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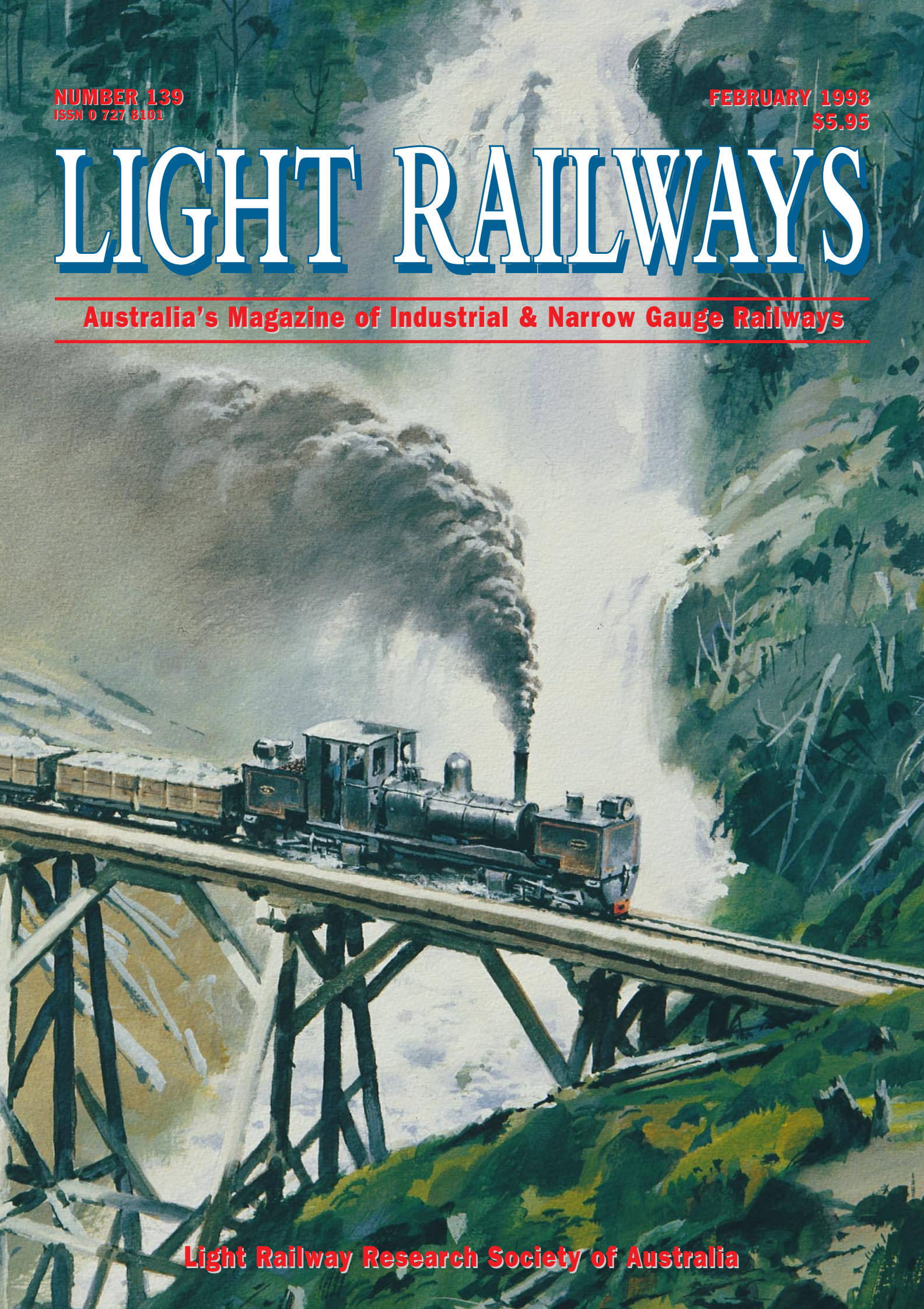
LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



Light Railway Research Society of Australia

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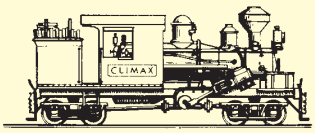

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Subscriptions: $34.00 per year, covering six issues of Light Railways magazine and information on Society activities, publications, etc. Airmail rates on application. Contact the Membership Officer, PO Box 21, Surrey Hills, Vic. 3127.

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Conversions:

1 inch (in)	25.40 millimetres
1 foot (ft)	0.30 metre
1 yard (yd)	0.91 metre
1 chain	20.11 metre
1 mile	1.60 kilometres
1 super foot	0.00236 cubic metre
1 ton	1.01 tonnes
1 pound (£)	$2.00 (in 1966)
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

Born the elder son of Phil and Cecily Belbin, I had little chance of avoiding railways. Not that I wanted to. I adored my first birthday present - a wooden pull-along train - and my childhood was filled with many wonderful railway activities - my brother's and my O gauge clockwork and HO gauge electric layouts, my father's 5¼ in. gauge live steam railway, and our many family outings watching and photographing steam trains around our home State of NSW.

My particular fascination, though, was for what we now call "light railways". The odd, the cute, the quirky, even the downright weird. Like the engaging diamond-stacked cane loco, and the eccentric little Tasmanian Garratt, that captured my youthful attention in one of my father's early railway books. Of course, if you're reading this magazine, then chances are that you share my enthusiasm to some degree. You may even have an interest in research.

Research is the raison d'etre of the Society, and is essentially the DIY aspect of railway history, though in application it owes more to Inspector Morse than to John Jarrat. Investigating the history of light railways generally requires a special determination, since their details are often poorly documented but, as with any difficult DIY project, the payoff in satisfaction is commensurate.

Research is not for everyone, of course. Some of us are preservationists, some are modellers, some enjoy bushwalking, or photography. But, whatever your particular interest, we hope you enjoy reading "Light Railways". *Bruce Belbin*

The Light Railway Research Society of Australia 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.

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.

Cover: *In 1912, after heavy rain, the roar of Montezuma Falls echoes through the valley as locomotive K1, the world's first Beyer-Garratt, trundles a short train across the trestle on the damp rails of the North East Dundas Tramway, in Tasmania. This year will see K1 back in action, but on the Welsh Highland Railway, in North Wales. Painting by Phil Belbin*

The Bundy Fowler and train leaving Howard Street Yard and entering Howard Street for the run up the hill. *Photo: Bob Gough*

The Bundy Fowler celebrates in Nambour

as told by Bob Gough

The May Day long weekend is the traditional date for the Brisbane Model Railway Show at which many groups, modelling and prototype, are represented. At the 1997 show, members of the Australian Narrow Gauge Railway Museum Society received an approach regarding the Moreton Mill Centenary celebrations to be held in August. Would the Society be interested in loaning its operational 2ft gauge steam locomotive for demonstration runs hauling sugar cane as part of the celebrations?

As the weeks went by, no definite confirmation of the invitation was forthcoming. A change in mill managers caused a delay, but eventually a meeting was held to discuss the proposal, and the go-ahead was given. The Bundaberg Foundry 0-6-2T loco (5 of 1952) was going to Nambour!

The word was phoned around, and I got to hear of it on the evening of Friday July 18th. Two weeks to prepare the locomotive! The biggest job was to lower the buffer beams to suit the Moreton Mill stock. Rivets had to be removed, and a flat surface was needed to relocate the buffer beams. The headstocks and buffer beams are attached to the mainframes through heavy angle iron. New 19mm holes had to be drilled with the help of a magnetic base drill and it was late on Saturday August 2nd before the job was finished.

The following Monday at 8am, a 30 tonne crane and step-decked low loader arrive on site at the Durundur Railway, Woodford. The loco is loaded and chained down, arriving at Nambour shortly after 10am. Safely lifted off by another crane, it is pushed into the shed by a diesel loco, and its boiler and side tanks are filled with water.

Our locomotive and volunteer crews officially become part of the mill's rail operations for the week, receiving our daily orders from the mill traffic office. George McHugh, Laurie Erb and myself stay the week in Nambour, and we are joined by other members at various times during the week.

The next day, the fire is lit and steam raised. By the early afternoon we are ready for the first run down to Howard Street Yard under driver George Hadley from the mill staff and myself as fireman. The boiler water gauge glasses show three-quarters full, and there are plenty of nice big lumps of Blair Athol coal to burn. Eight tons of coal have been purchased by the mill from a Brisbane coal merchant. (It was ironic that the QR had great difficulty obtaining Blair Athol coal for their steam locos at this very time because of industrial problems out at the central Queensland mine.)

Moreton Mill is situated in an awkward position up against the government railway line on the western side of town. The canefields all lie to the east, and the last section of cane railway from the Howard Street yard to the mill runs down the busy streets of this bustling regional centre. During the crushing season, a locomotive spends much of its time shuttling cane bins between Howard Street Yard and the mill. Trains of loaded bins are always accompanied by a banking locomotive in the rear to guard against the possibility of an accident which might be caused by a breakaway on the public roadway.

Our task is to handle this shuttle service, and our first assignment is to haul a rake of full bins up the length of

Coaling - necessary twice a day or even more. *Photo: Bob Gough*

Howard Street and across the junction with Currie Street (the old Bruce Highway) before the last section of line up Mill Street to the mill yard, about 0.8km in all. Arriving quietly at Howard Street Yard light engine, we wait about ten minutes while our banking engine, E.M.Baldwin B-B DH *COOLUM* (5565-1-10-74 of 1974) finishes some shunting. Then we couple up and are on our way into the unknown with forty-five 6¼ tonne bins in tow. Out of Howard Street Yard we go, running bunker first as the Moreton Mill locos used to do, the first time the Bundy Fowler has hauled a decent load for 30 years, and the first steam loco to haul cane at Moreton Mill for 29 years.

Running light through Howard Street Yard which contains far more empty bins than full ones, August 8th. *Photo: Bob Gough*

We feel the train push us as the last bin leaves the yard, and the diesel leaves the adjacent siding to follow us up the street. The load is still pushing us as we coast towards the ambulance station. Then second notch on the reversing lever and a three-quarters open regulator as we dig in for the climb of Howard Street, with people appearing from everywhere at the unaccustomed sound and sight. The diesel is now on the back, giving us a bit of a push for good measure.

Roaring up towards the Currie Street crossing, the regulator is eased as we pass the traffic light sensor between the rails. In eleven seconds, the traffic lights change in our favour and on goes the steam again for the run up to the yard. Our wheels slip as we enter the crossing, and then it is full regulator and first notch as we give it everything it can take up Mill Street. Through the mill points we go flat out, still at full steam, and towards the tippler. We go over the rabbit ears and the mechanical mule where the bins can now be uncoupled. We run forward under the bagasse bin to clear the points and then down the escape road. A call on the radio to tell the diesel crew we are clear and he then pushes the rake a little further over the mule.

Cane is in short supply because of rain so we go back into the loco shed for a thorough look around our loco. No hot bearings or axleboxes are to be found. In fact the only hot spot all week was the firebox!

We take a few empties back down to Howard Street Yard and then have the job of shunting the full bins which arrive at the yard by semi-trailer. Other diesels arrive from out on the line, and loco crews are keen to assist in a spot of steam loco driving. As evening comes, we place the Bundy Fowler in the loco shed and bank the fire ready for the next day's work.

The next day, more cane becomes available, and we are requested to bring a load up to the mill each hour on the half hour. This roster only lasts four trips before a short and heavy storm leads to the temporary suspension of harvesting operations in many areas. This results in disruptions to crushing at the mill.

During Wednesday and Thursday there is a steady flow of cane coming in to Howard Street Yard by semi-trailer from outlying areas from Woombye to Caboolture which have not been so affected by the heavy rain around Nambour. By the afternoon there is enough cane to fill the mill yard, and locos on the afternoon shift are sent out to round up any full bins they can find on the tramline system. The mill is started up and the midnight shift crushes the cane. The midnight shift locos remove the empties and bring fulls up to the mill yard as the semi-trailers continue to roll around the clock.

