rail-head loading points as the forest was cut out and operations moved to new locations. The *Town & Country Journal* reported that *few outside Cobar and similar towns can have any idea of the extent of the wood-carting industry, some hundreds of hands being employed constantly at it.*[48]

Ore Treatment

As the Great Cobar moved to mine deeper lodes it encountered a higher proportion of sulphide ore, treatment of which presented technical problems. Captain Dunstan introduced open-air calcining treatment in 1883 whereby the ore was treated in open roast heaps.[49] The method involved the excavation of trenches and the placement of a layer of wood in the bottom. Ore was placed on top of the wood in heaps using temporary tramway tracks. The wood was set on fire and the ore slowly roasted, driving off the sulphur in fumes. The roasting heaps were placed south-east of Cobar township so that the sulphur-laden smoke was generally blown away from residential areas.

Given the importance of the mine to Cobar's prosperity, references to its pollution were treated with sensitivity in the local media. One report stated that *the choking current of sulphur fumes does not often blow over the town, and when it does it is not considered to be unhealthy; in fact there is reason to regard it as a splendid disinfectant*.[50] When *Freeman's Journal* described a dust storm mixing with sulphur fumes to turn the town into darkness in December 1901, the *Cobar Leader* responded with an indignant editorial that claimed the journalist was misinformed.[51]

A potential alternative to open-air calcinating emerged in July 1884 when a young Australian engineer, Claude F Vautin, arrived in Cobar with a small plant to demonstrate his method of sulphide ore treatment by "blast furnace" reduction. Captain Dunstan was impressed and engaged Vautin to erect



three furnaces at a cost of £5000. They were completed in September 1884 and several trial tests were made.[52] The continuous process, with metal tapped from the blast furnace into the converter and the air blast blown through the same, worked splendidly. There were high hopes that the new process would enhance the profitability of the mine.[53] Unfortunately the blast furnaces required coke as fuel; and the costs of transporting this to Nyngan by train, and thence by teams to Cobar, rendered profitable working impossible.

Difficult Times

In January 1885 Captain RN Williams replaced Captain Dunstan as manager of the Great Cobar. While Dunstan was a popular figure at Cobar and the mine had an excellent safety record under his stewardship, there had been heavy expenses to meet the challenges of the isolated locality, and the company had to respond to falling metal prices. The price of copper on the London market was £60 per ton in January 1884, down from £73 in January 1882, but fell to £49 by January 1885 and then to around £40 over the following two years. Low copper prices, technical difficulties in treating sulphide ores, the cost of transport from such an isolated locality and ongoing drought combined to generate losses for the company in 1884-85.[54] It was to emerge later that the Company was in serious financial difficulties by the end of 1884, with a £16,000 unsecured overdraft (equivalent to $145,000 in 1999 terms).[55] Cost-cutting measures were required.

The change of management was intended to rectify the profitability of the mine. Captain Williams had an unenviable mission to make the mine profitable in the face of low copper prices and technical problems treating the ore. The first step was to trim the workforce. Forty employees were discharged, with more to follow.[56] The men that were paid off, with short notice, left the township. This had a depressing effect on storekeepers whose business with the miners was mostly on a credit basis. Rationalisation of the plant was also undertaken. The two Mort's Dock locomotives were apparently found surplus to requirements and were sold, possibly in 1885.[57]

Reduced transport costs from the construction of a connection to the Government railway system offered hope for Cobar and its mine, but there had been fruitless years of lobbying and procrastination over the branch line from Nyngan. The mine manager reported to a "monster open-air meeting" in Cobar in May 1886, that without railway communication the mine was unable to compete with those of the Old World and "must succumb."[58] The Nyngan to Cobar Railway Bill finally passed through both houses of parliament on October 9th 1886.[59] That was not to be the end of it, as financial constraints and opposition by Nyngan business people continued to delay the start of construction. In July 1887, Cobar residents expressed outrage at the decision of the Government to make a fresh survey of the line. The local correspondent to the *Town & Country Journal* expressed local indignation in the following terms: *Like a glittering bait has the line or the promise of a line been kept dangling before the Cobar public for the past seven or eight years. Promise after promise has been made only to be broken*.[60]

Copper prices continued to decline through 1886 and this brought about the closure of many mines throughout the Australian colonies; only the very best could be worked at a profit. The Great Cobar struggled on, but the directors appealed to its employees to take a reduction of 10 percent in their wages.[61] Production faltered during 1887, when ore treatment declined from 23-25,000 tons per annum to 19,000 tons. The Company made urgent appeals to shareholders for further capital contributions, but only a small number of allotments were taken up. In these circumstances, the mine manager was instructed in September 1887 to stop all operations except copper refining.[62] All the wood-carters, with the exception of the men in the smelting sheds, were paid off and the mine was operated on a caretaker basis.[63]

False Dawn

As the colony of New South Wales celebrated the centenary of European settlement in 1888, there was a surge in confidence in the future of mining at Cobar as a consequence of a rise in the price of copper, and new gold and silver finds. Gold and silver fever raged in the town in February 1888 and there was a rush for mineral leases.[64] By July, gold was found at Mount Billygoe and a new village sprang up in this location. Both the Occidental Gold Mining Company and the Fort Bourke Silver Mining Company extended their mine drives on Fort Bourke Hill, south of Cobar. The settlement of Wrightville sprang up here to serve these mines.

More significantly, there was a dramatic improvement in copper prices, with the metal quoted at £85 per ton in London in January 1888. The Great Cobar mine responded immediately to this "extraordinary rise in prices" by resuming full-scale operations.[65] The furnaces were cleaned out, repaired and rebuilt as was found necessary, and all the woodcutters resumed work.

The directors faced their shareholders at the 24th half-yearly meeting in February 1888 in a more optimistic mood. The average price of copper received in Sydney was then £46 17s 9d per ton, compared with £33 9s six months earlier.[66] Moreover, the directors advised that they had sold the company's production to a "powerful French syndicate" for three years at £60 per ton in Sydney. The directors were questioned on whether the recent extension of the company's tramline a few miles in a "better wooded direction" would overcome fuel supply problems.

They responded that a permanent solution to the fuel problem would come with the construction of a Government railway from Nyngan to Cobar, which would enable coal to be economically shipped in for the works. Shareholders were also advised that the cost to the company of copper delivered Sydney was £48 per ton.

Only 5500 tons of ore was smelted in the half-year to 30 June 1888 for 416 tons of refined copper. Shareholders were advised that guaranteed contracts for sale of the total production of copper for the years 1888, 1889 and 1890 at £60 per ton on board ship Sydney had been signed with the Société des Metaux.[67] The contracts provided for a maximum output of 2500 tons of refined copper per annum. The difficulty of obtaining the supply of fuel, however, prevented the company from taking advantage of the agreement.

In anticipation of the forthcoming railway extension, the Great Cobar mine undertook successful trials of Dubbo coal in the smelting works and for the locomotives on the firewood tramway in October 1888.[68] However, the use of coal would not be economically viable until a railway was constructed to Cobar. In the meanwhile, the mine continued to bring in fuel wood over its tramway.

But the extensive cutting of the forests by the miners was a matter of increasing concern. Along the Darling River and around Cobar the NSW Conservator of Forests observed that the country was being *gradually denuded of what little timber it possesses and there is no new growth worth mentioning to provide in future for an ever increasing demand*.[69] By 1886, the Cobar Council expressed concern at the denuding of the forest area and made a request to the Minster of Lands to ban all woodcutting within 12 miles of town.[70] The Minister for Lands acted in early 1888 by withdrawing the concession granted to woodcutters in their exemption from licence fees, an action that generated yet another "outcry" in Cobar.[71]

In late 1888, the Great Cobar Copper Mining Company gave heart to its shareholders by declaring a dividend of 1s per share, the first in five years.[72] Captain Williams had succeeded in clearing off the debt that encumbered the property when he took charge, and hope was expressed that if the price of copper kept up, the mine would continue to pay good dividends.

It was a false hope. The high copper prices of 1888 had been artificial and unsustainable, caused by the activities of the French syndicate that had sought to corner the world copper market.[73] The material consequence was a rapid production response to the price increase. The syndicate folded in March 1889, demand for copper slumped dramatically, and the Sydney price fell to £42 per ton. The French syndicate declined to take delivery of 100 tons of Cobar copper and the Great Cobar Copper Mining Company took it to court for breach of contract.[74]

Good rains fell in 1889, but unfortunately this only compounded the problems of transport, turning the deep fine dust of the overworked "natural" roads into impassable bogs.[75] The supply of Cobar's necessities became more and more difficult and the town ran short of even the basic commodities.

These conditions and the continuing economic downturn forced the Great Cobar mine to close down on 3 August 1889. The directors advised shareholders *that until the price of copper recovers considerably and railway communication is established whereby large quantities of fuel can be readily and cheaply obtained, it is improbable that operations will be resumed*.[76]

The loss of the Great Cobar had a profound impact on mining and business in the district. Over 14 years, it had produced 23,155 tons of copper. The employment it generated had sustained a large township in the most inhospitable of environments. The town lived on in the hope that the

construction of the railway to Cobar would lower the cost of transport, thereby enabling the mine to resume at a profit.

GREAT COBAR COPPER MINING COMPANY Copper production 1876-89

Year	Ore treated (tons)	Copper produced (tons)
1876	1458	174
1877	4880	523
1878	8389	1090
1879	12615	1891
1880	20224	2569
1881	21552	2568
1882	13787	1802
1883	19000	2401
1884	23789	2769
1885	23558	2130
1886	25887	2044
1887	19163	1521
1888	13210	1005
1889	8177	668

Woodcutters and Carters

In contrast to the social history of railway systems that brought firewood to the gold mines at Kalgoorlie in Western Australia, little information is available on the woodcutters and carters of the Cobar district. In the West, life at the 'head of the line' was a harsh and isolated existence in tents.[77] Cutters were constantly on the move and water was frequently in short supply. Their tools of trade were a crosscut saw, and axe and a file for sharpening. The carters relied on horses and simple drays to haul the wood to the railhead.

Indications are that many of the woodcutters and carters at Cobar were from local rural families seeking additional work to supplement their pastoral income in poor years.[78] Several well-established families in the district built their prosperity on woodcutting. The Knight family got its start in this manner. Henry Knight and his brothers came to Cobar from South Australia in the early 1870s and, through family contacts with Captain Lean, obtained a contract to supply wood to the smelters.[79] Henry Knight took up 10,000 acres of heavily timbered country on the road to Bourke. He and his wife Elizabeth raised eight boys and six girls and as soon as the older sons were able to wield an axe and harness a horse they joined their father woodcutting. By the time the Great Cobar mine closed in 1889, Henry Knight had accumulated sufficient capital to purchase the first of several pastoral properties he owned in the district. Tom Knight, a grandson of Henry, carried on the tradition when the Occidental and Fort Bourke mines reopened in the late 1930s. He cut firewood and delivered it to the mines and other users in the town, before going down the mines himself for 10 years.[80]

As the demand for wood increased, employment opportunities expanded and a large pool of men flocked to Cobar seeking work. These included Chinese making their way from Victoria and, from 1888, Sydney men given free railway passes by the government to find work in the country. Cobar had a large Chinese population, principally located in the East Cobar area.[81] Many Chinese were engaged in scrub clearing activities for the pastoralists and it is claimed that some took up contracting work as wood cutters and carters for the mines.[82] Remarkably, other Chinese managed to establish market gardens in the barren landscape and they supplied the town with fruit and vegetables. As in other outback towns, however, they were often a targets for racist bigotry.

As in other mining centres, the population of Cobar was itinerant. In 1885, reports of a gold discovery near Mount Hope produced an exodus from Cobar as *great numbers have gone out to the scene of the discovery*.[83] In these circumstances, the Great Cobar Company faced constant difficulty in attracting reliable workers for its mining and wood-carting tasks and the high cost of labour in this remote location was a factor in the demise of the mine. Cobar also had a reputation as a gambling centre. Many hard-won wage packets changed hands in back street schools, leaving families destitute. The *Cobar, Nymagee & Louth Liberal* raged against this "evil", noting the case of a carrier who gambled £125, the proceeds of selling his wagon and horses, as an example of how men throw their wives and families *upon the mercy of a generous public to support them, their husbands having wasted the money that they should have applied for their support*.[84]

The wood-carters were at the mercy of the unreliable seasons. When it rained they were unable to get their drays through the boggy country; when it didn't, which was the dominant theme, they were unable to sustain their horses in the drought conditions and had to move them to better locations. During the 1892 drought, wood-carters at the nearby Nymagee mine had to feed their horses entirely on chaff and corn in the absence of grass, but the price of chaff had risen to 9s to 10s per hundredweight.[85] In these conditions, the wood-carters were unable to make a living.

Role of the Firewood Tramway

Cobar's isolation forced the mines to utilise those resources that were available locally. Firewood from the surrounding forests was the obvious source of fuel for the mine, and its cutting and transport quickly became an important industry. The introduction of rail technology enabled the mine to draw an expanded and regular supply of fuel from an extended area. The company considered that the railway transported firewood at a lower cost than alternative transport. However, it was not used when the mine reopened in 1894 on the grounds that teams could bring in the firewood at lower cost. It is likely that this was due to the competitive rates offered by teamsters desperate for work following the depression of the 1890s, together with good seasons that facilitated work by horses.