By daylight the crush has finished, and a string of empties is ready for us to take to Howard Street Yard. Here we remove full bins from the semi-trailer unloading areas to the main loops ready for haulage to the mill, and take loads up as required.

Time is also taken to offer driver training on a steam locomotive to the diesel crews. This is enjoyed by many, and the unexpected power of steam is remarked upon by a few.

Our runs with full bins are from 45 to 48 bins. Full bins are rated at 6¼ tonnes and empties at 1¼. The bins brought in by semi-trailer seem the most heavily loaded. Laurie, our Society Secretary attempts to move a rake of 90 bins on one occasion, to place two trains on the one line, and it must be admitted that the rake moves - if very slowly.

On Friday, things are not much different. The weather is overcast with heavy cloud. A few runs are made through the day but then three storms move through the area. As the day comes to an end, we take some of the loco shed staff out of Howard Street yard and to the east to the mill farm, an area also known as the "speedway". Here the last storm of the day catches us and drenches some of our passengers. Further excitement follows when lightning strikes a nearby house, which is destroyed by fire as a result.

Saturday morning is bright and sunny. The cloud has gone. One load is brought up to the mill yard for storage as the mill has stopped again after crushing overnight. The Bundy Fowler runs light engine to Howard Street Yard to make up a rake. This is to be hauled up to the mill at noon in preparation for the Centenary parade which is to start at 12.30pm. On arriving at the mill yard we come into No.1 road, uncouple and move back over the points to the escape road. Then almost disaster. The loco repeatedly splits the points. The mill's front-end loader is close by and is called on to use a chain to pull the front of the loco around so that it can travel through the points. This time, the loco climbs the frog with the front left wheel on the wrong side of the check rail. The loco is backed up again, rerailing itself in the process. The front-end loader is used to pull the loco over again as it passes the frog, this time successfully.

Total disgrace having been avoided, number 5 proceeds to the corner of Howard and Currie Streets along with the Baldwin *COOLUM* where they are positioned for the procession. (The diesel, which doubles as "Lorry Loco", a modern day hero of children's books published in Nambour, sports a "face" at each end and is doubtless very popular among the less discriminating members of the crowd.)

The procession features more than 100 floats, and as it passes it is difficult to prevent the Bundy Fowler's safety valves from lifting. Featured on a float in the procession is *EUDLO*, a John Fowler 0-6-0T (16207 of 1926) which has been retained by the mill in static condition and has been cosmetically restored for the occasion.

Following the procession and a short break at the mill yard while the streets clear, two more loads of cane are brought up to fill the mill yard. After one more run to Howard Street yard and back, this time light engine, the fire is removed from the loco ending a most interesting four days.

On Monday August 11th, the Bundy Fowler is back at Woodford, but the memories will remain a long time, and dreams of a return visit are never far away.

Side by side at the loco shed with John Fowler 0-6-0T EUDLO, spruced up for the celebrations, August 8th. *Photo: Bob Gough*

Tramways of the Sydney Harbour Bridge: The Crossley Locomotives

by John Browning

Jim Longworth (LR 133) provided a fascinating glimpse of the Sydney Harbour Bridge works which took place at the Moruya Quarry. Of particular interest to me was the 2ft gauge railway with at least one Crossley petrol locomotive, used from approximately 1926 to 1930.

Jim also made mention of the use of a 2ft gauge railway on the Sydney Harbour Bridge itself, with a Crossley locomotive used to haul skips of lightweight coke concrete. He has now provided the accompanying photograph, apparently dated 1931, which shows the labour - intensive task of laying the concrete on the bridge decking as a Crossley locomotive delivers the material to the work site.

The concrete is obviously being laid in separate sections, with prefabricated track panels, of around 20lb rail, laid on top of the decking to allow delivery of the material in side tipping skips. The task seems to be attached to the decking in some way as form work laid against one rail is being used to separate the sections to be concreted from the area of decking on which the track is laid. No doubt after examining the photograph, a construction engineer could tell us much more about the process being followed, and the likely working methods.

After making a thorough examination of the two Moruya photographs showing a locomotive, and the one here, I am not able to venture an opinion on whether one or more Crossley locomotives are shown. However, we do know that there were two of them, although there are possibly many details of where and how they were used by Dorman, Long & Co, the builders of the Sydney Harbour Bridge, which remain to be revealed.

Harbour Bridge Works

Although we cannot say that Dorman, Long purchased the Crossley locomotives with the Moruya quarry in mind, we know that at least one of them worked there. It is tempting to speculate whether there might have been two trains in continuous operation at the quarry, one being loaded at the face with the other in transit between the face and the two crushers, particularly as the skips were being loaded by hand at the quarry face. This would depend on the quarry operating to sufficient capacity, of course.

However, in reality, the quarry was relatively small and the distances involved were short, so the likelihood of the two trains being in operation together must be regarded as slight, although possibly at any one time there was one locomotive in use and another kept in reserve.

Likewise on the Harbour Bridge itself, obvious advantages in having two trains in operation can be suggested (again assuming a sufficient capacity of the concrete batch plant), but once more this is purely speculative. Perhaps more evidence will emerge to confirm or deny the possibility that both locomotives were used at both locations.

This scene is a reminder of the job creation benefits of the Sydney Harbour Bridge construction during the misery of the Great Depression. The laying of the coke concrete on the bridge decking is very much a manual job as the City of Sydney forms the backdrop for the Crossley locomotive and its train of two skips. March 20th 1931. Photo: Archives Office of NSW (The Rocks Branch) courtesy Jim Longworth

A fascinating variety of light railway operations is in view as the erection cables used in the Sydney Harbour Bridge construction are coiled for shipment and reuse elsewhere. December 18th 1930. Photo: Archives Office of NSW (The Rocks Branch) courtesy Jim Longworth

Possibly there were other jobs or locations where Dorman, Long found use for the Crossley locomotives. Jim Long worth reports a maze of temporary tracks of various gauges having been laid around the bridge pylons.

The accompanying photograph, taken in December 1930, shows what seems to be a 2ft gauge line connecting to a concrete batch plant, with possibly a 3ft gauge line complete with steam crane at the water's edge nearby.

It is said that The Colonial Sugar Refining Co Ltd CSR bought the pair of Crossleys from Dorman, Long "about 1936" for use at their Penang Mill in Fiji and that they had already been fitted with 25hp Dorman engines by then.

As the Harbour Bridge was opened in 1932, one wonders if they were in fact retained for those extra years. Another possibility is that they came into the hands of a machinery dealer who perhaps had them re-engined as diesels for onward sale, and that they were on hand for a few years before this happened

Crossley Brothers Locomotives

Crossley Brothers Ltd of Manchester took over the Bedford firm of Saunderson Tractor & Implement Co Ltd in 1925, when reportedly there were several locomotives on hand at the Bedford factory.

It would seem that these included the two purchased by Dorman, Long for a sum total of £1531 - 13s-0d and that this transaction took place in 1925. It appears that very few Crossley locomotives were built - possibly just three 2ft gauge and one standard gauge.

The locomotives were built with symmetrical bodywork fore and aft. The petrol/paraffin engine was under one bonnet, and the gearbox under the other. As was commonly the case in those days, the engine could be started on petrol and changed over to paraffin when hot.

The builder's photo, and those taken at Moruya, indicate that the bonnet doors with the builder's plate on them were the ones at the engine end. It is not surprising that by 1931 on the Harbour Bridge, one at least of these doors seems to have been discarded while the bonnet door at the gearbox end, presumably more rarely, remains in place.

The photo taken on the Harbour Bridge appears to show the locomotive's exhaust in the original position (just visible above the first skip in the train and easily confused with bridge railings), so there is no indication of whether or not it had been re-engined by this time.

A Puzzle

The drawing and builder's photograph in LRN 133 each show a locomotive with single rectangular cab window, while the Harbour Bridge works photographs show two almost square ones. When Peter Dyer visited Penang Mill in 1957, he was shown a copy of the maker's drawing dated 1925 which shows the single window (the two locomotives had unfortunately been disposed of less than two years before).

A number of possibilities spring to mind. Perhaps the windows were altered by Dorman, Long by June 1926 (why?). Perhaps the two locomotives were different (unlikely?), and the one with a single window is not featured

on our three photographs. Perhaps the builder's photo and drawing show the original design.

As one other 2ft gauge Crossley is known to have existed, and was delivered to Beswick's Limeworks, Hindlow, Derbyshirre, it may well have been the prototype.

We might suspect that the design of the cab windows (and maybe other details) was changed in the construction of the Dorman, Long examples. Lasting until 1955 as at least one did in Fiji, albeit re-engined, their basic design was probably fairly robust and practical.

I hope these notes will stimulate further research on the tramways associated with the construction of the Sydney Harbour Bridge.

Acknowledgements

Thanks to Jim Longworth for providing the photographs which inspired these notes, together with the ever - helpful Peter Dyer, and Bob Darvill of the Industrial Railway Society (UK).

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Stony Creek Tunnel Construction, Melbourne

Working at the shield face in the Stony Creek tunnel, 1930. The left hand 16-inch gauge track is intact on the tunnel floor, but the right hand rail on the right track is absent.

During the construction of Melbourne's North Yarra main sewer in the 1890's, a trial heading was driven ahead of the main tunnel to ascertain the nature of the silted deposit under the Stony Creek backwash, the wide bay-like junction of Stony Creek with the Yarra river at Spotswood.

The silt was found to be so fluid as to have no angle of repose, and filled the heading. It was decided therefore to construct this section of the tunnel at a level 37ft below the main sewer in order to work in safer ground.

Shafts were sunk in rock from the tunnel ends on both sides of the creek, and from these shafts the Stony Creek section of tunnel was driven at the lower level.

A four feet mild steel pipe was installed in the lower tunnel with its end built into the brick lining of the shafts. The inverted syphon so formed by this remained in good repair until the 1920's.

The North Yarra main was constricted where it passed below the Stony Creek backwash, and by the 1920's this had become a significant problem. A new section of the sewer under Stony Creek at the level at which it had originally been laid out was built in 1930.

The total amount of tunnelling required was 1,892ft. Some 280ft of driving in compact rock at each end of the section was carried out by the Melbourne and Metropolitan Board of Works, while a contract for the remainder was let to Mr G.H. Dunlop M.C.E., of Melbourne, whose chief engineer, Mr G.M. Membrey, had direct supervision over the work. Tunnelling proceeded using a shield because of the soft ground. A 16-inch gauge tramway was used to remove the spoil in the tunnel.

An air lock was built in the tunnel. It consisted of a concrete cylindrical chamber having a slightly greater diameter than that of the completed sewer. The outside wall of the lock was 75ft from the shaft, and the ground in this section was firm rock which stood without support, thus ensuring a satisfactory air-tight joint with the concrete.

The length of the chamber was 37ft, which was sufficient for a flat sheet at each end and two 16-inch gauge truck lines each capable of accommodating 10 trucks. One line was used for empty and one for full trucks.

To charge or discharge the lock when trucking was in progress, pipes of three inch diameter were provided in each wall with the valves outside the chamber. The trucks were passed through the lock in rakes of 10 at a single pass.

When driving in the soft ground the operation was continuous. The shield was forced through the muck which was shovelled into the trucks as it dropped behind the bulkhead. The trucks were then propelled to the shaft through the air lock and hoisted to the surface in an ordinary mining cage where the spoil was discharged from the end tipping trucks.

Work was carried on in the tunnel on two shifts, each working 44 hours per week or a total of 11 shifts per fortnight. For each shift, the crew consisted of four men and a working foreman in the chamber, and two men on the shaft.

Sources:

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ILRMS members recovering a coal skip on the abandonded Corrimal Colliery line. June, 1972. *Photo: ILRMS*

Growing Up

25 YEARS OF THE ILLAWARRA LIGHT RAILWAY MUSEUM SOCIETY LIMITED

by Tony Madden and David Jehan

The Illawarra Light Railway Museum Society Limited (ILRMS) was originally founded by expatriate Ulsterman, Tony Madden, an aficionado of the Colonel Stephens style and narrow-gauge railways in general.