Overall, the firewood tramway played a significant role in the mine's expansion and facilitated its operation in such an isolated location. However, the company was still dependent on horse-power to bring the wood to the rail head, and this part of the supply chain was greatly hindered by rain and drought. In times of drought the carters had to pay high prices for feed or move their horses out of the district; when it rained the tracks through the bush became impassable for extended periods. Attracting sufficient woodcutters and carters to such an isolated location was also a constant problem. Moreover, as firewood was a limited resource, the company found itself extending its tramway over longer and longer distances to obtain fuel. Eventually, the supply of adequate quantities of firewood was the limiting factor in raising production to take advantage of the price rise in 1888.

While environmental matters were given less consideration than they would today, the exploitation of fragile forest resources by the Great Cobar Copper Mining Company was a matter of public concern by the mid-1880s, chiefly on account of increased dust storms. Cobar Council banned all wood cutting within 12 miles of the town in 1886. The long term environmental impact of extensive firewood cutting for

the mines is more difficult to determine. Scientists lack a clear baseline of the original vegetation and there have been ongoing activities impacting on vegetation. Where natural regrowth has been allowed to occur, the effect of the major shock to the vegetation appears to have been primarily in terms of succession, with the species mix largely retained, but with larger species (primarily red box and bimble box) not yet recovering to a mature stage.[86] However, subsequent activities have hindered the regrowth of large trees in much of the former firewood cutting area and facilitated the growth of woody weeds.

Wood was an inefficient and comparably expensive fuel relative to coal or coke and it was not suitable for the new smelting processes required for the sulphur ores that were increasingly being mined. The Great Cobar was caught in a cost-price squeeze which made it unviable when the price of copper dropped sharply in 1889. Only a direct railway connection with coal mining areas and ports could keep the mine profitable. That was around the corner and a new era for the Great Cobar mine was about to unfold over the coming decade. This era will be covered in follow-up articles.

Acknowledgements

In addition to those mentioned in the introduction, the author wishes to thank LRRSA researchers Ron Madden, John Shoebridge and John Browning, together with Colin Jones of the Cobar Museum, for their assistance with comments on the early drafts of this article. Cobar Shire Council has provided support, while the Cobar Museum team were most helpful in tracking down local sources of photographs. The late Mr WL (Wal) Snelson of the Cobar District Historical Society helped with photographs. Ron Madden and Jim Longworth assisted with additional information from their own research. Special thanks are extended to John Shoebridge for permission to use his maps of the firewood tramway.

References

1. Clelland, W, *Cobar Founding Fathers: an illustrated history of the pioneering days in the copper mining district of Cobar, New South Wales.* Dubbo, Macquarie Publications, 1984, p. 21
2. *Town & Country Journal*, 12 June 1872. Although the name of the original Cobar waterhole has often been given as *Kubbor*, the Macquarie Dictionary of Aboriginal words gives the correct use as Kuparr. This word translates as raddle, referring to the mineral found in the water hole (advice from Colin Jones of Cobar Museum).
3. Clelland, p. 25
4. Clelland, p. 32
5. *Town & Country Journal*, December, 1871
6. Clelland, p. 34. The Cornish, Scottish and Australian mine is generally referred to as the CSA Mine, though the *Sydney Morning Herald* of 22 May 1874 (p.6, "The Cobar Copper Mines") uses the full title.
7. Clelland, p. 47
8. *Town & Country Journal*, 3 and 24 August 1878.
9. Clelland, p. 50. *The Town & Country Journal*, 3 August 1878, p. 215, reports that four more furnaces were in the course of construction.
10. Burgess, Neville, *The Great Cobar*, self published 1995, p.65
11. *Sydney Morning Herald*, 29 August 1876, report of directors to 30 June 1876.
12. *Town & Country Journal*, 24 August 1878, p. 350.
13. Clelland, p. 63.
14. *Sydney Morning Herald*, 25 August 1880, p.6, Great Cobar Copper Company half-yearly report.
15. *Sydney Morning Herald*, 10 March 1881, "The Industries of the Colony".
16. *Cobar, Nymagee & Louth Liberal*, 15 December 1881
17. *Sydney Morning Herald*, 1 August 1884, Report on Cobar Copper Mines by Inspector of Mines.
18. *Aust. Town & Country Journal*, 19 April 1884
19. *Sydney Morning Herald*, 1 August 1878, p.5
20. *Wagga Wagga Express*, 19 March 1879.
21. Burgess, p. 74, and *Aust. Town & Country Journal*, 7 April 1888, "In the Cobar District".
22. *Cobar, Nymagee & Louth Liberal*, 22 December 1881
23. *Sydney Morning Herald*, 4 March 1879. The SMH of 26 April 1879 reported that the tramway was in operation.
24. *Sydney Morning Herald*, 7 April 1879.
25. *Sydney Morning Herald*, 10 March 1881.
26. *Cobar, Nymagee & Louth Liberal*, 16 February 1882; *Sydney Morning Herald*, 2 March 1882
27. Conde, JC, "The Fowler Patent Locomotive", in *Fowler Locomotives in the Kingdom of Hawaii*, Special issue of *The Narrow Gauge* No. 140, 1993, p. 11
28. *Sydney Morning Herald*, 2 March 1882, Great Cobar Copper-Mining Company half-yearly meeting.
29. *Sydney Morning Herald*, 24 August 1882.
30. *Sydney Morning Herald*, 22 February 1883
31. *Sydney Morning Herald*, 17 February 1883
32. *Sydney Morning Herald*, 10 February and 7 March 1883
33. *NSW Government Gazette*, No. 262, 6 June 1884.
34. Horne RT, "Early John Fowler Locomotives in Australia", *Light Railways* 81, July 1983, p. 21; Jux, Frank, *John Fowler & Co Locomotive Works List*, published by the author, 1985.
35. Madden, R, "Mort's Dock Locomotives of the Great Cobar Firewood Tramway", *Light Railways* No.146, April 1999, p.6
36. Jux, 1985.
37. Madden, p.6
38. *Sydney Mail*, 29 August 1885. Possibly only a photograph or model was exhibited at a commercial stand.
39. Madden, p.7
40. Shoebridge, 1969, p. 197
41. Shoebridge, J, personal communication, 24 September 1998.
42. *Sydney Morning Herald*, 1 August 1884, report of Mr Slee, Inspector of Mines.
43. *Sydney Morning Herald*, 22 August and 16 October 1883. The Department of Mines Annual Report, 1883 states that the branch line was 3 miles long.
44. Shoebridge, J, personal communication, 24 September 1998.
45. *Sydney Morning Herald*, 1 August 1884.
46. Shoebridge, 1969, p. 194.
47. *Aust. Town & Country Journal*, 8 November 1884
48. *Aust. Town & Country Journal*, 7 April 1888
49. *Sydney Morning Herald*, 27 August 1883
50. *Sydney Morning Herald*, 11 May 1896. Our Mineral Wealth: the Copper Industry, p.6. The *SMH*, 12 February 1897 (p.3), noted the worth of "material in the shape of sulphuric acid that literally blows into the air every week and is lost. The only compensation for the residents of Cobar is that mosquitoes cannot live within five miles of the works."
51. *Cobar Leader*, 10 January 1902.
52. *Aust. Town & Country Journal*, 2 August 1884
53. *Aust. Town & Country Journal*, 17 January 1885
54. *Sydney Morning Herald*, 26 August 1885, p.8. The half-yearly meeting of the Great Cobar Copper Mining Company was informed that the debit balance had increased from £8123 to £12,926 in the six months to 30 June 1885.
55. *The Australian Mining Standard*, 19 November 1892, Great Cobar Copper Mining Coy, p. 309
56. Burgess, p. 96.
57. Madden, p.7
58. *Sydney Morning Herald*, 11 May 1886, p. 8.
59. Langford, GG, "The Coming of the Railway", *The Rattler: Cobar Railway Centenary*, Cobar Historical Society, 1992, p. 11.
60. *Aust. Town & Country Journal*, 16 July 1887
61. *Sydney Morning Herald*, 25 August 1886
62. *Sydney Morning Herald*, 29 February 1887, p.7
63. Clelland, p. 97.
64. *Aust. Town & Country Journal*, 18 February 1888
65. *Aust. Town & Country Journal*, 7 July 1888
66. *Sydney Morning Herald*, 29 February 1887, p.7
67. *Aust. Town & Country Journal*, 25 August 1888; *Sydney Morning Herald*, 22 August 1888, p.5
68. *Aust. Town & Country Journal*, 27 October 1888
69. Quoted by Davison, G, McCarty, JW and McLeary, A (eds.), Australians 1888, Fairfax, Syme & Weldon Assoc, 1988, p. 81.
70. Clelland, p. 95
71. *Aust. Town & Country Journal*, 7 April 1888
72. *Aust. Town & Country Journal*, 5 January 1889
73. *Aust. Town & Country Journal*, 5 January 1889, and 16 March 1889
74. *Sydney Morning Herald*, 13 May 1889, p.7
75. *Aust. Town & Country Journal*, 25 May 1889; Clelland, p. 103
76. *Aust. Town & Country Journal*, 31 August 1889; *Sydney Morning Herald*, 28 August 1889, p.11
77. Bunbury, Bill, *Timber for Gold: Life on the Goldfields Woodlines*, Fremantle Arts Centre Press, 1997, p. 76
78. Colin Jones, Curator Cobar Museum, personal communication, 6 August 1998
79. Clelland, p. 125
80. Tom Knight (aged 81), interview at Cobar, 10 February 1999.
81. Clelland, p. 93
82. Tom Knight, interview 10/2/1999
83. *Aust. Town & Country Journal*, 2 March 1885
84. *Cobar, Nymagee & Louth Liberal*, 16 February 1882
85. *Aust. Town & Country Journal*, 14 May 1892
86. Ken Harrison, Catchment Manager, Cobar District, Dept. Land & Water Conservation. Interview 11 February 1999

Steam through the Bush

The forests of Western Australia once echoed with the sounds of the many and varied steam locomotives employed by that State's thriving timber industry. By the 1960s, however, new methods of harvesting and transporting timber had brought about a rapid decline in the use of railways generally, and steam power in particular. By the close of 1967, only three steam locomotives remained working in the industry.

Hawker Siddeley, Pemberton employed SSM No.7, a 2-6-0 built by James Martin (117 of 1895). First delivered to the WAGR as their G53, it was sold to Commonwealth Railways in 1942, for use on the North Australia Railway. In 1946 it returned to the west, when purchased by State Saw Mills and, in 1961, became the property of Hawker Siddeley, with their purchase of the SSM operations. In 1964, it had the distinction of hauling the last log train on any WA timber tramway. Finally retired in 1970, it is now preserved at the Pemberton Pioneer Museum.

Bunnings, Donnelly River mill was home to No.86, a well-kept Beyer Peacock 2-6-0 (2913 of 1888) which had begun life as South Australian Railways' Y86, and joined the Bunning Bros roster in September 1942. In January 1959, it emerged from an overhaul fitted with a large Belpaire boiler (ex-Commonwealth Railways, Darwin). In South Australian Railways terminology, this upgraded No.86 to Yx class. In its final years, it shunted at the mill and hauled sawn timber to the WAGR siding at Yornup, 14 miles distant. Its last run was in March 1970, and it now resides within the ARHS Museum at Bassendean, near Perth.

Millars, Yarloop was the last WA mill to operate its own steam locomotive, with the delightful Dübs 4-6-0 No.71 (3495 of 1897) not making its final run until 9 March 1973. First delivered to the WAGR as G111, the 43-ton loco had remained with the Government for less than a month, being sold to railway contractors Smith & Timms. The new owners named their acquisition *MENZIES*, and Millars retained the name after they purchased the locomotive the following year. It kept its name until 1937, when it was rechristened No.71. Set aside in 1961, it was back in action two years later, and gave another decade of useful service. It is now in the hands of the Hotham Valley Tourist Railway, at Pinjarra. *Bruce Belbin*

Above: On 28 January 1969, Bunnings' No.86 tackles a steep grade deep in the forest, as it hauls a train of empties back to the mill. Centre spread, clockwise from lower left: Millars No.71 stops traffic on the South-West Highway at Yarloop, 22 January 1969. Photos: Robert Kingsford-Smith. ❑ *No.86 on its way to the WAGR siding at Yornup with a load of sawn timber, 20 November, 1967* ❑ *On 26 November 1967, SSM No.7 brings empty wagons from the WAGR siding across the road and into the mill yard at Pemberton.* ❑ *In the golden glow of the late afternoon sun, No.71 shunts Millars' yard at Yarloop, 27 July 1970. Photos: Clarrie Cole* ❑ *On a hot summer's day, SSM No.7 simmers beside the 'wood stage' at Pemberton. 28 January 1969. Photo: Robert Kingsford-Smith.*

Sources

Rails through the Bush, Adrian Gunzburg and Jeff Austin, LRRSA 1997.
Steam Up, John Joyce and Allan Tilley, J&A Publications 1971.
Correspondence with Adrian Gunzburg and Clarrie Cole.

Industrial Railway NEWS

Industrial Railway News Editor : John Browning
PO Box 5646,
ROCKHAMPTON MAIL CENTRE 4702
Phone: (07) 4931 3607 (W); (07) 4926 6356 (A/H)
Fax: (07) 4927 7560 E-mail: ceo8@rocknet.net.au

EDITORIAL

A press story on 23 July forecast the exit of CSR from the sugar business, with the establishment of a stand-alone sugar company expected within about the next five years. The mainstream company operation will concentrate on building materials and construction.

A historic decision on the Federal Court on 28 June determined that Hamersley Iron's rail line forms part of a production process. This means that it is not subject to access for use by other companies under the national competition policy. This decision may well have been a relief to a number of sugar milling companies.

Thanks to those who have been contributing photographs and news. I encourage you to continue to do so, and I encourage others to assist. Very few tunnelling or underground mining lines have been reported in recent times, but they must still be out there.

Top: *BHP (Port Kembla) A E Goodwin Co-Co DE locomotives 103 (84179 of 1963) and 102 (G-6048-13 of 1972) arrive at the Elouera Colliery spoil dump, on 18 August 1999. Photo: Brad Peadon*
Above: *Bingera Mill's Com-Eng 0-6-0DH TEGEGE (FD4799 of 1966) crosses the picturesque Givelda bridge across the Burnett River with full bins in June 1999. Photo: Andy Roberts*

NEW SOUTH WALES

BHP LTD, Port Kembla
(see LR 148 p.17)
1435mm gauge

A visit to BHP's lines around Port Kembla on 18 August revealed A E Goodwin Co-Co DE locomotives 102 (G-6048-13 of 1972) and 103 (84179 of 1963) double heading a coal train up to the Kemira Valley. It is understood that usual practice has been for the 'Alcos' to run up there singly, but there has been some talk about double heading Kemira trains, so this may be eventuating.

In Port Kembla, there have been some changes to the line up of withdrawn locomotives at Steelhaven. Most of the locomotives listed in LR 145 remain here but English Electric (Aust) Bo-Bo DE D21 (A.042 of 1960) has been moved away and has been replaced by two similar locomotives, red D31 (A.084 of 1964) and blue D19 (A.033 of 1960).

A trip to Elouera Colliery showed a very sick English Electric (Aust) Co-Co DE D51 (A.111 of 1965) with sister locomotive D49 (General Electric (Aust) A.242 of 1972), both yellow painted units, on a coal train not being able to make it back to the steelworks. Soon after 103 and 102 arrived with a train of empties and spoil for the dump. After about a half hour, the two Alcos were put on the front of the English Electrics and made the spectacular site of an up 'coalie' headed by 102+103+D51+D49. On arrival at the steelworks, D51 was towed straight into the workshop, where it was seen with preserved Com-Eng Bo-Bo DE D6 (built 1950) and yellow English Electric (Aust) D17 (A.031 of 1960). It is understood that the engine of D51 has since had to be removed for attention.

The last thing noted on the day was English Electric (Aust) D39 (A.240 of 1972) which passed the National Rail Corporation yard en route to the CRM works.

Com-Eng Bo-Bo DE D7 (built 1950) was delivered to private owner Chris Cleary of William Edmund Pty Ltd in Canberra in early January 1999.

Peter Neve via Bob McKillop 7/99; Brad Peadon 8/99

SILVERTON TRAMWAY PTY LTD
Broken Hill
(see LR 148 p.17)
1435mm gauge

By early July, A E Goodwin Co-Co DE locomotives 48s30 (84710 of 1963) and 48s31(84703 of 1963) had joined 48s35 and 48s37 and a selection of Silverton 442 class locomotives at Parkes. They are believed to be intended for "main line" contract use.

Don Alitt (aus.rail newsgroup) 7/99

QUEENSLAND

BABINDA SUGAR LTD
BUNDABERG SUGAR LTD, Mourilyan Mill
(see LR 147 p.17)
610mm gauge

Increasing integration between the transport systems of the two mills is exemplified by a common Traffic Office (at Mourilyan) and a common track maintenance section. It has been suggested that all loco heavy overhauls will

henceforward be carried out at Babinda. Locomotives are able to be transferred between the two mill areas as traffic requirements dictate. The Mourilyan locos have been renumbered in a common series with Babinda, with the numbers being the global positioning system identifiers. The new numbers of the former Mourilyan 0-6-0DH locomotives in the cane haulage fleet are as follows. It is understood that the two Com-Eng locomotives 8 and 19 have been transferred from Mourilyan to Babinda Mill.

8	Com-Eng	AA1543	1960	(ex 6)
11	Clyde	55-64	1955	(ex 1)
12	Clyde	55-60	1955	(ex 8)
13	Clyde	59-203	1959	(ex 3)
14	Clyde	63-288	1963	(ex 4)
15	Clyde	66-491	1966	(ex 5)
16	Clyde	56-93	1956	(ex 10)
17	Clyde	55-57	1955	(ex 12)
18	Clyde	56-83	1956	(ex 2)
19	Com-Eng	AJ2359	1962	(ex 7)

This suggests that Mourilyan's old number 11 (Walkers 0-6-0DH 570 of 1956) and 9 (Com-Eng 0-6-0DM B1111 of 1956) are out of service or allocated to the track maintenance fleet.

Plasser KMX-12T tamping machine 249 of 1982 was noted at Mourilyan Mill on 23 July. This Bundaberg Sugar machine has been used in both Bundaberg and Innisfail areas in the past.

Chris Hart 8/99; Peter Lukey 8/99

BUNDABERG SUGAR LTD, Fairymead Mill

(see LR 148 p.17)

610mm gauge

During the July-August period, 0-6-0DH 70 (3406-1-7-70 of 1970) spent some time at Millaquin Mill to cover for a loco axle breakage on Millaquin Mill's Bundaberg Foundry B-B DH. By mid-August it was the turn of Fairymead's loco of the same type, 91 (001 of 1991) to be out of service with the same problem. It had signs of cracks in three axles, some as deep as 20mm, and in mid-August it was at the Bundaberg Foundry receiving new axles.

Lincoln Driver 8/99

COMALCO ALUMINIUM LTD, Weipa

(see LR 143 p.18)

1435mm gauge

It is reported that as of June 1999, this mining railway was being used for only one week per month. Bauxite from the nearer side of the railway was being brought in by truck. The railway should be running on a full-time basis again from 2001.

Rail News Victoria 7/99 via Bob McKillop

CSR LTD, Herbert River Mills

(see LR 148 p.17)

610mm gauge

Macknade Mill's Clyde 0-6-0DH 18 (DHI.5 of 1954) was used for ballast haulage by Victoria Mill for most of July. Macknade's E.M.Baldwin 0-4-0DH 17 (6-1446-1-9-65 of 1965) still sees occasional use on cane haulage duties to cover breakdowns, but its most recent stint came to a halt on 13 August when it suffered a broken axle. **Victoria Mill's** E.M.Baldwin 0-6-0DH *HOBART* (4413-1-7-72 of 1972) was sent over to Macknade on 15 August for three or four days but was only fit for use on light runs.

The transfer of cane from Victoria Mill to Macknade commenced on 21 June, the first day of crushing. About 1000 to 1200 bins are transferred each day using one of the two Macknade bogie Baldwins, normally 20 (7070-4-4-77 of 1977). Twenty 11-tonne bins from Victoria Mill were in use in the Macknade mill area during the last week of July to test modifications to the tippler. The massive bridge girder crane from Invicta Mill was noted at Victoria in late June and early August.

District growers have voted in favour of amalgamating the two Local Boards for the two mills, and this process was finalised in early July. Under the amalgamation provisions of the Sugar Industry Act 1991, this means that there is a single Award for cane payments, with prices taken on a district average.

About 40 bulk sugar boxes were derailed at a road crossing about 2km east of Halifax at about midday on 4 July. It is believed that the locomotive, Victoria Mill's Walkers B-B DH *CLEM H McCOMISKIE* (605 of 1969 rebuilt Walkers 1991), encountered a broken rail just before the level crossing, and crossed the road, derailed, before stopping. Raw sugar was spilled across the road and about 30 of the sugar box vehicles were damaged. Mill crews worked throughout the night to clear the road and the line, and sugar from both mills had to be taken to Lucinda by road in order to maintain crushing operations.

Industrial Railway NEWS

With safety valves roaring, the ANGRMS Bundaberg Fowler 0-6-2T 5 (5 of 1952) has crossed Currie Street and now tackles the steep pinch up Mill Street and into the Moreton Mill yard, 11 August 1999. *Photo: Graham Watkins*

Industrial Railway NEWS

Victoria Mill's $4m Grasso Road overpass line was opened in late July with cane trains passing under the Bruce Highway south of Ingham to use the first of two sidings to be constructed as part of the first stage of the line. A further 1.7km of trackwork was expected to be completed by mid-September, along with the second siding, at Pappin's Road.
Victoria Mill's Hudswell Clarke 0-6-0 *HOMEBUSH* (1067 of 1914) will be used for passenger rides at the Maraka Festival in Ingham on 16 October.
Herbert River Express 6/7/99, 31/7/99, 17/8/99, 19/8/99 via Chris Hart; *Australian Canegrower* 19/7/99 via Chris Hart; Chris Hart 8/99

CSR PLANE CREEK PTY LTD, Sarina
(see LR 142 p.22)
610mm gauge
Clyde 0-6-0DH 10 (67-569) in the old sky blue livery, was noted parked with ballast hoppers at Koumala, south of Sarina, on 7 July. All other operational locomotives seen were in the new green and yellow livery. The Plasser line car built in 1982 has also been painted green and yellow and now carries the name *LINECAR*. E.M.Baldwin 0-6-0DH 9 (6-825-1-5-64 of 1964), believed to be rebuilt from a Ruston & Hornsby 0-6-0DM, was not in the line up of discarded locomotives round the back of the mill on 7 July. It may have been sold. Present in the line up were dismantled 0-6-0DH locomotives 2 (Clyde 57-147 of 1957) and 3 (Com-Eng FA1036 of 1959).
On 21 July, a furniture truck collided with a cane train of 146 full bins hauled by E.M.Baldwin D12 (6890-1-10-76 of 1976) at the main crossing of the Bruce Highway just north of Sarina. The loco, crewed by a male driver and female assistant, ended up in a drainage ditch and 27 bins of cane were derailed across the road, with cane all over the road surface. To make things worse, a live 240-volt power line fell onto the bins. Disruptions to crushing resulted, with 1500 bins of full cane from all areas south of the mill being trapped beyond the accident site.
Mark Gough 7/99; *The Daily Mercury* 22/7/99 via Bob Gough

Dawson Valley Colliery, Baralaba
(see LRN 84 p.10)
661mm gauge
Yellow-painted EM Baldwin 4wDH 6-2245-1-3-68 of 1968 is still to be found in good condition on the surface at the site of this underground coal mine, which closed in 1969.
Editor 5/99

ISIS CENTRAL SUGAR MILL CO LTD
(see LR 147 p.18)
610mm gauge
The ex-QGR Walkers B-B DH which arrived from Cooks Constructions, Victoria, in March is 900mm gauge CC04 (610 of 1969). It was noted stored complete at the mill in August.
Lincoln Driver 8/99

MACKAY SUGAR CO-OPERATIVE ASSOCIATION LTD
(see LR 148 p.
610mm gauge
Delays have occurred in the completion of **Marian Mill's** new road/rail bridge over Cattle Creek at Gargett with faults reportedly discovered in some of the pre-stressed girders supplied. Marian Mill is reportedly crushing cane grown in the Blue Mountain area near Nebo, inland of the coastal range. The cane from this area is brought to the old North Eton Mill site, and as a temporary measure early in the season was being dumped on a concrete pad and loaded into 6-tonne bins by front end loader. A direct tip system to deliver the cane into big bins from a high ramp was anticipated to be put into use at North Eton in early September.
Yet another standard gauge Walkers ex-NSWGR 73 class DH locomotive has been purchased by Mackay Sugar. It appears that 7321 (683 of 1972) was acquired around July, reportedly in working order, from Bob Hague at Goulburn.
Four of the new 14-tonne bins which are being delivered for use at **Pleystowe Mill** were trialed at **Farleigh Mill** for a couple of weeks and were reportedly in use on the north coast line.
Mark Gough 7/99, 8/99; Andy Roberts 7/99, 8/99; *Australian Canegrower* 16/8/99 via Chris Hart

MILLAQUIN SUGAR CO PTY LTD, Bundaberg
(see LR 148 p.18)
610mm gauge
Early in the crushing season during June, Bundaberg Foundry B-B DH *ELLIOTT* (002 of 1991) was found to be suffering a variety of electrical and computer faults which severely affected its performance. It was withdrawn from service to enable experts from Detroit Diesel to be called in to rectify the whole computer management system. By early July, the *ELLIOTT* was back into service. It was reported that it had been regularly hauling close to full size load, of around 700 tons, the heaviest trains on the Millaquin system to date. However, within the next few weeks, *ELLIOTT* was temporarily out of action yet again, this time with a broken axle. It is believed that the loco is normally used for two 10-hour shifts per day.
On 25 June, delays in remediating *ELLIOTT*'s electronics led to a decision to bring Moreton Mill's EM Baldwin 0-6-0DH *BLI-BLI* (6-1257-1-7-65 of 1965) to Millaquin as a replacement locomotive. Moreton Mill had not yet commenced crushing at this time. Before it could be put into use, the link and pin couplings had to be removed and a plate made for fitting Willison couplings, but before this could be completed, rain intervened and crushing was halted. *ELLIOTT* was ready for service by the time the rain ceased, with *BLI-BLI* returning to Nambour after 6 July. Later, while *ELLIOTT* was out of service with a broken axle, it was the turn of Fairymead Mill's 0-6-0DH 70 (3406-1-7-70 of 1970) to replace it at Millaquin.
Lincoln Driver 7/99, 8/99 Andy Roberts 7/99