He was a formative member of the Festiniog Railway Society in North Wales, and such was his interest that he even saved up from a holiday job to spend a week track clearing the line above Minffordd. Tony also helped operate a couple of miniature steam lines near his homes of the time; while on school holidays he worked on Kerr's Miniature Railway, Arbroath in Scotland and the Margate Pier Railway, as well as a holiday job in the Dreamland Amusement Park, also in Margate, partly on its miniature line. The first and last experience in Britain was on the now long defunct Corps of Royal Engineers' Longmoor Military Railway, firstly as a school cadet on a Railway Operating Course in 1955 and finally as a serving soldier in the Sappers, six years later with 8 Railway Squadron RE.

Tony arrived in Australia via a roundabout route, settled in the Illawarra region, married, and joined the Illawarra Group of the NSW Rail Transport Museum, where he purchased a copy of *Transporting the Black Diamond*, by Gifford Eardley. A visit to Bruce Macdonald's Marsden Steam Museum at Goulburn, and talks with a number of other like-minded new friends, convinced him of the historical basis for, and probable success of, a Society to preserve narrow-gauge in the region.

An exercise for the English section of the Electrical Engineering Certificate Course being undertaken at that time; a feasibility survey, referring, of course, to the establishment of a narrow-gauge Museum Railway in the region, was the final catalyst.

Collieries were the main remaining hope for local sources of light railway material, but many had closed and even then the wreckers were in Mount Kembla Colliery. So even before advertising the Public Meeting to assess interest in the proposal, Tony talked to the people on site and was referred to the Australian Iron and Steel (AIS) Area Colliery Superintendent, Bill Brisbane. Public spirited and enthusiastic about the idea, Bill agreed to donate whatever materials were still on the surface to the formative group - the Society's first donation.

Feverish activity during the later part of 1971 culminated in a public meeting attended by a dozen or so interested people, who nominated a steering committee from among their number to draw up a Constitution and arrange an inaugural general meeting in February 1972. This was duly accomplished and the new group became the Illawarra Light Railway Museum Society, with the stated aims of: "collecting, preserving and operating where possible examples of local and national narrow-gauge railway

A view of the storage compound in the early 1980s, before the construction of the locomotive and carriage shed. From left to right: KIAMA 0-4-0ST (Davenport B/N 1596 of 1917), CAIRNS 0-6-0 (Hudswell Clarke B/N 1706 of 1939), SHAY B+B (Lima B/N 2097 of 1907), RUSTON 4wDM (Ruston & Hornsby B/N 185298 of 1949) and NEWBOLD 0-4-0PM (built on frames of Krauss B/N 2179 of 1889). *Photo: ILRMS*

equipment, for the benefit of the community and as a non-profit tourist attraction".[1]

The infant society was very fortunate to have as founding honorary Chairman, the late Ken McCarthy. Ken was extremely knowledgeable and well known in the fields of industrial archaeological, transport history and preservation, with a bias toward tramways and light railways. He had researched, recorded and photographed many of the rail installations in the Newcastle, Sydney and Illawarra regions over the previous 25 years, some of which was published.

As a manual arts teacher Ken was of a practical mien, and had been a founding member and Chairman of the South Pacific Electric Railway Cooperative (Sydney Tramway Museum) at Loftus, and so he brought invaluable knowledge and experience in establishing and directing the Society when it was most needed.[2]

Another Founding Committee Member who has also passed away, but was instrumental in the Society's subsequent support from AIS, where he was employed originally as a locomotive driver, was Arthur Moore who knew everyone who mattered. He was a great salesman for the project, spotted useful things from miles off and could always persuade their owners to part with them at the right price (usually for nothing). He also had quite a broad knowledge of track laying and fettling in addition to his steam expertise.

One of the first approaches by the new Society was to AIS Collieries, seeking permission to reclaim re-useable equipment from the derelict 2-ft gauge line along the escarpment from the later Corrimal Colliery to the original cable haulage at Brokers' Nose.[3] There was some reluctance at first and a definite ban on any suggestion of re-opening the line, as a permanent base for the Society. However, permission was finally given subject to certain conditions, and the group commenced temporarily clearing and re-laying some missing sections and had to use a steep bush track to gain entry. The pit-top end had been lifted and landscaped as far as the rotting log bridge over a deep gully so road access or re-laying from the mine end was denied.

Fortunately one of the founding members had space available on his nearby land for the Society to store recovered equipment whilst seeking a permanent site. Another member built the Society's first self-propelled rail vehicle, a petrol powered rail trolley using the engine and gearbox from a rare, Lloyd-Hartnett light car (a pre-Holden failed attempt at Australian car manufacturing). The three years spent recovering the material from this site was important, as it cemented a firm working relationship between the members who participated.

At this early stage, the Society was embracing a philosophy of asking for just about everything except money. The theory was that most equipment and services can be written off somehow or other by donors, whereas money cannot. Society members showed themselves to be prepared and have the skills to repair or modify others' cast-off equipment sufficient for the project's needs and this policy has always worked even when the economy was forcing industry to become more financially accountable. The Society was just too late in applying for a grant under the Federal Government's RED Scheme, and it was more than ten years before any cash assistance was obtained.

The Search for a Museum Site

The search for a suitable site for an operating narrow-gauge railway and museum began as soon as the idea was conceived, with the intention of using a derelict railway trackbed. Because of the local topography, the early colliery and quarry lines generally ran west to east, carrying the loads from the escarpment, the relatively short distances to the jetties and harbours, and later to the NSWGR line where it intersected. With intense urban development in the 50s and 60s, the closure of all of these industrial lines was quickly followed by upgrading the north-south Princes Highway and

other main roads, and the encroachment of the trackbeds by new building. This left very few potential sites suitable or available for what was planned. The Society sought out several old railway formations that were still on public or industrial land, but Wollongong City Council planning permission was always denied for one reason or another.

After a couple of years of fruitless searching, one of the local South Coast Model Engineering Societies suggested the two groups consider sharing a site. This society, which operated from a private site prone to flooding, had made enquiries to Shellharbour Council with positive results.

By now the ILRMS was prepared to consider almost anywhere a museum and a length of track could be set up. The committees of the two groups had a meeting with the Mayor and Municipal Engineer of Shellharbour Council who were both eager to help The first offer, however, was on a steep hillside used by a pony club, had impossible grades and would not have been large enough for the miniature tracks. The same problem became apparent that had dogged the Society since it began looking for a location; most of those persons approached could not visualise what the group was really about and probably often dismissed the project as a crackpot scheme, not worthy of serious investigation.

However, the Shellharbour officers were more imaginative, and offered a number of suggestions, whilst trying to get a mental grip on what was needed. The suggested sites were still much too small and eventually everyone was poring over a planners map of the municipality looking at the green bits - recreation zoned council land. Two possible sites finally seemed to meet the requirements. One would not be available for some time because it was scheduled for government housing development on a large part and the remainder to be left as native forested public recreation area. This would have been the more geographically interesting and was near the tourist trail, but the ILRMS decided that to wait for maybe several more years might bring its demise.

The site chosen was the only one immediately available and large enough to accommodate the basic needs of the two societies. This site was adjacent to the aerodrome at Albion Park, a low lying area mostly covered in melaleuca scrub and bounded by two intersecting runways and the Illawarra Highway from Kiama to Macquarie Pass. The total area expected to be available to the ILRMS was about 40 acres, but Council would only make available some 6 acres, with the promise of more when the project was sufficiently advanced to justify it. In the end, the full area was never made available, with about half of the initial estimate being eventually released to the Society.

This area forms the basis of today's Museum lease agreement with Shellharbour Council. The initial agreement between the Council and the then un-incorporated Society granted occupancy of the initial 6 acres, approximately half of this was then sub-let to the South Coast Model Engineering Society which commenced moving its equipment onto the site and preparing for laying tracks.[4]

The Perry in store at Kembla Grange, 1974. Photo: Bruce Belbin

Establishing the Museum

The Society erected post-and-rail fencing recovered from local schools along the highway frontage with access gates and along the boundary with the airfield. Members then moved some items from storage onto the site and laid the first lengths of 30lb per yard track near the front (now called the Croome Road Siding) alongside the present toilet block, in the summer of 1974.

As trees could not be cut down indiscriminately, the siting of buildings, services and track layout left few alternatives. The largest open area was behind a private portion of land with a ramshackle, but inhabited dwelling on it. The low-lying and swampy area immediately behind this had been used as a dumping ground for domestic cast-offs for a long time. This became the site of the yard compound, but required many truckloads of rock and earth fill before sidings could be laid on it. Lock-up gates and security fencing was still in the future.

Major exhibits were slow to arrive. Standard-gauge Hudswell Clarke 0-6-0T *SOUTH BULLI No.2* (B/No. 297 of 1888), belonging to the ARHS NSW Division and stored at the NSW RTM's roundhouse at Enfield, was transferred to the Albion Park Museum, when the Sydney facility closed and the RTM re-located to Thirlmere. It was soon joined by an ex-NSWGR CHG brake van from AIS and a wooden-bodied 4-wheel coal hopper from the Corrimal Coal Company.[5]

The Museum became a store for a time for some derelict 3ft 6in (1067mm) gauge diesel locos from Coalcliff Colliery and belonging to a member, and soon, the first working loco, an ex-Army 4wPM Ford V8-engined Malcolm Moore (subequently moved to Megalong Valley). The Society soon adopted a policy that all infrastructure and major acquisitions would be ILRMS owned and henceforth did not encourage private-ownership of exhibits.[6]

The Society purchased its first steam locomotive in 1972 when Ken McCarthy's wife, Mary, spotted an advertisement in the Sydney Morning Herald offering a former cane locomotive for sale from the grounds of EI Arish Country Club near Tully in Far North Queensland. The locomotive was Tully No.6, an 0-6-2T built by Perry Engineering of Adelaide (B/No. 7967/49/1 of 1949).

Only the fact that the Australian National Line agreed to transport it by sea to Port Kembla, free-of-charge, made it feasible for the Society to pay the $100 purchase price, the crane hire and road transport to get it to Townsville.

This item turned out to be a very long term restoration, as the need for major boiler repair meant it was 1987 before this locomotive was to be steamed.

At about the same time Colonial Sugar Refineries (CSR) 'sold' the Museum an old cane cutter's butcher van and the wreck of a cane inspector's petrol railcar (Bauguley-Drewry Car Co. B/No. 1338 of 1924) for the princely sum of $1 from Victoria Mill, Ingham. This was to be the start of a long and fruitful relationship between the two organisations. Fortunately for the group, back-loading on road transport was obtained cheaply from Ingham to Albion Park.

The Society was able to purchase the building from the closed railway station at nearby Yallah for all of $20.

The first train over the extension of the Society's track to the former SRA of NSW YALLAH station building. The train consists of former CSR Victoria Sugar Mill loco CAIRNS 0-6-0 (Hudswell Clarke B/No.1706 of 1939) and ILRMS built car No.1. Photo: ILRMS

Members dug out the foundations and secured the building, whilst a sympathetic plant operator provided free his two fixed-jib cranes and low loader to transport and manoeuvre the complete building to its awkward new location amongst the trees at the Museum.

The Society then very nearly lost its site and the new station. The owner of the land in front of the museum, having ignored approaches by Council to purchase his land, decided that the new development was going to lower its value. He found out the Society tenancy was not covered by a Development Order or re-zoning and promptly initiated action to get the ILRMS evicted. Frantic activity by the Society and Shellharbour Council organised an Interim Development Order and temporary re-zoning of the land for recreational use, after appeals to all other nearby residents, local parliamentarians and everyone else who might support the young project.

During all this, someone deliberately set fire to Yallah station. It was only good luck that a passer-by spotted smoke on their way to work early in the morning and called the fire brigade which quickly responded. The booking-office end of the building and roof were badly damaged.

At that time, insurance was out of the question, so appeals were made to timber merchants and building suppliers such as James Hardie, Australia, who donated the necessary material for Members to undertake the restoration.

By 1976, the Museum site had mains electricity and water. Sewerage was to be sometime in the future and older members have mixed memories about digging holes down the bush, then carrying and emptying brimming dunny-cans, after busy open days. Some small second-hand sheds provided tool storage, a small workshop and a crib-room, but things were very basic particularly in winter with a westerly wind blowing.

Everything was scrounged and visits to industrial complexes and collieries provided track materials, steel, tools and anything else that might be useful. Some members spent many hours travelling the region and even further away, following up possible leads on materials and equipment and making personal approaches to industrial and commercial concerns for help with supplies and services.

These usually paid-off, as evidenced by the long list of firms and organisations which provided assistance such as donating exhibits, sea and road transport, tools, materials, machinery (usually not in working order and often quite suitable as historic exhibits themselves), engineering and other services which were beyond the resources of the Society at that time.

Of crucial value was the level of skills and inventiveness and experience within the active membership. The location of the project in a densely populated and industrialised region, close to a State capital gave it a distinct advantage over other similar but more remotely sited schemes.

By now the yard area formed a compound with chain-wire mesh fencing and contained several sidings connected to the short push-pull running line, along the old Croome Road formation. About this time, a member showed some photos of a derelict Leyland petrol locomotive and low-sided bogie wagons at a disused claypit belonging to Newbold Refractories at Home Rule, near Mudgee.

The Secretary approached the local Newbold organisation, received permission to retrieve the locomotive (the wooden wagons were considered too rotten), but word got about locally and a nearby museum got the loco. After some sharp exchanges of letters, the ILRMS eventually got possession and brought the unit to Albion Park.

Restoration was immediately undertaken and a surprising history was uncovered - the unit had originally been a Krauss steam locomotive (B/No. 2179 of 1889), thought to have been scrapped. In reality it had been rebuilt in the late 1930s at Newbold's Thirroul plant, using a WWI Leyland truck

engine and transmission and was sent to the Home Rule tramway where it apparently hauled trains of clay to an exchange siding on the NSW Government Railways until the late 1940s. The Leyland was the museum's first restored, working locomotive exhibit.

The Acquisition Era

The late 1970s and early 1980s were the acquisition era of the Society, when most of the major exhibits were obtained, the available land was increased and a formal lease arranged, culminating in the completion of the circuit of track. This also saw the incorporation of the Society as a non-profit company limited by its members' guarantee.

The society purchased *KIAMA*, a robust 0-4-0ST steam locomotive built by the Davenport Locomotive Co. of the USA (B/No.1596 of 1917) from the Marsden Steam Museum at Goulburn. This locomotive had great local significance as it had originally operated on the Kiama blue metal tramway. It arrived in April, 1977 and was available for regular steam operation from October, 1978 after major overhaul.

During March 1977 the CSR decided to offer their fleet of 0-6-0 Hudswell Clarke steam locomotives to bona fide museum groups for preservation. ILRMS successfully applied for one of these locomotives and was given *CAIRNS* (B/No. 1706 of 1939) from the Victoria Mill at Ingham. It was transported by sea to Port Kembla and arrived at Albion Park in February, 1978. The loco arrived without boiler tubes, but due to an intensive effort by the members these were replaced and it was first steamed in July, 1978 and operated on the museum's first regular open day 11 February, 1979.

The small 0-4-0ST locomotive that appears in the museum's emblem is called *BURRA*, and was built by Hawthorn Leslie, UK (B/No. 3574 of 1923). It originally worked on the Corrimal colliery railway, from 1923 to circa 1965 and was transferred to the AIS Port Kembla Steel works visitors centre in 1968, after that company bought the colliery. The ILRMS acquired the locomotive and it was delivered to Albion Park in December, 1978. After a long and arduous major overhaul, it was recommissioned on 8th October, 1995.

Another 0-4-0ST locomotive built by Hawthorn Leslie *WALLABY* (B/No. 2988 of 1913) was also acquired by the society from AIS and was delivered to the museum site with *BURRA*. As it is a standard gauge machine and thus cannot be used on the museum's railway, it is on static display at the entrance to the site.

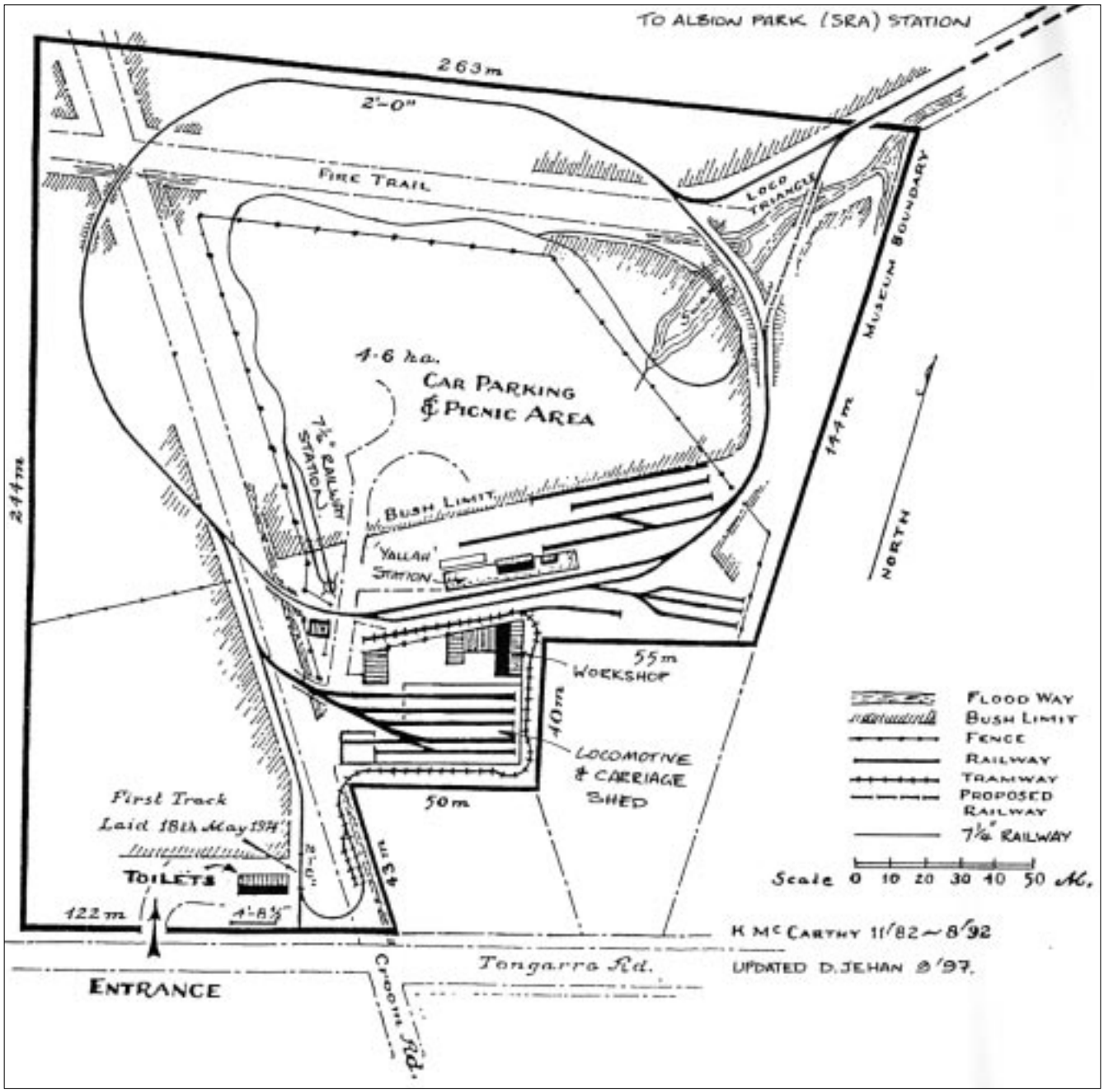
The remains of two 'A' class Shay locomotives built by the Lima Locomotive Works of Ohio, U.S.A. (B/No. 906 of 1904 & 2097 of 1907) were acquired by the society in 1974. These two Shays saw service on A & D Munro's timber tramway in southern Queensland.[7] It is hoped that some of the rescued components can be used to build a replica of this type of locomotive. However, this is a very long term project.

Passengers cannot be given rides without carriages and the ILRMS has a good selection. The first car, appropriately called No.1, is an end-loading passenger saloon built by the museum in 1978. In contrast, car No. 2 uses the body of a former 1918 International motor bus body mounted on the frame of an ambulance car from the South Clifton Colliery. Both of these carriages originally used bogies from the Condong Sugar Mill in northern NSW, although No.1 now runs on units from the Rubicon timber tramway in Victoria.

Ex-Queensland Railways rail motor trailer P119 arrived at Albion Park in November, 1980. It entered service after undergoing significant body restoration and being fitted with long wheel base 2ft gauge bogies built by the museum.

End-platform saloon car C95 is a former Sydney electric tramcar. Built by Clyde Engineering Co. in 1899, it was retired from service in 1922, and spent 40 years as a garden shed at Blakehurst before moving to Parramatta Steam Tram Museum. A change of policy there saw it sold to an ILRMS member in 1982 and, following several years in storage, it

"The Last Spike" being hammered into the track by the Mayor of Shellharbour, to mark the completion of the loop at the ILRMS. KIAMA 0-4-0ST (Davenport B/N 1596 of 1917) and CAIRNS 0-6-0 (Hudswell Clarke B/N 1706 of 1939) symbolically parked either side of the brief ceremony. December, 1983. *Photo: ILRMS*



underwent an extensive three year overhaul, finally entering service at our 20 Years celebration, on 9 February, 1992.

The museum's other operating car is ex-South Melbourne cable tram trailer No.430, which operates on former Rubicon Tramway bogies from Victoria. This car arrived at the museum site in February of 1980 and was ready for service at the museum's official opening on 10 November, 1984.

The facilities at Albion Park have improved and expanded dramatically since 1980, first the stationary steam display was moved to its current position at the entrance to the compound in 1984. This was followed by the erection of a large locomotive and carriage shed in 1985, followed by a workshop the following year. The locomotive and carriage shed was doubled in size in 1995, part of this expansion included a much needed under cover inspection pit.

Facilities for the visitors have also improved with the use of an ex-State Rail Authority of NSW carriage as the kiosk and souvenir shop. Also, Otford Signal Box was acquired by the Society in 1985, and is now fully assembled with its lever frame for public inspection. The picnic area has been progressively improved with more barbeques and picnic tables. As young families are our major customers, the addition of a merry-go-round and chair-o-plane, which were acquired from a local colliery's social club, are a welcome added attraction.

Twenty Five Years and Beyond

The celebration of the Jubilee of the ILRMS on 21 June, 1997 was an opportunity to look back on the group's past achievements and to look forward to the future. In looking back it is useful to review what the group set out to achieve and how far we have got in the time.

The group was set up with the following objectives:

To establish a light railway museum at Albion Park, NSW.

For public exhibition of railway locomotives, railway rolling stock, plant, equipment and all related accessories.

For the education of the public in the mechanics, manufacture and operations of the steam engine and other mechanical devices in an historical and industrial context.

To inform the public in the use of railways and tramways for industrial and other purposes in the Illawarra Region of New South Wales in particular, and throughout Australia generally.

It is not unreasonable to say that the Society has done well in realising these stated goals. Suffice to say this has been achieved by a lot of hard work by a group of very dedicated people. However, the main area where a gap exists between the 'vision' and reality would be that most of the members would dearly love to see a longer length of track to run on. (Having said that, few of us want to maintain it!)