Energy Brix Gemco 4wDH locomotives 2, 5 & 1 crossing the Morwell River on the interconnecting railway between Yallourn and Morwell, 4 July 1999. *Photo: Ken Renshaw*

MORETON SUGAR LTD, Nambour
(see LR 148 p.19)
610mm gauge
On 25 June, before the crushing season commenced in Nambour, EM Baldwin 0-6-0DH *BLI-BLI* (6-1257-1-7-65 of 1965) was transported to Millaquin Mill as a replacement locomotive to cover a breakdown. It spent all its time there in the loco shed as before it could have Willison couplers fitted, wet weather intervened and crushing was halted. *BLI-BLI* returned to Nambour shortly after 6 July.
Bundaberg Fowler 0-6-2T 5 (5 of 1952) was transported to Moreton Mill from the Australian Narrow Gauge Railway Museum Society's Woodford site on Monday 9 August. The loco entered mill service on Tuesday afternoon with several trips hauling cane from Howard Street Yard to the mill. Wednesday, Thursday and Friday were similar with the locomotive being utilised intensively on cane haulage duties from Howard Street Yard. Fine weather prevailed throughout the locomotive's stay. Trains of between 45 and 50 bins were hauled each trip grossing 250 - 300 tonnes. Saturday was similar with 4 trips in the morning, the final being at 12.30pm across Currie Street signalling the

start of the Sugar Festival street procession. A further four trips were run Saturday afternoon, before the fire was dropped for the last time at Moreton Mill in 1999. Local business houses and townspeople were very happy with the event and the additional tourists the operation of the steam train generated. Mill management have indicated their desire to have the locomotive back for the Sugar Festival in two years time.
Late afternoon on 12 August, E.M.Baldwin 0-6-0DH *PETRIE* (6-2300-1-6-68 of 1968) came off the track on the Eudlo Flats Branch at Blanch's Siding close to Petrie Creek Road. The loco slewed sideways for some distance before coming to rest at right angles to the track. The crew was fortunate the locomotive did not fall into a drainage ditch over which it was passing at the time of the derailment. The fireman, having been working on the locos for only three weeks was rather shaken but the driver was blasé about the situation. It took a Franna crane about an hour to rerail the locomotive. The crane would lift one end of the locomotive and then "walk" it around until it was rerailed. The empty bins the loco had been hauling were generally unscathed but a number, next to the locomotive, had derailed. After a checkover at the derailment site by the loco fitter, *PETRIE* continued on its shift duties on the Eudlo Flats and Paynter Creek Branches.
Bob Gough 7/99; David Mewes 8/99

THE MULGRAVE CENTRAL MILL CO LTD
(see LR 144 p.20)
610mm gauge
Crushing was due to commence on 23 June but the scheduled start was delayed, with a new full yard not completed by the due date. The neck of the yard at the mill end has a three-way point. Mulgrave Mill's unique 4wDM, built at the mill in 1962 and affectionately known as "the Pie Cart", has recently been overhauled and repainted in yellow and green. It continues to work on truck shop duties at the mill. The 6-ton Motor Rail Simplex 4wDM (10450 of 1954) was under repair in August, with efforts being made to locate a spare piston. It is used in the slack season to shift bins at Redlynch depot and beyond.
It is reported that the 4-ton Simplex 4wDM (2090 of 1922), formerly the truck shop locomotive at Hambledon Mill, has been sold to a buyer in Sydney. This locomotive is one of the first pair of its type to come to Australia (then fitted with a petrol engine). It is in working order and the mill has quantities of spare parts for it in store. John Fowler 0-4-2T *NELSON* is still steamed every month or so, but what its future holds seems to be unknown.
Andrew Webb 7/99; David Blakeley 8/99; Bob Gough 8/99

TULLY SUGAR LTD
(see LR 147 p.19)
610mm gauge
The ex-QGR Walkers B-B DH which arrived from Cooks Constructions, Victoria, this year is 900mm gauge CC03 (643 of 1970).
Lincoln Driver 8/99

SOUTH AUSTRALIA

BHP LTD, Port Lincoln
(see LRN 119 p.17)
1435mm gauge
It is reported that BHP has disposed of the standard gauge tramway between Proper Bay and Coffin Bay to a private party. Approximately 36km long, it has not been used since around 1993. The line was due to be torn up in August, and consists of 107lb rail, on ballasted plated timbers, all still in a good condition. It was reported that in future sand will be roaded to Whyalla from Coffin Bay.
Nic Doncaster (aus.rail newsgroup) 7/99

VICTORIA

COOKS CONSTRUCTION PTY LTD, Yallourn
ENERGY BRIX AUSTRALIA CORPORATION PTY LTD, Yallourn
(see LR 148 p.20)
900mm gauge
On 4 July, Energy Brix Gemco 4wDH locomotives 2, 5 & 1 were noted working in multiple on a brown coal train. The Interconnecting Railway between Yallourn and Morwell is still divided into two safeworking sections with No.9 loop remaining approximately half way along the line. The train driver normally carries both staffs at all times. All signalling is out of action but at least two unused colour light signals remain along the line. Although only one train normally operates, enough coal hoppers remain at the main yard to make up another couple of trains, together with several small 4-wheel ballast hoppers and associated track equipment. The Cooks Construction Walkers B-B DH CC01 (586 of 1968) and CC02 (587 of 1968) remain on standby at the Yallourn loader in case of Gemco failures. When trains cannot be run, or production at the briquette factory requires it, brown coal transport is supplemented by road trucks.
Ken Renshaw 7/99

Kyneton
610mm gauge
The remains of Ruston & Hornsby 4wDM 285299 of 1949 were located at a scrap yard in the Kyneton area (possibly Midland Recycling at Woodend) and obtained for "preservation" or future use. This locomotive was purchased new by the Melbourne & Metropolitan Board of Works, possibly for the Upper Yarra Diversion Tunnel construction. Unfortunately, only the engine end remains, the rear part having been amputated with an oxy torch at some stage. What is left is currently stored at Lake Goldsmith in north-western Victoria.
Andrew Forbes 6/99; 7/99

WESTERN AUSTRALIA

ROBE RIVER IRON ASSOCIATES
HAMERSLEY IRON PTY LTD
(see LRN 148 p.20 & LRN 121 p.24)
1435mm gauge
On 24 September 1998, the National Competition Council accepted an application from Robe River Mining Co Pty Ltd, acting on behalf of Robe River Iron Associates (RRIA). The application requested the NCC to recommend "declaration" of a bulk iron ore track transportation service over a section of Hamersley Iron's rail line to assist Robe River in its efforts to gain access to the Hamersley rail infrastructure to transport iron ore from the yet to be constructed Robe mine at West Angelas to the Robe port at Cape Lambert. At present, Robe has a railway line running from Pannawonica to Cape Lambert. The line travels north-east and north. It crosses Hamersley's railway line travelling south from Dampier to Rosella Siding at what is called the Robe Overpass. The Hamersley railway line runs from Dampier in the north, south-east under the Robe Overpass, through the Millstream-Chichester National Park down to Rosella Siding. From Rosella Siding, the line travels south to Tom Price and on to Paraburdoo. A spur line travels from Rosella Siding west to Brockman. Another line travels south-east to Marandoo and on to Juna Downs Station and Homestead Junction. That line then travels east to Yandicoogina. The line to which Robe sought access was the line from the Robe Overpass, south-east down to Rosella Siding, then through Marandoo and Homestead Junction, to a point due north of West Angelas. West Angelas is in the order of thirty to forty kilometres south of that point.
On October 30 1998 Hamersley applied to the Federal Court in Melbourne for an Order that the rail line service that was the subject of the application "is not a service within the meaning of section 44B of the Act". Hamersley sought a declaration that the NCC did not have the jurisdiction or power to accept or review the application or make a recommendation in relation to the service to the Commonwealth Treasurer.
The Federal Court heard the matter in late April and early May and on 28 June 1999 it handed down its decision. According to the Federal Court the use of Hamersley's rail line is the use of a production process and therefore the Part IIIA access regime does not apply. This means the NCC has had to cease its assessment of the application and will not be forwarding a recommendation to the Treasurer. The Court ruling is available from http://www.fedcourt.gov.au
The eight Co-Co DE locomotives offered for sale by Hamersley Iron in August 1998 (see LR 143) have been exported after purchase by the American company National Railway Equipment. Goninan-built 5057-5059 and Clyde-built 6060-6064 are reportedly at Mount Vernon, Illinois.
Federal Court of Australia 6/99; Forster Family Inc 7/99; John Engelman 7/99 (both aus.rail newsgroup)

PEMBERTON TRAMWAY CO PTY LTD
(see LR 144 p.21)
1067mm gauge
The future of log traffic on the line has been cast into doubt by the recent changes to the Regional Forests Agreement made by the State government. What effect this will have is unclear at present.
Simon Mead 8/99

LETTERS

Dear Sir,

Blackwall Point Wire Works, Sydney (LRN 115, LR 147)

The galvanised wire works at Blackwall Point were established some time during the first half of 1884 by the firm of John Lysaght. From the begining the works were connected to the wharf by a tramway which ran about 200 yards along the lower level river bank (*Illustrated Sydney News*, 7 June 1884). By 1887 the works had been extended up the hill and the tramway incline was described as: "a cable tram, controlled by an engine at the works, runs from thence to the deep water wharf below, where a three ton crane is in use" (*The Australasian Builder & Contractor's News*, 11 June 1887).

For those interested in metalurgical history both articles provide a detailed description of the processes involved in the manufacture of galvanised wire at the time.

Jim Longworth
Chelterham, NSW

Dear Sir,

I read with a lot of interest your report on BHP's wire works at Chiswick, on pages 26 & 27 of the June issue of *Light Railways*. Apart from any railway interest I might have (and I've been a member of the ARHS for 43 years) I have a special interest in the wire plant, as I worked there for 29 years. I started as a raw apprentice in 1959, and left to move on to other parts of BHP in 1988. In my last 11 years at the works I was Personnel Superintendent, with some responsibility for recording the Company's history.

It is unfortunate that your correspondent, Len King, appears to have been told little of the operation of the works, so perhaps I can fill in some gaps. A booklet *AWI. Growing up with Australia* was produced in 1984 as part of the centenary celebrations of the works, and was freely available at the time.

Firstly, some history. The works were established in 1884 by John Lysaght, then of Bristol, England, to manufacture wire netting, as he saw a market due to the agricultural expansion in Australia, and more importantly a market for netting to control the rabbit plague then rampant. Indeed, the Company, which traded as Lysaght Bros for much of its life, was to capitalise on the rabbit, and if you look at the porch on the office building opposite the gate in Blackwall Point Road/Parkview Road, you will observe a rabbit insignia cast into the parapet above. BHP acquired an interest in the business in the mid-1920s, and full ownership by 1937. John Lysaght sold out early in the century, and re-established his activities in Australia in the 1920s, in the sheet steel business, now absorbed into BHP Steel.

The works was virtually rebuilt from 1950 on. The only older buildings remaining are those housing the wire netting machines, and the annealing and warehouse buildings.

Secondly, as to the railway system, very little was in use when I started there in early 1959. All the inclines had ceased operation some years before (about 1954, I was told), but the annealing crane and rod (not billet!) transfer system were in operation, and remained so until closure. Some internal hand-operated lines were still in use, but the advent of fork lift trucks, suitably modified, put an end to the arduous work of moving product around the plant by manual labour. The Nail Shop, behind the photographer on page 27 of LR 147, had some 12in (I think) gauge hand-operated track in use until its closure in the 1980s. This track was used for moving the nails to various parts of their manufacturing process.

The large area behind the wharf was in fact a storage building, constructed in the early 1900s (from timber said to be from the forests of Epping!) and demolished in 1978. All the rail tracks serving it were manually operated. The wharf crane, seen at the bottom of the photograph on page 26 of LR 147, carried finished product from the works, at a higher level, to the wharf store for storage or shipment. No locomotives were ever used at the plant, although the annealing crane was registered as a "locomotive crane", even though it never towed anything. The incline to the east of the wharf store, as the building was known, was substantially demolished about 1954. The wharf was used extensively in the early days, before road trucks, though curiously the extension to it shown in the photo on page 26 was only built in 1965. By then it was common practice for product bound for export to be conveyed to Darling Harbour by punt. All wharf activities had ceased by about 1970.