The ILRMS has been able to maintain a good solidarity amongst its members, with relatively little internal conflict. This is not to say that the group has not lost members over the years because of issues such as personality clashes or disagreement with a particular aspect of the governing committee's policy, but this has not been common.

We believe that there are important reasons for this solidarity. First, as previously stated, almost none of the exhibits are privately owned and thus when all members 'own' the exhibit it can be more effectively controlled through the committee. Second, the type of person that has been attracted to the museum has tended to be very practical.

Qualified engineers, electricians, fitters, boiler-makers, builders, locomotive drivers, signalmen and those who are generally 'handy' have formed the bulk of the membership. Finally, successively good leadership by our various operations managers, especially the late Arthur Moore, has kept the team focused.

Former Tully Sugar Mill 0-6-2T locomotive TULLY No.6 hauling a passenger train, circa 1990. Photo: Robert Friar

The Track Ahead

The track ahead for all railway preservation groups as we approach the year 2000 is both exciting and daunting. It is exciting in that more locomotives and rolling stock are being restored all over Australia, allowing some to relive old memories and for others to experience a piece of history in a similar state to that which it originally operated. An attempt to retain the skills necessary to build and maintain heritage equipment is being made by many groups with a reasonable degree of success.

However, life for the volunteer organisation is not easy. Although there is talk of increased leisure time, the reality is that working hours are actually getting longer, and thus there is less time available to spend on a hobby. Add to this the increased government regulation that has been introduced in recent times, the growing burden of insurance cover just to operate, and the resultant load on the volunteer staff has increased dramatically.

The committee members of the future will have to be very confident of what they are doing and the associated risks involved.

Attracting young members to any organisation has become increasingly difficult for all groups, yet ILRMS has not experienced this to the same degree as many other similar organisations.

One advantage we have is being located close to the major centre of Wollongong, and we have tried to involve any young person that has joined the ranks of the members. By assisting many of the skilled members that we have, young people actually learn something and contribute in a very real way to the continuation of the museum's activities.

The museum is open to the public approximately twenty times a year. It has been suggested many times that the number of open days be increased. The reality is that this would just increase the burden on an already heavily committed staff with a questionable return for this effort!

Instead of this, the committee has wisely opted to get more regional advertising done on a local television channel the week before an open day. This highly successful strategy has seen the attendance levels swell dramatically.

There is an inevitable conflict between operating a tourist attraction and maintaining equipment with voluntary staff who see the activity as a hobby. ILRMS overcomes this conflict by optimising its open days instead of increasing their number.

The projects for the future are to extend the track to near the Albion Park railway station, restore and acquire selected items for the collection, and build a covered display hall for all the exhibits that are not on display or are currently out in the elements.

Also, it is hoped to commence operation of the Society's 7 1/4 inch gauge miniature line at the site, which is currently under construction.

Notes

1. ILRMS Constitution. Co-incidentally, the Australian Narrow Gauge Railway Museum Society (ANGRMS) was being conceived and born in Queensland at around the same time, without each being aware of the other.
2. This involvement, along with Ken's many others lasted until his untimely death twenty years later.
3. See Light Railways No. 60, April, 1978 for a detailed description of this line and the activity to recover heritage items.
4. Council wish to simplfy their administration by dealing with a single group.
5. These three items are now at the Black Diamond Heritage Centre at Bulli railway station.
6. There has been an example of long-term lease of a privately owned vehicle, in return for restoration by the Museum and such may be the case from time to time, determined by circumstances.
7. Refer to Light Railways 61, July 1978.

Centre Spread: 25th Anniversary Scenes, 21 June, 1997. *Clockwise from top left: former CSR Victoria Mill 0-6-0DM locomotive SEYMOUR (Baguley Drewry B/N 3574 of 1923) on level crossing; former Corrimal Colliery 2ft gauge locomotives BURRA 0-4-0ST (Hawthorn Leslie B/N 3574 of 1923) and unnamed 0-4-0WT (Robert Hudson/Hudswell Clarke B/N 1423 of 1922) with carriages from Campbelltown Steam Museum; BURRA and ex-Leighton Constructions 4wDM (Ruston & Hornsby B/N 285298 of 1949) on the turning triangle (three photos: Robert Friar); CAIRNS, with commemorative headboard, at Yallah station with the passenger train (photo: Bob McKillop).*

Australian Newsprint Mills' Boyer Tramline

by Tony Parnell

In 1941 Australian Newsprint Mills started production of newsprint from their factory at Boyer near New Norfolk, Tasmania. Old growth hardwood logs cut from the Company's concessions in the Derwent, Florentine and Styx Valleys were railed to the mill at Boyer by the Tasmanian Government Railways using mainly Q, and later X and Y Class locos.

At Boyer the logs were unloaded by a twenty ton overhead traveling crane from the southern sidings of the Boyer railway station into a storage yard next to the sawmill which was located where the billet handling deck is now. The logs were washed with high pressure water hoses and cut using Canadian twin breaking down saws and flitch gangsaws into billets. A billet is approximately 5 feet x six inches x six inches or 1.5 m x 150 mm x 150 mm. The billets were stacked in U shaped cribs alongside the mill buildings. The poor quality timber was discarded as boiler fuel and the remaining billets were moved in their skips to the grinder room by electric-powered three-wheel trucks.

Two billet yards were constructed between 1948 and 1953 on the northern side of the railway line. These yards were equipped with four ton overhead cranes, and were used to store and sort the billets. A 2ft gauge tramway was built to transport the billets from the woodmill and TGR trans-shipment track to the billet yards, and then on to the grinder room.

In 1951 a second paper machine was commissioned to help with the increasing demand for paper on the Australian market. A new larger sawmill commonly known as the woodmill was built on the northern side of the Boyer railway station. It had a thirty ton overhead traveling crane to handle the logs, semi automatic log washers, large breaking down band saws, and steam billet splitters. At the new woodmill loading station the billets were stacked into a bundle over a single lifting sling. The bundles were then automatically lifted onto the billet trucks with the sling which stayed with the bundle until it was unloaded in the grinder room.

Mancha battery locomotive No.1 near the log yard at Boyer, February 1989. Photo: M. Dix.

Railway sidings to the north of the new woodmill were installed to allow access to a new log yard with greater log storage. The sidings consisted of twin tracks running from the main line at the western end of the paper mill property under the large overhead crane to a dead-end near the entry gate to the mill. Crossovers were added later near the crane and in 1988 the track was forked near the dead end then extended to rejoin the main line to the east of the station forming a long loop.

The old sawmill was removed and a billet handling deck was built in its place. The tramway was extended onto the deck with three sidings to allow storage for a consistent flow of billets into the grinder room and later the chipper.

Gemco battery locomotive with a rake of loaded billet trucks outside the woodmill loading station at Boyer, 1990. Photo: T. Parnell

One of the Mancha locos in the billet yard, in 1953. *Photo: Australian Newsprint Mills*

The grinder room housed a number of large stone grinders each driven by a 3600hp motor. The rakes of billet trucks were shunted into the grinder room where the bundles were lifted from the trucks by crane onto the floor. The billets were stacked into cribs leaving the sling to return to the woodmill. The cribs were lifted by a crane to above the mouth of the grinders where the billets were fed manually one at a time into the grinder. Large hydraulic rams forced the billets against the grinding wheels where water mixed with the wood fibers as they were ground forming a pulp.

In 1957 a chipper and cold caustic soda (CCS) bleaching plant was installed with access for billets from the billet handling deck. This allowed a wider range of wood species to be used including pine as well as the poorer quality timber. Selective sorting of the billets was carried out, with the whiter timber going straight to the grinder room and the rest chipped and put through the CCS bleaching plant. The ground timber gives the newspaper the fibrous texture while the bleached timber gives the smooth texture but is more expensive to produce. The hardwood was supplemented with 30% softwood craft paper to improve the quality.

Private sawmills were encouraged to supply re-growth timber to the mill in billet form which was unloaded directly from railway wagons to the tramway billet trucks at the trans-shipment track or the north billet storage yard.

In 1947 ANM ordered one 2ft gauge, six ton, four-wheeled battery loco from John Carruthers, the Sydney agent for the Mancha Storage Battery Locomotive Co. of America, at a cost of £2300. The Mancha loco (Builders No. 2796-1947) arrived and started work in 1948. A second loco (B/No. 3616-1953) arrived in 1953. The pair worked the track until 1967 when reliability problems caused a third loco to be ordered through G. R. Wilson of Lindisfarne. This was a British-built Greenbat, built by Greenwood and Batley Ltd of Leeds, type 323D (B/No. 420088-67) five-ton, four-wheel loco driven by two 11 hp electric motors with a tractive effort of 1250 pounds. This loco was found to be more reliable than the ageing Manchas but a lot harder to repair, and was gradually relegated to use as a standby loco.

By 1988 the Manchas were worn out. Two new Gemco battery locos, together with spare batteries, were ordered at an overall cost of $250,000. These were five ton Gemco locos, Builders No. 5139/69/89 and 5140/69/89, and were fitted with sanding gear. ANM fitted couplings to the locos and trialled them in August 1989.

The trials were so successful that the Mancha and the Greenwood & Batley locos were sold for scrap, minus their batteries and motors, late in 1989.

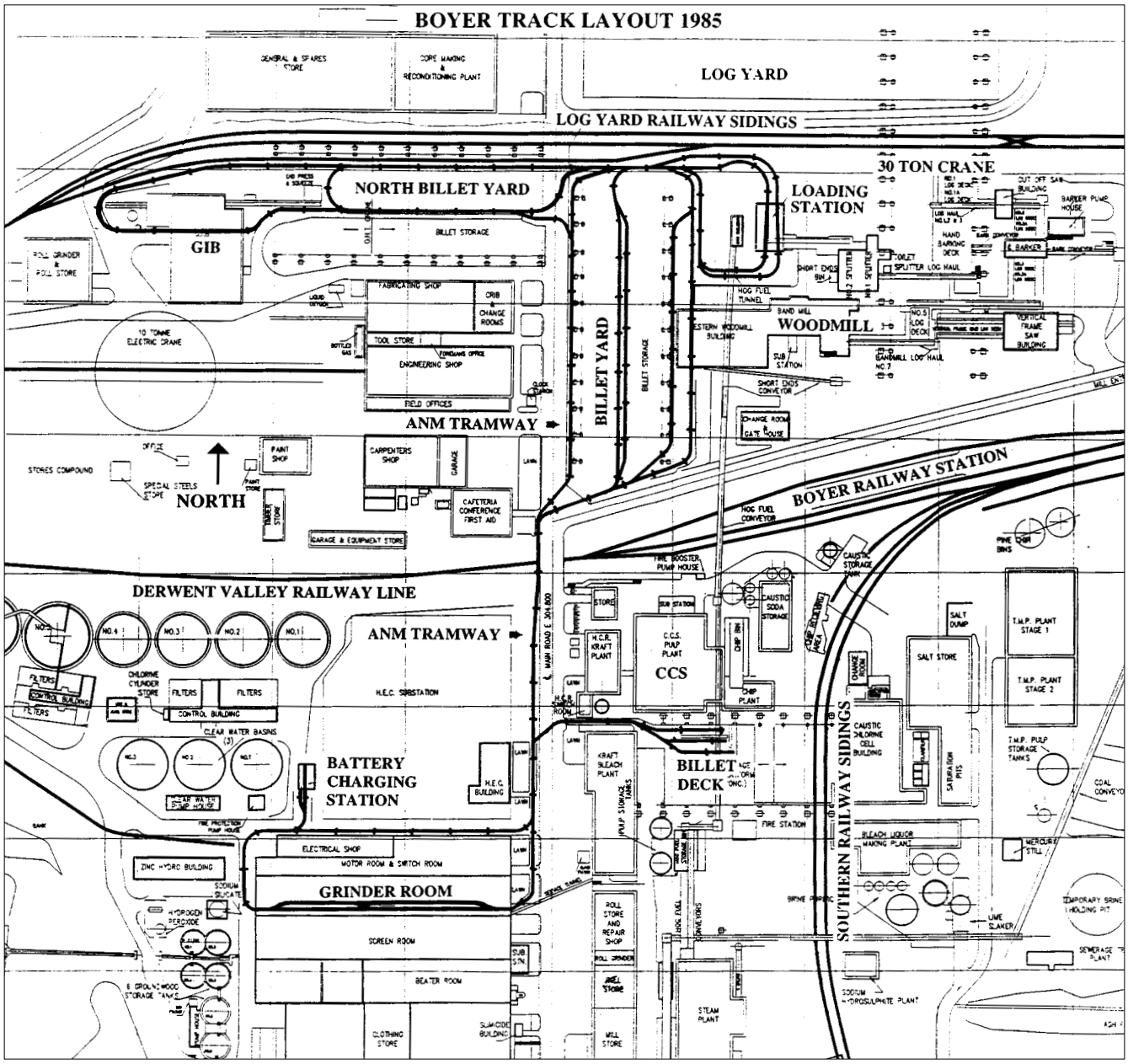
The rolling stock originally consisted of about 30 four-wheel, unsprung, non-braked billet trucks and a few flat trucks. The rollingstock was increased over the years until the 1980s when the system peaked at about 120 trucks, dropping to 100 by 1991.

The tramway operators were officially called mule drivers and assistant mule drivers. The mule driver is the locomotive driver and the assistant threw the points and acted as a shunter. They loaded the batteries into their locos and either pushed or pulled rakes of about ten empty billet trucks into the woodmill loading station for loading.

The loaded rakes were taken to the billet storage yard where the billets were removed for sorting. After sorting the loaded rakes were pulled from the billet yard and taken to the grinder room or billet handing deck, where they were left for unloading by overhead cranes. This process was repeated throughout the day, with the loco batteries being replaced every four hours. The track was near-level so brakes were not required on the trucks. Some points were spring loaded to allow automatic running through in one direction.

From 1948 to 1990 the track was extended and altered as plant modifications occurred and in 1969 a third paper machine was commissioned. The grinder room was doubled in length and a scissor crossover installed in the dual track inside the room to allow up to three rakes of trucks to be unloaded at one time. A ground wood impregnated billet plant (GIB) was built west of the north billet storage yard. In this plant the old growth billets were soaked and autoclaved in a caustic solution before being ground in ring grinders or sent direct to the grinder room. The tramway was extended into this plant to allow movement in and out of the billets.

The improvements in the speed of the paper machines



during the 1970's increased the demand for hardwood. The hardwood in ANM's concession was being cut out faster than it could be regenerated, therefore ANM saw a shift to pine and pine plantations as the future. In 1978 a thermomechanical pulping plant (TMP) was installed to pulp plantation pine sold to the mill as chips or chipped in a new chipper situated east of the woodmill. By 1985 the GIB plant had become uneconomic compared with the TMP plant and was closed. The tramway was removed from the GIB plant and shortened back to its original length in the north billet yard.

The amount of pine used in the paper increased as the hardwood supply decreased. The woodmill, tramway and grinders were slowly phased out, and the Mule drivers and assistants were retrained as crane drivers and re-deployed.

The most major accident on the tramway was in 1982 when a rake of empty trucks was being backed into the GIB plant for loading. One truck caught and dragged a billet stacker jamming between the truck and a concrete wall causing minor injuries.

The woodmill and tramway rollingstock were offered at auction on the 20th November 91, then withdrawn and kept in use till mid 1992. Hazell Bros. gained the contract for removal of the woodmill and the tramway in mid 1992.

The woodmill was dismantled and removed along with most of the tramway tracks, rollingstock and the cranes from the east billet yard. The railway sidings north of the woodmill were rationalized down to one loop track with the crossover and the dead-end sidings removed.

The Gemco locos were stored in Hazell Bros. quarry at Margate until finally auctioned and sold on the 11th September 1997 to Simsmetal Ltd.

All that is left today of the woodmill, tramway and billet yards are a couple of overhead cranes spanning bare paddocks and a few rails set in the concrete footpaths and the floor of old grinder room and GIB building.

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Acknowledgements

Grateful acknowledgement is made to Tony Reeve and Terry Scoles for assistance with information and to Michael Dix for photographs.

The Fordson rail tractor has just propelled a 30 ton bridge beam into place for the Garden Island to Torrens Island bridge on the Port River. Photos courtesy ESTA, A Lockyer Collection.

Torrens Island Bridge Construction, S.A.

In 1965 the Electricity Trust of South Australia let a contract to John Holland (Construction) Pty Ltd for the construction of a bridge across the north arm of the Port River, near Adelaide. The bridge of nine 80 ft spans, approach works and causeway ran from Garden Island to Torrens Island Power Station. [The bridge actually crosses the North Arm of the Port River and then diverges into two causeways - one to Torrens Island and the other to Garden Island - Ed.]

In order to build the bridge the contractor set up two rows of timber piles in the river topped with timber beams bearing 60lb. rails, adjacent to and parallel to the bridge on the eastern side. A wide gauge track carried a crane and a narrow gauge (3ft 6in) railway carried materials.

The rail mounted stiff-leg crane was used on all major mechanical handling for pre-constructing and superstructure construction of the pre-stressed concrete bridge.
Piles were driven from a pile driver mounted on a barge.

The abutments and piers were founded on 18 inch octagonal pre-stressed concrete piles. There were 14 piles in each pier, placed in four groups of three vertical piles, with one raking pile at each end.

Pile driving was done with a single-acting steam hammer, powered by a Prisha Engineering 150 hp steam generator, which was also rail-mounted and travelled up and down with the AustralOtis stiff leg crane.

The stiff leg crane was used for handling piles, placing concrete, handling the support frames, positioning conveyed bridge beams, positioning deck units and handling all reinforcement. The bridge beams were 80ft long and weighed 30 tons. These beams plus other components and materials were placed on bogies and hauled by a Fordson rail tractor.

Editor's notes: The photograph shows the Fordson "rail tractor" at the southern end of the bridge beam vehicle. As can be seen, the term "rail tractor" is particularly appropriate in this case. The tractor has two pairs of conventional flanged railway wheels of the same diameter, which may have imparted a rearward slope to the tractor body. The front wheels seem to have been pushed inwards on their axles, which seems wide enough for 5ft 3ins gauge. The bridge beam bogie immediately behind the locomotive seems to have wheels the same diameter as that used on the locomotive. Any "wide gauge" track for the crane is masked by the concrete beam.

The second temporary bridge, on the right, carried rail tracks for a pair of small four wheel trucks, linked together by steel beams connecting to a trolley between them. The two trucks were loaded with what appear to be concrete blocks to provide mobile anchorage for the side legs of the stiff legged crane. The gauge of this track seems to be 3ft 6ins, also.

Source: Contracting and Concreting Equipment, June 1965 Additional notes from Arnold Lockyer and Norm Houghton.

Industrial Railway NEWS

NEW SOUTH WALES

ADI LTD, Mulwala
(see LRN 117 p.6)
1600mm, 1435mm & 915mm gauge
A two-day auction to be held on November 20th & 21st was advertised in The Age on November 8th, including "5,000 metres of railway line, 6000 timber sleepers and one diesel locomotive".
Enquiry to the auctioneers (Mason Green) elicited a brochure with a photo of the 4wDM loco built on the frame of an ex-VR coal truck by Explosives Factory Maribyrnong in about 1951 for shunting the 5'3" gauge sidings at Mulwala. The length of track being disposed of seems to be more than just the 5'3" gauge, and may well include the standard and 3ft gauge internal railways as well. Can any reader confirm? The loco is believed to have recently been re-engined.
Colin Harvey & Phil Rickard 11/97

BHP LTD, Port Kembla
(see LRN 121 p.7)
1435mm gauge
The two 80-class locomotives on hire from State Rail Authority, 8015 and 8039, had stopped running by November pending a decision on their future. English Electric (Australia) Bo-Bo DE D26 (A.039 of 1960) is the next steelworks unit to be painted yellow, meaning that only about two locomotives on the system remain in the red livery.
Brad Peadon 11/97

BHP LTD, Newcastle
(see LRN 118 p.5)
1435mm gauge
Noted working at and around the steelworks on the last weekend in October were the following centre-cab locomotives:

48	Bo-Bo DE	Goninan	012	1961
53	Bo-Bo DE	Goninan	018	1964
55	Bo-Bo DE	Goninan	020	1965
58	Bo-Bo DE	Goninan	058	1982

It is believed that there are up to eight of these locomotives are still operational on this much reduced system which is due to finish by the end of 1999.
End-cab Bo-Bo DE 32 (Goninan 1 of 1954) is preserved with a four-wheel wooden coal wagon at Port Waratah.
Brad Peadon 11/97

BRAMBLES INDUSTRIAL SERVICES, Carrington
(see LRN 121 p.7)
1067mm gauge
The diesel underground mining locomotive seen in mid-October on the back of a truck in this yard had gone by the end of the month.
Brad Peadon 11/97

NEW ENGLAND ANTIMONY MINES PTY LTD, Hillgrove
(see LRN 120 p.5)
610mm gauge
The 3-ton Mancha 4wBE loco, formerly displayed at the entrance gate at Hillgrove is in fact being dismantled for spare parts, rather than overhaul as previously reported. This loco carries the number 4 and was observed in mid-November upside down outside the company workshop at Hillgrove. Inside the workshop was another 3-ton Mancha 4wBE, which has no identification at all. It was also upside down, and was to receive the reconditioned gearbox from number 4 Mancha. A new front axle has also been made, as the original axles have a 2 degree taper on the ends. The wheels are made to slide onto the taper and are secured by a threaded locknut. Over the years the taper wears, so the wheels cannot be secured firmly. Wheels push-fitted onto the axles (as on the Gemcos) are far better. A new rear axle may also be needed. The axles are connected by a chain running on sprockets. New wheels are necessary in this case, but sometimes old wheels are reconditioned by welding a steel ring onto the worn tread and then remachining on the lathe. Roller bearings are becoming difficult to procure for the Manchas, so plain friction bearings may have to be substituted sometime in the future. Overhaul of this Mancha locomotive was running about 3 weeks behind schedule. The 3-ton Manchas are preferred over the 1.5 ton Gemcos as they are better able to maintain production from the working levels in Metz Gorge.
In Metz Gorge across the valley, the company's access road has been extended further down the gorge, past the operational 6 Level to the future site of 7 Level. Work should begin here shortly.
Ross Mainwaring 11/97

Locomotive, Rolling Stock & Equipment Manufacturers

Bundaberg Foundry Engineers Ltd
(see LRN 118 p.4)
On November 11th, two newly-arrived Walkers 73-class B-B DH locomotives (ex NSW SRA) were noted in course of being dismantled for rebuilding to 2ft gauge, one in the workshop yard and the second just inside a workshop shed. These were 7314 (673 of 1971) and 7339 (701 of 1972), purchased by Proserpine Mill from Bob Hague at Goulburn earlier in the year, and believed stored in Maryborough since then. By early December, these two units had been taken inside the workshops buildings. They will be for delivery for the 1998 season.
John Browning 11/97 & 12/97

QUEENSLAND

BINGERA SUGAR LTD
(see LRN 116 p.11)
610mm gauge
At the end of October, E M Baldwin 4w-2DH (4529-?-1-73 of 1973; rebuilt E M Baldwin 8860-2-8-79, 1979; rebuilt Millaquin 1980 & 1988) from Millaquin Mill was noted behind the workshop with a train of ballast hoppers. It seems to have replaced 0-6-0DH *ST.KILDA* (Ruston & Hornsby rebuilt E M Baldwin 6-2179-1-6-67, 1967), which has been transferred to Fairymead Mill. Seen outside the workshops was Motor Rail Simplex 4wDM 10233 of 1951, which had previously been dumped behind the workshops. Inside was Malcolm Moore 4wDH "Hydro" (1025 of 1943), which had been repainted.