Contrary to what Mr King has been led to believe, the operations were not relocated overseas, but to other parts of BHPs wire businesses in Australia, principally Newcastle. Even as late as 1990, considerable sums of money were spent on capital works at Chiswick, but environmental and residential pressures and changes to the wire business resulted in the decision to close the works, this closure finally occurring on 18 December 1998. Fortunately, much of its history, including photographs, have been recorded within the BHP archives, and I have a movie film (8mm std) which I took at the works in 1962, and which shows, among other things, the transfer system operating.

For a factory to survive on the same site for over 100 years, producing basically the same products all that time is surely unique in industrial history. In its heyday, it employed in excess of 1500 people, and produced up to 4000 tons of wire and wire products per week - this means 4000 tons of rods were transported by rail from Newcastle Steelworks to Ashfield (later Rozelle, and finally Villawood) and carried by road transport to the works. One can only wonder if the new residents in their Meriton apartments will ever know of the activities which preceded them.

Gary Hughes
Congewai, NSW

Dear Sir,

Queensland Canefields Steam Era - A photographic profile 1955-1980 (LR 147)

I was interested in this book review and have been delighted to see the photographs in the book see the light of day. Having had a long association with the sugar industry, particularly in the Herbert River district, I can assist those who have a copy of the book by making some corrections and elaborating upon the captions.

Page 37: *CARSTAIRS* is at Inkerman Mill. It is a 2ft gauge locomotive and therefore could not have been used on the 3ft 6ins gauge lines of Pioneer Mill.

Page 38: The creek is Gentle Annie Creek. The loco is coal burning, not oil burning, as evidenced by the coal in the tender.

Page 39: The rear loco is probably the *GOWRIE*. The front one is obviously *MELBOURNE*.

Page 40 (left): The watercourse is the Stone River upsteam of its confluence with the Herbert River. The line is the one that goes to the McKell's depot and Abergowrie. The loco is *CAIRNS*.

Page 40 (right): The location is the cutting in front of Victoria Mill's main office and the train is ascending the grade from the crossing of Palm Creek behind Victoria Mill. The crew member is probably moving to the front of the locomotive in order to change one or more of the several sets of points which existed at the top of the cutting at the time. During the period of the late 1960s to early 1970s, if Macknade Mill finished crushing its cane before Victoria Mill it assisted by crushing Victoria Mill cane. As a result, Macknade locomotives worked into the Victoria Mill area, explaining the presence of number 6 on Victoria Mill's Danger Camp line.

Canefields Collision (Letters, LR 148)

It was with great interest that I viewed Mr Buckingham's photo of the head-on in LR 148. It is wonderful to see photos like this one coming to the surface from the past.

I have showed the picture to the person who was driving the *VICTORIA* and who still drives sugar trains for Victoria mill. It was his first year driving, and he told me that he managed to bring his train to a halt before the impact. The *PERTH* nearly pulled up.

The collision happened on the curve at the Halifax washaway, which is actually in the Macknade Mill area, although the line

through to Lucinda was owned by Victoria Mill. the *PERTH* was hauling cane to Macknade Mill.

Another driver I have spoken to, who was a Macknade driver at the time (though not involved in the accident) says that the *PERTH* was on loan from Victoria mill, and my notes from Macknade Mill records confirm this. The fellow driving the *PERTH* is now retired and living at Macknade. By the way, the *PERTH'S* builder's number is 8766.

Christopher Hart
Cordelia, Qld

Dear Sir

Aveling & Porter Locomotives (LR 146 & 147)

An Aveling & Porter locomotive is believed to have been the first to be used on a sugar cane railway in Queensland. Information provided by John Kerr confirms that George Raff at Morayfield Plantation, just south of Caboolture, had a railway line in 1867 which connected the mill to the cane fields and to the wharf on the Caboolture River. The gauge was reported to be about 3 feet, and although at the time of the report in the *Brisbane Courier* for 14 September 1867 horse traction was in use, it was added that... *there is a little locomotive engine, by Aveling & Porter, to run when the line is longer. However, at present it is occupied at the sawmill.*

It can be supposed that this locomotive was the one recorded in *Engineering* of 3 August 1866 as having been sent to Brisbane. It is thought that this was Aveling & Porter 211, invoiced on 24 July 1866, a 3ft gauge 8hp locomotive ordered by A Redfern & Co. Being based on a traction engine, it would have been useful for powering stationary plant such as a sawmill.

John Browning,
Rockhampton, Qld

Dear Sir

Thanks for helping me write a book

For the past year I have been writing a book provisionally called *At home in the high country: Victoria's mountain huts and settlements.* It has a very broad coverage and overviews cattlemen's huts, mines, hydro schemes and, yes, timber mills and trams. I have drawn on a vast selection of material, but I keep coming back to your publications and bibliographies which I have grown to respect as the best researched and most reliable in any of the areas I am covering. Unlike other authors and publishers, if something is stated in your publications I can accept it as fact and I don't have to double check it. Indeed, even in peripheral areas like hydro I have found information in your magazine and books which just doesn't appaer in electrically oriented historical sources.

Thanks again. I hope to have the book out in a year or so.

David Sisson
North Carlton, Vic.

Dear Sir,

Early Australian Electric Locomotives - Broken Hill (LR 108)

The following extract sheds light on the identity of the small electric locomotive pictured on page 31 of LR 108):

[For The Broken Hill Proprietary Company] I have just installed an electric traction plant underground at one level to replace horses, which have been doing this work until recently, and although this has not been running long enough to compare costs with that of animal traction, there is hardly any doubt of its success, and the ultimate general use of same throughout the mine for haulage purposes. The present plant consists of a small electric locomotive developing about 15B.-h.p., and runs at about eight to ten miles per hour on level track. The current of 220 volts is collected from an overhead trolly-wire by a roller-rubbing contact, which allows ample sideway deviation on the trolly-wire for any irregularities of the track. The track gauge is 18 inches wide. The rails weigh about 22 lb. per yard, and one rail of the track is electrically bonded throughout, and used as the return circuit. Bonds of 7-14 S.W.G. cable, 15 inches long - the ends being sweated into half-inch brass thimbles - are fitted into holes drilled in the rails at each end of the fishplates, and expanded tightly therein. The maximum width of the locomotive is 3 feet. Working parts are all covered, but easy to get at. The plant was started only recently on the occasion of the visit of the State Premier and party to Broken Hill, when they were all conveyed over some 5000 feet of track underground, this being the first run beneath the surface. However, the plant is first put into constant use, and will work over about 5500 feet of track already laid. The power to work this locomotive is generated by a continuous-current generator at 220 to 240 volts, put down for the purpose, and capable of supplying power to two or three locomotives. A higher voltage is undesirable for underground work in these mines, as miners are liable to come into contact with the wiring, etc., overhead. The trolly-wire is suspended 6 feet 9 inches from the rails by insulated "hangers" sweated on to the wire, and bolted to Oregon pegs driven into holes drilled in the crown rock of the drives. These "hangers" are spaced 20 feet on the straight track, and 6 to 8 feet apart at the turnouts and curves. Both the trolly-wire and rails are fed from the generator (on the surface) down 650 feet of shaft by 19-14s. S.W.G. cable, which is ample size at present. The overhead wire has switches arranged at each crosscut leading into the ore faces to enable these sections to be cut out of circuit in case of damage caused by shooting down the ore, otherwise the whole track would be unworkable until repairs could be effected. The whole of the electrical plant for this installation has been supplied from Messrs. Thomas Parker, Limited, of Wolverhampton, England. Should the system be extended throughout the mine, it would throw out of service about 100 horses, and generally relieve the workings of the troubles and disadvantages necessary upon the use of animal traction, besides resulting in increased economy all round. The mine employs about fifteen horses underground each shift of eight hours, and these have to be caged and taken up and relieved at the end of each shift, which means a considerable expense in time and money. Besides this the horses generally have a very bad time underground, make a mess of the track, and foul the air of the workings. One horse usually draws four or five trucks; but the loco. easily handles twenty trucks, or more if convenient, and requires about twenty-five amperes at 220 volts, under normal conditions. As space in the drives and heavily timbered workings underground is very limited, and the above loco. is of greater power than necessary for the requirements, future locomotives will be used of less power and of reduced size. (From *Notes on the Application of Electricity at Broken Hill, with Some Reference to Magnetic Separators* by FJ Mars, read before the Electrical Association of New South Wales on 1 August 1902 and printed in *The Building Engineering and Mining Journal* of 23 August 1902.)

Information on another, rather different, electric locomotive built by Thomas Parker appeared in the British *Industrial Railway Record* numbers 119 & 123, and one built by a predecessor, the Electric Construction Corporation Ltd was featured in *Record* number 85.

Colin Harvey
Reservoir, Vic.

Dear Sir,

Coles Bay Railway (LR 148)

Ralph Proctor is to be complimented on his comprehensive account of the disposal of the rolling stock from the Zeehan & North East Dundas Tramway (Letters, LR 148). Some further explanation of the railway to Coles Bay, mentioned under the heading "September 1931" is needed.

The company mining coal at Seymour had just lost about half its ocean jetty in a storm, in exactly the same way as the Dalmayne Colliery four miles north of Seymour had lost its jetty twelve years before. In an attempt to reach a safe harbour, the Dalmayne Company had started to build a 3ft 6in gauge line from Coles Bay, but when it went bankrupt in 1927 had built only the jetty in Coles Bay and the sixteen or so miles of formation northward. This was the line for which the Seymour Company was inquiring (rather prematurely) about the purchase of ex-Z&NED Tramway stock. No sleepers or rails had been laid by Dalmayne, there were still sixteen miles of clearing and formation required to reach Seymour, and in any case all the right-of-way had reverted to previous owners.

Dalmayne Collieries, with impressive backing in South Australia, had managed to raise less than one twelfth of the capital it needed, so it was obvious that the much smaller local Seymour Company was "whistling in the dark" regarding the purchase of rolling stock.

More details of the abortive Dalmayne railway to Coles bay are given in my two articles on the subject in the Papers and Proceedings of the Tasmanian Historical Research Association Vol.39 No.1, March 1992 and Vol.44 No.4, December 1997.

LindsayWhitham
Mt Stuart, Tas.

Dear Sir

"Where is it?" (LR 148)

1. 0-6-0ST. Presume British manufacture.
2. Looks like Hudswell Clarke & Co. Ltd.
3. Check Redman - *The Railway Foundry Leeds*. Looks very similar to loco on page 53 (fig.45).
4. Check A/Asian Locomotive Builders' List 1. for all 0-6-0ST, standard gauge, inside cylinders to Australia.
5. Hmmm. Not many. The three for the PWD don't look anything like the photos in McCarthy - *Gazetteer of Industrial Steam Locos of Illawarra*.
6. That leaves only 1530/1926. Check my index cards - yes, there's a photo of 1530 in *Bulletin* 424.
7. Find *Bulletin* 424. Yes - page 34. Loco derelict at Catherine Hill Bay, but looks very similar.
8. Let's check *Offal, Oil and Overseas Trade.* Maybe there's a photo of it at Bunnerong Power Station, its earlier home. No such luck.
9. Prognosis: It is HC1530/1926, but does the LR 148 photo show it in its early years (during construction?) at Bunnerong Power Station, or has it just arrived at Catherine Hill Bay? (before buffer alteration)
10. The loco represents a progressive enlargement of the standard Hudswell Clarke 0-6-0ST inside-cylindered contractors' locomotive, a beast that had been developing since the 1880s.
11. We await the next photo.

Phil Rickard
Ringwood, Vic.

Dear Sir,

With regard to the "Where is it" photo in LR 148, I submit that it is Hudswell Clarke No.1530, and was taken at the Sydney County Council's Bunnerong power station site during its construction, circa 1926-29.

The low-set buffers were for handling the dump wagons during construction, and were later replaced by buffers in the orthodox position for handling NSWGR coal hoppers.

It was No.2 of their loco stock, and was sold c.1946 to John Kennaway, a railway equipment dealer and hirer in Newcastle. It became his No.6. Shortly afterwards it was used on the isolated Wallarah Colliery line, at Catherine Hill Bay. I am uncertain if it was purchased or hired, because it continued to carry the number '6'. It was scrapped there about 1958.

Bruce Macdonald
Chapman, ACT

Dear Sir,

The locomotive is Hudswell Clarke builder's number 1530, purchased by Sydney City Council Electricity Department, and used by them at their Bunnerong Power Station on Botany Bay. The picture was taken there, to be more exact at the western end of the site with the locomotive standing beside the circulating water inlet canal with the railway bridge over the canal immediately behind the photographer. The building behind is the seaplane hangar, which was used for materials storage during the construction and eventually demolished in the mid thirties.

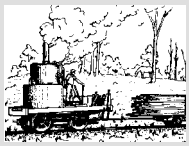
This part of the land had been resumed, if my memory serves me correctly, from the Horden family, who used it as a beach retreat. They had a substantial two storey house to the left of the photographer, which was used as a site office during the construction. One of the family was an early aviator, and had a seaplane which could land on the Bay and taxi over the beach to the hangar.

The locomotive was delivered in 1926. The photograph was not taken during 1926 or 1927 due to the presence of the pole and the absence from behind the hangar of the scaffolding which supported the troughs carrying the sand flumed down from the hill. However, as the locomotive still has the buffers aligned for the contractor's tip wagons used in construction, and has yet to have the addition of the air compressor for working government stock, it seems likely that the photograph was taken in either 1928 or 1929.