BHP Newcastle: Standard gauge Goninan Bo-Bo DE 55 (020 of 1965) shunts the wharves, 2/11/97. Photo: Brad Peardon

By November 12th, Motor Rail 10233 had been placed in the navvy area adjacent to the workshops and had been joined there by its twin locomotive 173-72 (10234 of 1951), previously thought to have disappeared in late 1993. It had apparently been stored in a disposal area since that time. It was reported that these two units have been sold "down south" for preservation, possibly to NSW. They were still present on November 27th.
John Browning 10/97; 11/97

It is believed to have been sent to Rockhampton to be repaired by QGR.
John Browning 11/97

CSR LTD, Herbert River Mills
(see LRN 121 p.12)
610mm gauge
The ex-Plane Creek Clyde Model HG-3R 0-6-0DH 11 (Clyde Q 70-709 of 1970) was still not in service at **Victoria Mill** by November 10th. Chris Hart 12/97

Baldwin meets Baldwin. EM Baldwin 6wDM 04 (5281-8-74 of 1974) and Baldwin Locomotive Works 0-8-0T 8 (44692 of 1916), the last Baldwin steam loco in use in Indonesia. Mojopanggung Sugar Mill, Talungagung, Java (700mm gauge) 4/8/97. Photo: Ray Gardiner

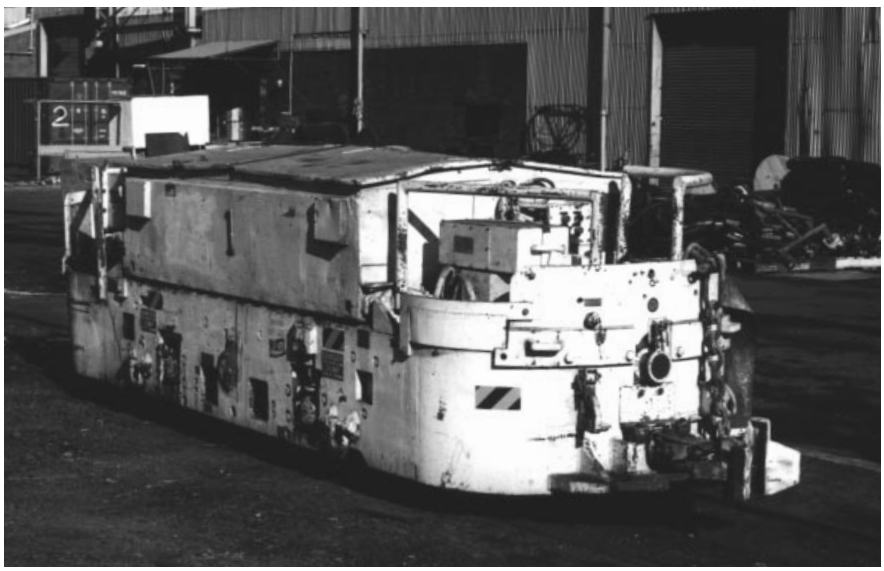
S R BUGEJA & SONS, Peri Road, Mackay
610mm gauge
(see LRN 60 p.11)
The remains of a home-built four-wheeled internal combustion locomotive still lie here ten years after they were last noted. They consist of a heavy frame and wheelsets mounted in roller bearings with engine and transmission long since removed. They come from a locomotive built for hauling cane on the farm "horse line" perhaps thirty years ago but which was not a success.
John Browning 10/97

BUNDABERG SUGAR LTD, Fairymead Mill
(see LRN 116 p.11)
610mm gauge
Noted in the navvy area at Fairymead Mill, parked with a train of ballast hoppers on October 7th, was 0-6-0DH *ST.KILDA* (Ruston & Hornsby rebuilt E M Baldwin 6-2179-1-6-67, 1967), which had been transferred from Bingera Mill together with the ballast plough built at Bingera in 1991 on the frames of Ruston & Hornsby 4wDM (387893 of 1955).
John Browning 10/97

CARPENTARIA TRANSPORT PTY LTD, Woree
(see LRN 113 p.10)
1067mm gauge
Ex QGR Walkers DH-class B-B DH (619 of 1969) was noted being hauled as a vehicle in a QGR train south of Mackay on November 11th.

CSR PLANE CREEK PTY LTD, Sarina
(see LRN 121 p.17)
610mm gauge
Noted by the loco shed at Plane Creek Mill in late October was a collection of final drives and bogies from Walkers diesel-hydraulic locomotives. There were four Gmeinder final drives of which two were complete with wheels on axle with reversing box attached. These were numbered (in paint) 46, 51, 57 & 58. The two bogies were numbered (in weld) 71 and 72.
Of the four locos reportedly no longer in use, Clyde 0-6-0DH 2 (57-147 of 1957) was noted in the loco shed dismantled, with Com-Eng 0-6-0DH 3 (FA1036 of 1959) semi-dismantled, while Ruston & Hornsby 0-6-0DH 9 (rebuilt E M Baldwin 6-825-1-5-64, 1964) and Clyde 0-6-0DH 10 (67-569 of 1967) were not noted, possibly being stored away from the loco shed.
John Browning 10/97

MACKAY SUGAR CO-OPERATIVE ASSOCIATION LTD
(see LRN 121 p.14)
610mm gauge
Pleystowe Mill has acquired two signals, or more correctly two point indicators, for its mill yard adjoining the Eungella Road. They take the form of semaphore signals that have two indications - horizontal where the blade is visible, and vertically down where the blade is enclosed in a housing and invisible. The signals are operated by the throwover lever which operates the points to which they refer. The first one was installed some months before the second and was subsequently increased in height before the second was installed. One signal has B-L on the blade (Back Loop?) and the other has MT YARD (Empty Yard).
Pleystowe has also been testing a bogie bin. The bin is made up of new components which appear to be the same design as the smaller (4 tonne?) bins which have largely been recycled in the Pioneer Valley as stock yards and chook pens. It is three panels long making it about 12 tonnes capacity (ie two of the current bins). It has been seen loading at a siding in Eungella Road east of the mill which is a side tipping site, and in the mill yard.
Walkers B-B DH *WALKERSTON* (672 of 1971, rebuilt Pleystowe 1994) has been noted with trains using an impressive new bogie brake wagon built at the mill this year. The small Gemco 4-wheel pair are only used with the Baldwin bogie locos, maybe only with



South Bulli Colliery: 3ft 6ins gauge AE Goodwin 4wBE C on the surface 12/7/97 Photo: Craig Wilson

Industrial Railway NEWS

SHANNON (7126-1-5-77 of 1977). E M Baldwin B-B DH *NORTH ETON* (6780-1-8-76 of 1976) came to Pleystowe from North Eton Mill in 1988 upon its closure. At this stage it was repainted in Pleystowe's scarlet, dark green and yellow livery over its North Eton yellow with black and yellow dazzle stripes. In the ten years following, most of the red paint has worn off and the yellow and black shows through markedly. At the North Eton Mill site, Bundaberg Foundry 6wDM 6 (10 of 1953) was noted moved from its customary place in the shed to the yard on October 27th.

The regrading and deviation work of the "Summit" section of **Farleigh Mill's** main line between Reliance Creek and Constant Creek totals 8.2km and is estimated to cost $9.6m. By late December, the track had been removed for the entire distance, and major earthworks were in progress.

The steep and tightly curved section over the Summit itself, from Reliance Creek to the Yakapari-Habana Road, is being replaced on an alignment approximating to the present one, although much more direct, and with the existing 1 in 66 grades replaced with 1 in 200, and a 30m cutting 1.5km in length. The minimum radius of curve on the new line is 200m.

At the Yakapari-Habana Road, the old rail overbridge has been removed and abutments have been built for a new overbridge a short distance to the west, which will have major embankment approaches. From this point, further major earthworks are underway with the line to be relocated to the west of the existing route for about 3 kilometres, including a branch line to the Duckponds (where the climb to the Summit on the old line began for full trains). The new formation rejoins the old route where it enters the section which runs through mangroves to the Constant Creek bridge.

This project, to be completed for the 1998 season, is the first stage of work to upgrade the Farleigh main line to allow 1000 tonne trains to be operated. The present limit through the Summit is 300 tons, but other difficult sections will restrict trains to 520 tonnes even after the Summit deviation is completed. The shuttling of one million tonnes of cane through the Summit section in 1997 required nearly 3500 loaded trips to be made, while in 1998 it will be reduced to fewer than 2000.

With the Farleigh line severed at the Summit, at least one main line locomotive needed to be stationed on its northerly section. Com-Eng 0-6-0DM *RICHMOND* (A1308 of 1955) was noted inside the shed at Calen Depot, along with E M Baldwin 4wDM 5-774-6-63 of 1963, on December 22nd.

A new branch has been constructed heading north off the Farleigh St.Helen's Beach line about 2 kilometres from Calen Depot, but how far it runs was not noted.

Isis Mill: 2ft gauge Walkers B-B DH 1 (602 of 1969; rebuilt Walkers 1991) hauls empty bins up the grade from the mill, 15/10/96. *Photo: Brad Peardon*

IDENTIFICATION WANTED.

BUNNINGS JARDEE DIESEL SHUNTING LOCOMOTIVE.

It is reported that this locomotive may have disappeared from the Jardee Mill in Western Australia (see Industrial News Section). However, Simon Mead has provided some photographs which he took in October 1989, together with a description of the unit, which was a very interesting machine. It appears to have been a 4wDM, possibly based on a standard wagon chassis although evidence of this was hidden by footplate and skirts. The power train seems to have been the engine, gearbox, and rear axle assembly from an agricultural tractor. A chain drive on one side of the loco, hidden by a prominent part of the body casing midway, drove a central idler shaft below with chain drives off this to the front and rear axles. The cow catchers are standard WAGR steam locomotive fittings. The body panels from the front half of the loco (on the right side at least) had been removed to facilitate access to the engine. The front coupler was upside down, presumably because the coupler shaft had worn to the point where the coupler would flip over because of the weight of the coupler hook. The loco was black below footplate level and yellow above, with a black radiator grille, and black and white dazzle stripes on the lower half of the rear of the cab. The circular badge on the radiator grille was red.

Editor's comment - This machine appears to be well built with professional-looking bodywork. Various aspects of design and appearance are reminiscent of Malcolm Moore, as is the circular badge on the radiator, very like that fitted to some Malcolm Moore locomotives around 1950. However, the badge does not show the letters MM, but what appears to be JFM. Was this machine supplied to Millars, the owners of the Jardee Mill to 1983? Can some more information be supplied about this particularly interesting locomotive, and does it still exist? - JB

At **Marian Mill**, a historical exhibit has been placed across the road from the mill office. This consists of a pair of beautifully reconstructed wooden cane trucks complete with all ironwork, numbered 297 and 397.
John Browning 10/97 & 12/97; Barry Campbell 11/97; *Durundur Railway Bulletin* 12/97

PJ ENGINEERING, Mount Ossa
(see LRN 113 p.16)
610mm gauge
Motor Rail Simplex 4wPM 4199 of 1927 and flat cars ex Hayman Island had disappeared from their resting place adjacent to the Bruce Highway by late December.
John Browning 12/97

Sambas Gold Mine, Harrietville, Victoria: 2ft gauge Gemco 0-4-0BE 1959/207/74 outside the adit on 11 Level, 6/12/95 *Photo: Phil Rickard*

THE MARYBOROUGH SUGAR FACTORY LTD
(see LRN 60 p.13)
1067mm gauge
For the 1997 season, it was reported that the "transloading system" would be scrapped and a fully automated weighbridge put into operation. It was not clear whether this change was to end the previous rail internal operations where bogie bins were filled from road transport and shunted by a tractor to the tippler.
Some method will obviously be needed to smooth out the supply of cane over the full 24 hours of each day.
Canegrowers Annual Report 1996 via Chris Hart; John Browning

PROSERPINE CO-OPERATIVE SUGAR MILLING ASSOCIATION LTD
(see LRN 119 p.16)
610mm gauge
A farmer was killed when his tractor collided with a cane train at Lucas Siding, south of the O'Connell River, on November 16th. The tractor, hauling a large hydraulic cane tipper bin, was travelling on a dirt road parallel to the rail line when the accident happened.
The locomotive and five cane bins rolled some five metres down an embankment as a result.
The Daily Mercury 17/11/97 via John Browning

THE MULGRAVE CENTRAL MILL CO LTD, Gordonvale
(see LRN 121 p.17)
610mm gauge
By mid-December, work was proceeding on the deviation on the former Hambledon Mill line through the Brimsmead Gap (including a tunnel), made necessary by road works.
Track through the entire horseshoe section on the western side of the road had been removed, and a very deep cutting constructed on the eastern side.
A second deviation to eliminate the former Hambledon Mill crossing of the Bruce Highway at Edmonton was also underway by mid December. This is Main Roads contract RCC-111-1003 and involves a link between the ex-Hambledon Mill Sawmill Pocket line south of the former mill, linking to the existing Mulgrave Mill line along Maitland Road, including a bridge across Wrights Creek, and then crossing the highway and QGR by overpass south of Kamma. This will probably also allow the elimination of the dangerous "Bump" line level crossing of the Bruce Highway south of Merinda.
The mill's John Fowler 0-4-2 *NELSON* (20273 of 1934) is still steamed occasionally, and was moved to a loop near the bin shop in October, possibly for the benefit of a possible buyer.
Tom Porritt 11/97; David Blakeley 12/97; *Queensland Tender* via David Blakeley.