Craig Wilson
Beefcroft, NSW

Though space limitations prevent the inclusion of his letter, Richard Horne *also identified the loco as HC1530, and the location as Bunnerong power station during its construction phase.*

When its construction duties at Bunnerong were over, Hudswell Clarke 1530/1926 was fitted with conventional drawgear and air brakes, and put to work hauling NSW Govt Railways' coal hoppers from Botany siding to the power station. Photo: Bruce Macdonald collection, courtesy Richard Horne



LRRSA NEWS

MEETINGS

ADELAIDE: "3ft gauge in the USA"
Videos of American 3ft gauge railways will be shown. (Note change of date to the *second* Thursday - due to school holidays.)
Location: 150 First Avenue, Royston Park.
Date: Thursday 14 October at 8.00 pm.
Contact Arnold Lockyer (08) 8296 9488.

BRISBANE: "Light Railways in Qld"
Selected videos of light railways in Queensland will be shown.
Location: BCC Library, Garden City Shopping Centre, Mount Gravatt. After hrs entrance opp. Mega Theatre complex.
Date: Friday 1 October at 7.30 pm. Entry from 7 pm. Contact Bob Dow (07) 3375 1475

MELBOURNE: "Irish Narrow Gauge"
Frank Stamford will introduce and present a selection of videos of Irish ng railways.
Location: Ashburton Uniting Church Hall, Ashburn Grove, Ashburton.
Date: Thursday, 14 October at 8.00 pm.

SYDNEY: "Research Night"
A number of experienced researchers will demonstrate, show slides and share their particular expertise in researching light railway topics.
Location: Woodstock Community Centre, Church Street, Burwood, (five minutes walk from Burwood railway station).
Date: Wednesday 27 October at 7.30 pm.
Contact Jeff Moonie (02) 4753 6302.

ACTIVITIES

The LRRSA SE Queensland Group have scheduled an excursion on 23 October 1999 to Clive Plater's residence at Eudlo (preserved canefield locomotives and rolling stock), Moreton Sugar Mill and The Ginger Factory at Yandina.

David Jehan gave an illustrated talk to the August Sydney meeting on railway operations at the BHP Steelworks, Newcastle since 1962. Through the LRRSA NSW Division, David assisted BHP to document the history of railway operations at the works and the men who worked the system and to write a book for presentation to all employees of the Rail & Dispatch Division at Newcastle. Copies of David's book, *Men, Steel and Rails* - hot off the press - were available at the meeting. It provides an excellent sequel to the Society's *Steel and Rails in Newcastle*, published in 1981.

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

LRRSA Publications

Modernising Underground Coal Haulage
BHP Newcastle Collieries' Electric Railways
by Ross Mainwaring
Battery and overhead-wire electric locos at Burwood, Lambton, and John Darling collieries.
60 pages, soft cover, A4 size, 18 photographs, 13 maps and diagrams, references and index.
$15.00 (LRRSA members $11.25) Weight 230 gm.

Settlers and Sawmillers
A History of West Gippsland Tramways and the Industries they Served 1875-1934
by Mike McCarthy
Timber tramways serving over 100 sawmill sites from Beaconsfield to Trafalgar.
168 pages, soft cover, A4 size, 96 photographs, 17 maps and diagrams, 6 graphs, one loco diagram, references and index.
$29.00 (LRRSA members $21.75) Weight 700 gm.

Bellbrakes, Bullocks and Bushmen
A Sawmilling and Tramway History of Gembrook 1885-1985 - by Mike McCarthy
Describes a network of 3 ft and 3 ft 6 in gauge timber tramways, and associated timber mills.
104 pages, soft cover, A4 size, 71 photographs, 17 maps and diagrams, references and index.
$24.00 (LRRSA members $18.00). Weight 500 gm.

Rails to Rubicon
A History of the Rubicon Forest
- by Peter Evans
3 ft and 3 ft 6 in gauge timber tramways in rugged mountainous terrain; the 2 ft gauge Alexandra-Rubicon steam tramway, and the 2 ft gauge State Electricity Commission tramways..
200 pages, hard cover, A4 size, over 175 photographs, 53 maps/diagrams, references and index.
$34.50 (LRRSA members $25.90) Weight 1 kg.

Arsenic and Molasses
A Pictorial History of the Powelltown Tramway and Timber Milling Operations
by Frank Stamford
Companion volume to the book *Powelltown*, but with an emphasis on photographs. All the photographs are different to those in *Powelltown*.
88 pages, hard & soft covers, A4 size, over 100 photographs, 8 maps and diagrams, glossary and index.
$33.00 Hard cover (LRRSA members $24.75) Weight 650 gm.
$22.00 Soft cover (LRRSA members $16.80) Weight 470 gm.

Powelltown
A History of its Timber Mills and Tramways
by Frank Stamford, Ted Stuckey, and Geoff Maynard.
Victoria's only timber tramway to provide a passenger service. Six steam locomotives.
150 pages, soft cover, A4 size, 150 photographs, 22 maps and diagrams, references and index.
$20.00 (LRRSA members $15.00) Weight 550 gm.

Timber Mountain
A sawmilling history of the Murrindindi Forest from 1885 to 1950
by Norm Houghton
Timber tramways and mills in the Healesville, Toolangi, Yea, Buxton and Narbethong area.
106 pages, soft cover, 165 x 230 mm, 40 photographs, 8 maps/diagrams, 3-colour fold-out map.
$15.00 (LRRSA members $11.25) Weight 275 gm.

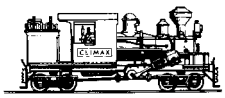
Books from Other Publishers

The Era of the Bush Tram in New Zealand by Paul Mahoney
Published by IPL Books, Wellington, NZ.
An introduction to NZ's extensive timber tramway history. Over 200 steam locos, including over 80 NZ built geared locos, as well as Climaxes and Heislers. Spectacular scenery, amazing bridges! It is irresistible.
192 pages, hard cover, A4 size, 12 colour and 181 black & white photographs.
$60.00 (LRRSA members $54.00) Weight 1000 gm

Tasmania's Hagans
The North East Dundas Tramway Articulated "J" Class
by Geoff Murdoch, published by the author.
Detailed history and superb diagrams of the unique Hagans 2-4-6-0T locomotive. Includes scale drawings of all N.E.D.T locomotives.
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

Firewood Tramways of the Walhalla Mines 1865-1915
A Research Paper on the History of the Firewood Tramways of the Walhalla Mines
by Terry & Brenda Jenkins. Published by T. & B.J. Publications.
Traces almost 100 km of mostly horse-drawn firewood tramways around Walhalla, Victoria.
272 pages, hard cover, A5 size, 96 photographs and maps, references and bibliography.
$30.00 (LRRSA members $27.00) Weight 530 gm

Postage and packing: Within Australia, up to 500 gm: $4.20; 501 gm to 3 kg $8.30 .
Send to: LRRSA Sales, P.O. Box 21, Surrey Hills Vic 3127, Fax (03) 9888 5441.
Payments may be made by cheque, money order, Mastercard, Visa or Bankcard.



An invitation to join the LRRSA .....

Membership of the LRRSA offers you:

- *Light Railways* magazine, mailed to you six times a year
- Substantial discounts (usually 25%) on LRRSA publications
- The opportunity to purchase the LRRSA CD-ROM - containing twenty years of *Light Railway News*
- Meetings in Adelaide, Brisbane, Melbourne and Sydney
- Tours to places of light railway interest

Annual Subscription for year ending 30 June 2000 is $36.00
Includes LR Nos 148 to 153 (Overseas - $A52.00 by economy airmail)

- If joining in June or July pay $36.00 ($52.00 overseas) and receive 6 issues of Light Railways (Nos 148-153).
- If joining in August or September, pay $30.00 ($43.50 overseas) and receive 5 issues of Light Railways (Nos 149-153)
- If joining in October or November, pay $24.00 ($34.70 overseas) and receive 4 issues of Light Railways (Nos 150-153).
- If joining in December or January, pay $18.00 ($26.00 overseas) and receive 3 issues of Light Railways (Nos 151-153).
- If joining in February or March, pay $12.00 ($17.40 overseas) and receive 2 issues of Light Railways (Nos 152-153).
- If joining in April or May, pay $42.00 ($62.00 overseas) and receive 7 issues of Light Railways (Nos 153-159).

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

I, _____
(full name of applicant)
of _____

_____
(address) (postcode)

_____
(occupation)
desire to become a member of the Light Railway Research Society of Australia Inc. In the event of my admission as a member, I agree to be bound by the rules of the Society for the time being in force. I enclose cheque/money order for $36.00, or please charge my Bankcard/Visa/Mastercard No.

_ _ _ _ · _ _ _ _ · _ _ _ _ · _ _ _ _ Expires _ _ · _ _

Name on Card _____

Signature _____

LR 1999-2000

RESEARCH

Parkerville Granite Quarry, Perth

Brian Marshall of Parkerville Primary School writes that he is conducting research on the history of Parkerville in Western Australia. In particular, he is interested in obtaining information on the Perth City Council Parkervile granite quarry which operated for around 30 years from 1896. The quarries had their own internal tramway system for transporting the rock to the battery and were connected by a spur line to the WAGR Eastern Railway.

If any reader can assist, can they please contact Brian Marshall at Parkerville Primary School, Windoo Road, Parkerville WA 6081. Phone (08) 9295 4268; E-mail parkypsi@mail.iinet.net.au.

Papua New Guinea Update

John Peterson has obtained further information about the Japanese locomotive preserved at the Kokopo Museum in East New Britain. It was identified as a 4wPM from the Kato Works in the book *End of the Line* on the history of PNG railways (see LR 140, p.28). Photographs of the loco were sent to Japanese enthusiast Hiromi Masaki, who identified it as a product of the Takata (or Takada) machine works, not Kato. The engine is probably a Ford A rebuilt from a tractor or a copied Ford A and the loco is probably a 3-ton model. There are very few of these in existence, so the Kokopo locomotive has generated considerable interest in Japan.

Mr Masaki reports that there were a number of companies building small industrial locomotives prior to WW2, including Kato, Sakai, Kyosan. Mori, Hunter, Nippon Syaryo, Nomura and Matsuoka. They were trying to make copies of Plymouth locomotives, built in the USA. Kato and Sakai were successful early in doing this. Other companies made copies of them in turn. Kato built about 1000 locomotives. Takata and Matsuoka each made only 50 to 100 locos during this time.

During WW2, Mori was renamed Nippon-Keninsya. By 1944, this company was forced to amalgamate with Takata by the government. Takata manufactured 377 locomotives, including post-war years. It is not clear whether this includes Mori made locomotives.

A visit to the Kokopo Museum in late-July 1999 found the Takata 4wPM locomotive on display near the entrance with a new coat of paint. The cast Japanese words "TAKATA-KIKOU" are clearly visible on the side, together with the Japanese Imperial Navy crest. Kato locomotives, the vast majority of those used in New Guinea, have "KATO WORKS shinagawa tokyo" cast on the frame side in English.

The Museum has recently received some old photographs from German sources depicting early colonial scenes in the Kokopo area. One, with the date 1884 on the back, shows the clearing of land for a plantation with a substantial tramline complete with a 4-wheel flat truck in place across the cleared area. The gauge appears to be at least 700mm or 750mm. *End of the Line* states that German companies established coconut plantations around Herbertshohe (Kokopo) from 1882, but this is the first evidence that tramways were established at this time. The photograph also indicates that early German tramways used gauges wider than 600mm.

John Peterson, Warragul VIC; Editor

South East Queensland Group Tour to Pidna and Yarraman

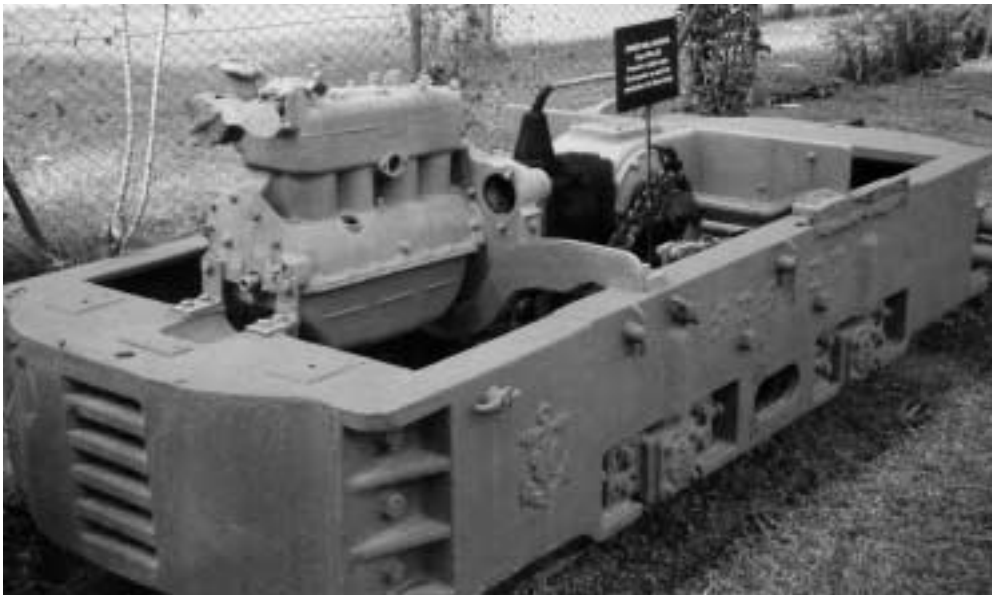
A party of twelve gathered at Moore on a fresh, but fine Saturday on 26 June for the first field tour of the recently formed LRRSA SE Queensland Group. After a briefing by Owen Betts, the tour leader for the day, we drove to Pidna. Pidna is located on the former QGR Yarraman (Brisbane Valley) line.

The Pidna tramway is an enigma. Little is known of the detailed history of this tramway. It has come to light again recently due to an observation on an aerial photograph. Owen Betts had noticed a curved bank on an aerial photograph about 20 years ago, but for various reasons didn't follow it up at the time. Recently, suspecting it may be a tramway formation, Owen and Danny Sheehan decided to follow-up the formation on the ground. They were initially misled by a farmer as to the location of Peter Creek, which the tramway follows, but once the true location of the creek was confirmed, they went to Pidna and had a look. They couldn't believe it! Remains of bridges, cuttings, rock walls, abutments, embankments that suggest that this was going to be a most substantial tramway.

We commenced the tour by walking in to the QR reserve at Pidna, along the remains of the tramway formation. There was clearly something major planned for Pidna; the reserve is much larger than what would normally be set aside for a branch line station of this stature. Interesting point about Pidna is that it was the last point for water on the QGR line. Yarraman, the terminus had no water, so the locomotive shunting there would have to go to Pidna for water and return.

At Pidna there are the remains of a trestle bridge and considerable embankments. We then headed back across the Highway and followed the tramway. There are a number of very significant cuttings, and remains of a bridge along this section. There are also a number of rock walls and abutments. After about 2.5km, the tramway formation appears to cease, although it was surveyed for approximately another 8km. The apparent conclusion is that the tramway was commenced, but for reasons that are not known at this time, it was abandoned. It is unlikely that rails were actually laid on the tramway. There is absolutely no evidence of sleepers, dog spikes, etc. Archives have records of heavy passenger and freight loadings to Pidna, and then abruptly ceasing. There is even a newspaper report of a load of rail being at Pidna for the tramway. It would seem that this was subsequently used elsewhere. To explore the formation and speculate on what might have occurred at the time made for a most interesting walk.

We journeyed to Yarraman State Forest for lunch, and then inspected the Queensland Pine Company tramway formation through the pine plantation. This



2ft gauge Takata petrol locomotive at the Kkopo Museum in East New Britain. July, 1999.. Photo: Bob McKillop

Long, shallow cutting on the Pidna Tramway. Clearly, with works such as these, the Pidna Tramway was being constructed for reasonably heavy traffic. 26/6/99. Photo: Robert B. Dow

was previously thought to be horse-drawn and wooden railed. However, I was given a copy of a letter written in 1970, by a former employee of the mill at Yarraman. He states that there was a locomotive at the mill and there is specific mention of the steam loco going to the 'stables' about five times per day (a 3 mile run). This loco would have run on both steel and wooden rails. There is a bit of confusion as to what was actually at Yarraman. One of the group members believes that there were possibly some Climaxes (A and B). We are going to see if there is some more information before we start drawing conclusions. The steam loco is mentioned as ceasing work at Yarraman in 1928. The "Foden" locomotive used on the Beaudesert Shire Tramway is believed to have come from Yarraman, and this may well be the loco referred to in the letter.

We finished the day at the old QR station area at Yarraman and reflected on times gone by. A vote of thanks to Owen Betts was made by acclamation of the group members. The day was most successful, and a great start to our field trips.

Bob Dow

Cagney Brothers Locomotives in Australia

John Morcombe, a Manly journalist who is researching the history of Sydney's northern beaches, has kindly provided the accompanying print of a postcard in his possession. It shows a miniature American 4-4-0 live steam locomotive operating along Ocean Beach at Manly. Embossed around the rim of the smokebox are the words "The Miniature Railway Co 407 Broadway New York". This identifies the locomotive as one fabricated for Cagney Brothers.

The Cagney Brothers were promoters and brokers of miniature railways, and their name is synonymous with the development of the park-sized railway in the United States. They made their start when the New York Central & Hudson River Railroad locomotive 4-4-0 No. 999 established a world speed record in 1893. The event captured the public imagination and the enterprising Cagneys created a miniature live steamer to one-sixth scale. Young and old alike were fascinated by riding behind a smaller version of No. 999 and the Irish immigrants were on a winner.

Cagney Brothers initially built locomotives to 12 5/8in and 15in gauges, then branched out to 18in and 22in models. The 12 5/8in and 18in gauge locomotives were never popular, and Cagneys soon specialised in 15in and 22in miniatures. As the popularity of miniature railways grew around the world, Cagney Brothers prospered and over 3000 locomotives were eventually fabricated for the firm. They changed their business address to 407 Broadway in 1902 and had moved to New Jersey by 1926, so the Manly locomotive was built after 1902. It appears to be a 15in gauge model. Reports in *Light Railway News* by Ken McCarthy (*LRN* 49) and David Burke (*LRN* 51) apparently refer to the Cagney locomotive, although they make conflicting claims to the location of the line. A photograph of the locomotive is also published in the book *Pictorial Memories: Manly to Palm Beach* by Alan Sharp. It is captioned "Another Manly 'attraction' in the early 1900s was the miniature railway that ran along the ocean front."

David Burke further reports that he came across various mentions of the Manly miniature railway during his time as a feature writer for John Fairfax, but he was unable to find specific information on the nature or dates of the operation. However, the daughters of the eminent locomotive engineer Fred Shea told David that their father sometimes went to Manly to advise on the repair or maintenance of the steam locomotive there. David's research also found that Gordon Douglas, the Assistant CME to E Lucy on the NSWGR (1911-32), assisted the miniature steam railway in maintenance matters during the c.1908 period.

Any further information on the Manly miniature railway, the fate of the locomotive or the operation of other Cagney Bros. Locomotives in Australia is most welcome.

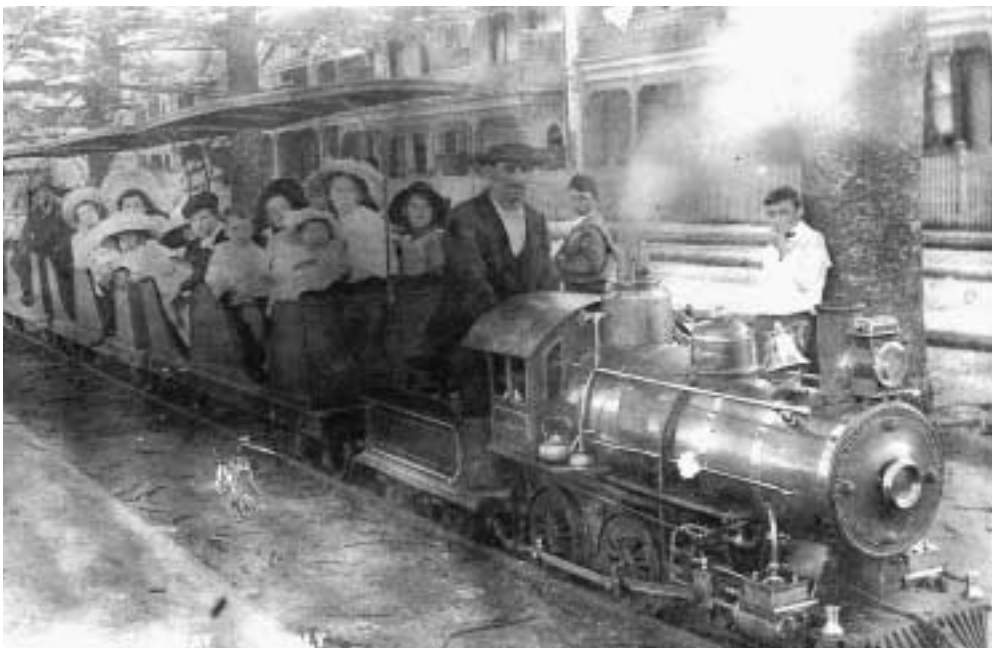
Fowler Agents in Australia

Recent research in the *Sydney Morning Herald* reveals that Edward Combes was the first agent of John Fowler & Company in Australia.

A report, of 13 April 1880, on the Grand International Exhibition notes that Edward Combes, "the agent for Messrs Fowler and Co. in this colony", was determined that before the Exhibition closed, a trial of Fowler's steam ploughing and reservoir-making equipment should be seen in the field. The trial was undertaken on the plains at Bathurst on 6 April 1880.

At this time Walter Noakes was Fowler's representative, and it was he who advertised the event and moved the machinery to the field site.

Ron Madden, Wagga Wagga



Heritage &Tourist

News items should be sent to the Editor, Bob McKillop, Facsimile (02) 9958 8687 or email, to rfm@mail.enternet.com.au; or by mail to PO Box 674, St Ives NSW 2075.

NEWS

Queensland

SOUTHERN DOWNS STEAM RAILWAY ASSOC., Warwick
1067mm gauge
Further to LR 148 (p.19), the Com-Eng 0-6-0DH (F1029 of 1958) from the Mackay Sugar Terminal is at Warwick and it is now housed in the ex-QR "roundhouse" (formerly 7-bays but now reduced to four). The SDSRA plan to introduce tourist trains to Stanthorpe and Wallangarra in 2001. Open days are held at the former QR locomotive depot on the second Sunday of each month between 1300 and 1600. It is planned to offer loco cab rides for visitors during open days. Les Mullins, 7/99

ALAN ROBERT, Gumdale
610mm gauge
Hunslet 4-6-0T 1215 of 1916 *INVICTA* has moved with its owner from country Beaudesert to suburban Brisbane. A set of copies of the builder's drawings has been obtained from England to allow restoration to proceed as time permits. Alan Robert 8/99

New South Wales

RICHMOND VALE RAILWAY MUSEUM, 1435mm gauge **Richmond Vale Preservation Co-operative Society Ltd**
The RVR held its annual Coalfields Steam weekend on 13-14 June 1999. This year's event saw three trains in operation: Planet 4wDM operated a 2-car train from Richmond Main station south past the Vintage Machine Shop to the Glass House building and return; 0-4-0ST *MARJORIE* (Clyde 462/1938) operated the HG passenger car and CHG brake van to Mulbring Road; and ex-SMR 2-8-2T No.25 hauled three steel carriages and UHG van to Pelaw Main. A total of 24 trains operated from Richmond Main station each day, most of them filled to capacity. Volunteers from the Campbelltown Steam Museum operated rides with their McLaren steam traction engine hauling a trailer and demonstrated a steam-powered chaff cutter. Other attractions included a horse-drawn German-built wagon and musical entertainment. Following the event, *MARJORIE* ventured to the Newcastle steelworks for her adventure reported on page 3.
Former BHP Newcastle steelworks Bo-Bo DE locomotive No. 34 (A Goninan 2/S1002 of 1954) has had its bogies replaced after reprofiling of the tyres, overhaul of the brakes and servicing of traction motors. The bogies were placed on a parallel track to No. 34, rails placed between the two tracks and the bogies winched across using pre-fabricated rollers. When the bogies were in place, the loco body was gently lowered onto the bogies. The following Saturday, ex-SMR No.25 moved No.34 to the service bay and the main engine was started. The locomotive has since undertaken light engine trials.
Graham Black, 7/99

PRIVATE, St.Mary's?
610mm gauge
It has been reported that 2ft gauge 0-4-2 Sharp Stewart 4619 of 1900 (ex-TGR and Isis Mill) and 0-4-2T John Fowler 20284 of 1930 (ex Millaquin & Qunaba Mills) were scrapped about seven years ago. These locomotives had previously been reported to be in the ownership of Brian Pine and Bob Hague, together with a spare 2ft gauge Perry boiler (see LRN 32 & 37).
Bruce Macdonald 6/99

JOADJA VILLAGE
The deserted shale oil mining village of Joadja, 23km W of Berrima in the Southern Highlands, was to be auctioned on 26 August. The 700ha site contains old mining machinery and cottages constructed by the Australian Kerosene Oil & Mineral Company for its workers in the 1880s. The mine was served by a 3ft 6in gauge industrial railway, which operated over a spectacular incline into the Joadja Valley. With a reported $1.4 million price tag, the site is not expected to be snapped up by a railway enthusiast!
Daily Telegraph, 23/8/99

Victoria

BELLARINE PENINSULA RAILWAY, Queenscliff
1067mm gauge
The BPR has launched a $10,500 appeal to fund restoration of ex-Australian Portland Cement, Fyansford 0-6-0ST No.4 (Vulcan Iron Works 2541 of 1916). Work required includes new tubes, firebox repairs, new sections in the saddle tank and cab, and fitting of screw couplers and buffers.
Rail News Victoria, 7/99

OLD BEECHY LINE
The Gellibrand & Kawarren Progress Association, in conjunction with the Colac Otway Shire, has received $30,000 for the Old Beechy Line rail travel project under the Federal Governmentís Centenary of Federation Community Grant Scheme. The project involves the development

Former Australian Portland Cement 0-6-0ST No.4 (Vulcan Iron Works 2541/1916) in store at Queenscliff, March 1999. Photo: David Burke

Coming Events

OCTOBER 1999
1 Semaphore & Fort Granville Tourist Railway, Port Adelaide, SA. Steam trains (457mm gauge) operate daily during school holidays to 10 October. Phone (08) 8341 1690
2 Puffing Billy Railway, Belgrave VIC. Commissioner's Inspection Train - be a VIP for a day. Also on 9/10 and 16/10. Bookings (03) 9757 0712.
3 Wee Georgie Wood Railway, Tullah, TAS. Steam train operations 1200-1600. Also on 1/11 and 6/12. Phone (03) 6234 8233.
3 Cobdogla Irrigation & Steam Museum, Barmera, SA. Museum Pump and Steam Day. Phone (08) 8588 2323.
6 Launceston Spring Festival Steam Program, Tas. Special events at Invermay Workshops heritage precinct, with Don River Railway locomotives and rolling stock on display, special trains to nearby destinations, and trips around the site by Launceston Tramway Museum gang motors. Program concludes 3 November.
7 Puffing Billy Railway, Belgrave VIC. *The Night Train* - Dinner with a special VIP train. Also on 16/10. Bookings (03) 9757 0712.
9 Bennett Brook Railway, Whiteman Park, WA. Friends of Thomas the Tank Engine Day. Phone (08) 9249 3861.
10 Alexandra Timber Tramway & Museum, Vic. Steam train operations 1000-1545. Phone 015 50 9988.
15 Archer Park Railway Station Museum, Rockhampton, Qld. Official opening of restored station and museum, with trips by Purrey steam tram. Phone 07 4936 8287.
30 Bennett Brook Railway, Whiteman Park, WA. Halloween Special - spooky train rides and dress ups. Bookings essential. Phone (08) 9249 3861.

NOVEMBER 1999
13-14 Campbelltown Steam museum, NSW. Expo weekend Steam & Machinery rally, including narrow gauge railway. Phone (02) 9628 6073.
14 Cobdogla Irrigation & Steam Museum, Barmera, SA. Steam only Open Day. Phone (08) 8588 2323.

DECEMBER 1999
4 Puffing Billy Railway, Belgrave VIC. Santa Special train - Santa comes to Puffing Billy to meet the children of all ages. Also on 11/12 and 12/12. Bookings (03) 9757 0712.
5 Cobdogla Irrigation & Steam Museum, Barmera, SA. Museum Pump and Steam Day. Phone (08) 8588 2323.
6 Puffing Billy Railway, Belgrave VIC. Historic Machinery Festival - aids the G42 Appeal. Booking (03) 9757 0712.
19 Bennett Brook Railway, Whiteman Park, WA. Santa Specials - ride Santa's special train. Phone (08) 9249 3861.

Newly back in service, Hudswell Clarke 0-6-0 MELBOURNE *(1701 of 1938) on the Durundur Railway, Woodford, Queensland.* *Photo: Bob Gough*

At the Richmond Vale Railway, ex-BHP Newcastle Bo-Bo DE No.34 is shunted to the service bay by 2-8-2T No. 25 after fitting of bogies in May 1999. *Photo: Graham Black*

of walking and cycling tracks along segments of the Old Beechy narrow gauge railway line [LR 140, p.8]. The Federation Grant will help to get Stage 1 between Gellibrand and Beech Forest ready in time for the Centenary celebrations. A committee of Management has been formed for the project incorporating the local Progress Associations, the LRRSA, South West Railway Society, the Geelong Bushwalking Club and other groups.

The Colac Herald, 12/7/99, via Norm Houghton

HEATHERLIE QUARRY & TRAMWAY, Stawell

This quarry, situated in the Grampians National Park, some 14km from Halls Gap, provides visitors with an opportunity to view the historical equipment used in the excavation of rock last century. The freestone won at the quarry was used for the construction of many notable government buildings in Melbourne - the Town Hall, Parliament House and State Library - and Stawell. Workers at the quarry travelled to and from Stawell on a tramway that was completed in 1882, but the operation closed the following year. Evidence of the tramway is still prominent at the site. An abandoned skip lies on narrow-gauge tracks metres from a canal where a bridge provided passage for rattling, jostling skips as rocky rubble was dispatched.

Green Triangle Holiday News, Winter 99, via Ian Stanley

KERRISDALE MOUNTAIN RAILWAY, Kerrisdale

610mm gauge

The unidentified Malcolm Moore 4wDM acquired by Andrew from Mourilyan Mill [see LR 147, p.29] has most likely been identified. Found under about 50mm of bagasse and diesel fuel, and stencilled in white on the underside of the gearbox rear support and cross member, is the number 1039, which corresponds to a Malcolm Moore builder's number from a member of the relevant type. Replica diamond-shaped Malcolm Moore plates have been made, and the braking system upgrade is nearly complete with screws, bell cranks, hand lever and other parts fabricated and ready to fit by late June. The fuel tank has been replaced as the old one was staved in and leaking in several places. Andrew Forbes 6/99

WALHALLA GOLDFIELDS RAILWAY 762 mm gauge

Walhalla Tourist Railway Committee of Management

The WTRC has now been granted responsibility for the entire Walhalla station yard area, including the engine shed and carriage shed. The ownership of the latter two sheds was previously in doubt. They were built for the Walhalla & Thomson River Steam Tramway about twenty years ago.

The new multi-purpose carriage 1 NBCW is now in service. It has been named "Gooding". Gooding was the first station past Moe on the original Walhalla railway.

Extensions to Thomson station were officially opened on Saturday 19 June 1999. New facilities include a store-room and office, and a more user-friendly shop and refreshment area.

Track laying is underway between Happy Creek and the site of bridge No.6 [LR 147, p.30], whilst the track alignment between the sites of bridges 4 and 5 has been cleared.

Dogspikes & Diesel June, July, August 1999, Frank Stamford 8/99

WALHALLA HISTORIC AREA

A 2500 ha area surrounding the historic gold-mining town of Walhalla (located 50km north of Moe) was declared a Historic Area in 1983. At the height of the mining boom the main road winding though the narrow valley was lined with shopfronts, banks and hotels. The Long Tunnel Company at Walhalla was the most successful mining company in Australia in terms of yield per tonnes of ore crushed. The company built 43km of narrow-gauge railways to carry timber for their mining operations. It is now operated as a tourist mine, at which a length of tramway has been established, complete with restored mine skips. Mine tours run daily and descend 152 metres to the huge machinery chamber. Many of the old mining railways are now walking tracks. The tramways trail begins at the steps

behind the town's rotunda and offers a superb 2km walk through majestic forest. The Walhalla Goldfields Railway runs along the most spectacular section of the original VR narrow-gauge line from Thomson River to Happy Creek.
Aussie Post 17/7/99, via Arnold Lockyer

Tasmania

MT LYELL ABT RAILWAY, Queenstown 1067mm gauge
The Department of State Development is proceeding with selection of an operator for the reconstructed Abt railway from Regatta Point to Queenstown. The bid documents indicated that the operator was expected to invest at least $5 million in the project, primarily for station infrastructure and to sustain initial debts. Bids to operate the railway were received from the Abt Wilderness Group (led by prominent businessman Roger Smith and including Mt Lyell Abt Railway Society President, Norm Bradshaw, West Coast Mayor Murray Waller and ATN Tasrail GM, Robert Evetts); the Western Steam Railway Consortium (headed by former Abt Railway Society President Viv Crocker); the Chapman Group; and the Victorian Railway Company, operators of the West Coast Railway. The latter two groups had withdrawn from the bidding process by mid-August, leaving the two Tasmanian consortia to do battle. An announcement of the successful tenderer was still awaited at the time of going to press.
The tenders for the restoration of ex-Mt Lyell Abt locomotives 1 and 3 (LR 148, p.30) require the provision of replacement boilers for both locomotives. The expressions of interest for locomotive restoration and carriage construction have yet to be advertised. Four consortia submitted bids to reconstruct the former Mt Lyell railway line and associated track infrastructure, but again an announcement on this has been delayed. The Government released the Development Proposal and Environmental Management Plan for the project in July 1999.

The weather conditions at the Redwater Creek Steam & Heritage Society's tramway at Sheffield, Tasmania were unkind for photography when Wal Lane visited in March. On a more ideal day, Peter Martin captured the composite Krauss 0-4-0WT locomotive and carriages on the line in 1998. First carriage is A1, formerly of the NE Dundas Tramway.

This 4-wheel IC-powered logging tractor is on display at the Bush Mill complex at Port Arthur, Tasmania. Automotive-type leaf springs are visible between the wheels and frame. *Photo: Wal Lane*

The project has experienced difficulties in a number of areas. The budget has been stretched to the limit as the reality of funding the modern day costs of rebuilding a railway becomes apparent.
There are other concerns at the Strahan end, to do with the old formation road access and who is going to pay for an alternative access road into the Teepookana forest reserve for sawmill operators and other tourist operators. The option of terminating the line at Teepookana has been canvassed.
Tas. Rail News, 5/99; Michael Dix 8/99; Michael de Bomford, 8/99

REDWATER CREEK STEAM & HERITAGE SOCIETY, Sheffield 610mm gauge
The Redwater Creek Railway was also the subject of a visit by the "AusTransit 99 tour" group (see LR 148, p.30) on 27 March when a special steaming was arranged. The composite Krauss 0-4-0WT locomotive (frames of 5800/1907, boiler and superstructure of 5682/1906) was in steam at the head of three passenger cars - the beautifully restored A1 (see LR 144, p.24), PB1 from the Boulder Tramway and DB1 built at the Second River Tramway. At the time of the visit, the steam-operated air-pump on the Krauss was undergoing repair. In order to pump up air for the brakes, an electric air-compressor was temporarily installed in the fuel space on the loco. The sight of the engine standing at the head of the train in the platform connected to a 240V power lead with "unsteamlike" noises emanating from it was a little unusual to say the least. The short out and back run meant that the air reservoir had sufficient pressure to work the brakes for each trip.
This line does not have balloon loops, and consequently the locomotive is cut off the train at

PERRONE hauls a 1067mm gauge train past the workshop area at the Port Dock Station Railway in July 1998. Photo: Bob Sampson

The 4wDM steam outline locomotive hauls a well-patronised train of visitors at the National Trust Moonta Museum & Tourist Tramway. The locomotive was built on the frames of a loco from the Adelaide Zoo and has been modelled after the 0-4-0WT that once operated at Moonta under the local name of Captain Hancock's Pig. *Photo: L Brandt*

each end of the 1km run and runs around the train. At the Sheffield end of the line there is a sector-table at the buffer stops, thus saving space in the rather cramped area. The table is just large enough to accommodate the Krauss loco. A second Krauss locomotive (6067 of 1910) was noted in the large lock-up shed.

Wal Lane, 6/99

South Australia

PORT DOCK STATION RAILWAY MUSEUM, Port Adelaide

610/1067/1435/1600mm gauge

Former BHP 1067mm gauge Bo-Bo electric locomotive E1 was handed over to Port Dock by the Australia Electric Transport Museum on 19 June 1999. E1 was the first of four electric locos built by Metropolitan Vickers, Manchester in 1928 for use at the BHP iron ore mines at Iron Knob and Iron Barron. As reported in LR 71, four similar electric locomotives were built by Perry Engineering between 1942 and 1954. E1 was acquired by the AETM at St Kilda in 1968, where it has remained in storage. After lengthy negotiations, it was decided that the unit was better suited to the railway museum at Port Adelaide. It will join the growing collection of industrial exhibits at Australia's premier railway museum. *Catchpoint,* 7/99

JETTY TRAMWAYS

1067mm gauge

Further to LR 142 (p.8), a visit to Port MacDonnell on 22 June found two trolleys on the line. One appeared to be in use on the restored jetty tramway, while the other is immobile due to a broken axle box. On the same day, two similar trolleys were noted at the Kingston SE jetty. Both were chained up on shore. Ian Stanley, 8/99

Western Australia

BENNETT BROOK RAILWAY

610mm gauge

WA Light Railway Preservation Assoc. Inc.

Work is now complete on the extension of the workshop and carriage sheds and the construction of the new inspection and maintenance shed and its associated inspection pit (see LR 148, p.31). Both of the existing sheds cover three tracks and have been extended forwards by 10 metres. The carriage shed can now accommodate four coaches. Two of its tracks are used for storage of operation stock and the third is used for new construction. The Inspection shed is 20m x 9m, with a single track and inspection pit. The project has been funded by a $100,000 grant from the Lotteries Commission of WA. Work on the re-construction of the Subiaco Signal Box and Station Canopy has been progressing steadily and is nearing completion. This work was funded by a $50,000 grant from the Lotteries Commission of WA.

BBR, in conjunction with the Perth Electric Tramway Society and Whiteman Park have been successful in obtaining a combined "Work for the Dole" scheme to undertake track and infrastructure maintenance and improvements for a period of 6 months commencing around the beginning of October.

Simon Mead, 8/99