SOUTH AUSTRALIA

BHP LTD LONG PRODUCTS DIVISION, Whyalla
(see LRN 120 p.11)
1067mm & 1435mm gauge
The demise of most of the Walkers B-B DH locos built for steelworks use has been reported. DH1 (573 of 1962) is reportedly still available as a spare unit, presumably on standard gauge, but it is said that DH2 to DH6 (574, 575, 579, 580 & 582 respectively) were scrapped in September - October 1997.
Recent information also suggests that most of the Clyde Bo-Bo DE locos are back in service, with DE1 (56-109 of 1956 rebuilt Morrison Knudsen Australia 1995) on standard gauge and the remainder on narrow gauge as follows:

DE3	56-116	1956	rebuilt Morrison Knudsen Australia 1995
DE4	56-122	1956	rebuilt Morrison Knudsen Australia 1995
DE5	57-136	1957	
DE7	61-236	1961	rebuilt Morrison Knudsen Australia 1995
DE8	65-429	1965	rebuilt Morrison Knudsen Australia 1993
DE9	65-430	1965	rebuilt Morrison Knudsen Australia 1993

Chris Stratton 11/97; John Browning

WESTERN AUSTRALIA

BUNNINGS LTD, Jardee
(see LRN 121 p.22)
1067mm gauge
The site was visited recently to see if the loco previously reported here was still on site, but it could not be located. There is no longer any main line rail access to the Jardee mill.
Simon Mead 11/97

LRRSA NEWS

MEETINGS

MELBOURNE: "Uncle Reg's Movies!"
Frank Stamford will be presenting a selection of 8mm movies taken by his late uncle (Reg Stamford) and now transfered to video. Subjects will include Puffing Billy railway - Upper Ferntree Gully to Gembrook in 1947, building and operating the Chelsworth Park Railway (7¼ inch gauge and predecessor of the Diamond Valley line), and the Surrey Hills Live Steamers (2½ inch gauge to 10¼ inch gauge!).

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

Date: Thursday, 12 February at 8.00 pm.

ADELAIDE: Meeting Thursday, 5 February, 150 First Avenue, Royston Park, 8.00pm. Contact Arnold Lockyer for details (08) 8296 9488.

SYDNEY: Meeting Wednesday, 25 February, *Woodstock* Community Centre, Church Street, Burwood, 7.30pm. Len King will speak on his research into the Newington Naval Armoury Railway at Silverwater. *Woodstock* is a 5 minute walk from Burwood railway station and parking is available in the grounds.

Heritage & Tourist

Among the changes in the 'new look' Light Railways is this 'Heritage & Tourist' column. It will cover the news items about the railway preservation groups which previously appeared in Light Railway News.

The column will also provide comment on the wider issues of managing and conserving rail-based heritage. These might include assessment of heritage significance of particular items, business plans and marketing strategies, experience from particular conservation tasks and museum collection policies. In short, I am looking beyond news to establish a forum through which the experience and lessons learned from various preservation activities can be shared with other groups around Australia.

I have established contacts with key preservation groups to provide regular news items on events and activities such as special days, acquisition and/or restoration of locomotives and rolling stock. Contributions by readers are also encouraged. We also require good quality photographs to back these items.

Heritage Management

The organisational reforms currently being undertaken in Australian railways and other industries to improve performance standards will have profound impact on the railway heritage movement. For instance, expectations that preservation groups should have access to heritage items and railway facilities at little or no cost will need to adjust to the new order.

In future, railway management can be expected to realise the full value of their assets. Heritage management will increasingly follow market-orientated strategies that maximise use of operational heritage items and sell non-operational assets to the highest bidder.

One rationale for this change is the perception that past policies of transferring heritage assets to bona fide preservation groups have not been effective in conserving our rail heritage on a sustainable basis. Providing railway heritage assets at low cost has often encouraged a collection mentality, with conservation and management receiving lower priority. With a few notable exceptions, Australian railway preservation groups are 'asset rich and resource poor'.

Unfortunately, too often the public image presented by these groups is one of decaying heritage as collection activities have got ahead of their capacity to manage the assets. The picture contrasts sharply with, for example, vintage cars, where an active market for quality restored vehicles has provided incentive for immaculate conservation work by owners.

The challenge of these new policy directions present an opportunity for preservation groups concerned with 'little railways' take a lead role in improving the management of our heritage. Narrow gauge and industrial locomotives and rolling stock are more portable than their mainline 'big brothers'.

Accordingly, a heritage market can be expected to develop for these items in the first instance. The actions of key preservation groups in facilitating or opposing the development of this market will be of fundamental importance to future heritage management. Will the 'For Sale' classified in Light Railways be a key indicator of progress in this area?

Funding Preservation

Gaining adequate finance is a perennial problem for voluntary railway preservation groups. Rails-to-Trails campaigner Mark Plummer has been encouraging railway enthusiast groups to examine new approaches to fund-raising. He argues that while groups have achieved a great deal through traditional forms of income, such as membership subscriptions, ticket sales, the marketing of souvenirs and seeking government grants, the use of bequests has largely been ignored.

He notes that the railway enthusiast movement has attracted a number of single males with no dependents who may be pursuaded to leave a bequest to the organisation they have been associated with if the right techniques are used.

Mark recommends that enthusiast groups commence a bequest program by adding a few lines to all their promotional material requesting funding assistance by donation, legacy or bequest. Guidance on suitable wording for bequest promotion can be gained from a perusal of material and internal newsletters from other voluntary groups, churches or foundations advertising for bequests. Alternatively, Mark is available to advise groups on bequest programs. He can be contacted at PO Box 223, East Melbourne VIC 3002.

Illawarra Light Railway Museum Society Limited

It is the intention of this column to provide regular profiles of the voluntary preservation groups who have done so much to conserve and promote the heritage of Australia's narrow gauge and industrial railways. These profiles may be incorporated into the column or presented as separate articles.

Your editor recently had the opportunity to attend the 25th Anniversary celebrations of the Illawarra Light Railway Museum Society last June. From the speeches delivered on that occasion, it was apparent that the story of ILRMS was one that should be recorded and published in this magazine. I was therefore delighted that Tony Madden and David Jehan agreed to prepare the article that features in this inaugural issue of the 'new LR'.

The ILRMS story has special significance for your Heritage & Tourist editor. When I took up the reigns of LR editor in 1980, the first feature article I prepared was a profile on the then Marsden Museum of Historic Engines at Goulburn by the late Ken McCarthy. As highlighted in our current article, Ken was a key player in the establishment of the ILRMS museum at Albion Park. That is the continuity.

Hopefully, the design and presentation of our new look magazine will demonstrate the progress that Light Railways has made over the past 18 years in establishing itself as a quality and interesting record of our industrial and narrow-gauge railway history. **rfm**

Emu Bay Rwy Centenary: In typical west coast conditions, DRR locos MA2, M4 and No.8 HEEMSKIRK take water at Bulgobac, as EBR 1106 idles patiently, 3/10/97. (See item p.28) Photo H.J. Wright

Queensland

AUSTRALIAN NARROW GAUGE RAILWAY MUSEUM SOCIETY
Durundur Railway, Woodford
610 mm gauge
The Woodford Development Association is supporting the extension of the Durundur Railway line to Chambers Road (1.5 km) and has offered to assist with the task. Restoration of the former CWA cottage to provide lodging for ANGRMS members has been completed. On the restoration scene, former Goondi Mill 0-6-0DM No.1 (John Fowler 18260/1930) has been stripped down for return to working order. This work has delayed completion of the restoration work on 0-6-0 MELBOURNE.
David Mewes, 12/97

New South Wales & ACT

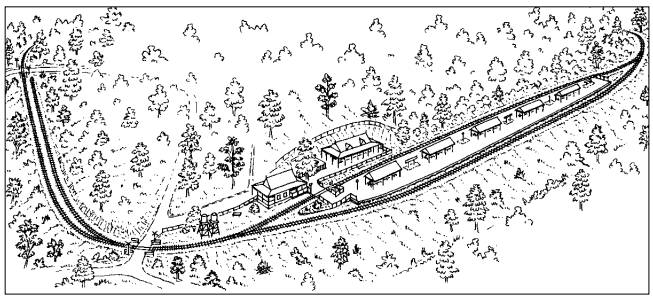
Australian Narrow Gauge Convention
It's not quite conventional rail heritage, but readers may be interested in the Third Australian Narrow Gauge Convention to be held at the Blackheath Public School in the Blue Mountains on 11-12 April 1998. Topics to be covered include locomotive construction and modelling materials; NSW narrow gauge; and layout visits. See "Coming Events" for contact details.

Bowylie Light Railway, near Canberra 610mm gauge
Dick Smith's line on his property is now operational. The line runs 'some 2km' around the hill from the aircraft hanger to the homestead, its purpose being to convey guests landing at the private airstrip. On 21 December the Freudenstein 0-4-0WT (217 of 1905) was in steam to convey members of the Centenary of Federation Council to a Christmas Party. The loco kept the local bush fire brigade busy putting out fires it started. Dick Smith is reported to be looking for a suitable diesel locomotive! Editor, 12/97

Cockington Green, Barton Hwy, Canberra 305mm gauge
Further information to LRN.121 (p.6) is that the locomotive was built in 1987, although the track is said to have been laid in 1983. It is powered by LPG with a 75mm gas burner. The operating pressure is between 75-95 PSI with safety valve operating on 100 PSI. The carriages on the line were designed and built by Doug Sarah in Canberra. Brad Peadon 11/97

Dorrigo Steam Railway & Museum Ltd 1435mm gauge
The movement of English Electric (Australia) B-B DE D11 (A.009 of 1956) from Sims at Mascot occurred on Friday, 17th October (LRN.121, pp. 9 and 11). The ex Port Kembla steelworks locomotive was moved direct to Dorrigo
Brad Peadon 11/97

HUNTER VALLEY RAILWAY TRUST Rothbury Riot Railway & Museum, North Rothbury
1435mm gauge
While this museum focuses on mainline passenger carriages as the central feature of its extensive collection, there are also strong links to the colliery railways of the South Maitland field. The key force behind the museum, Chris Richards, played an important role in the heritage listing of the South Maitland Railways 10 class locomotives by the National Trust, and seven of the fourteen class members are owned by the HVRMT. A visit on 27 December, found six of these locos on site, 17, 20, 26, 27, 28 and 31, of which No.20 has been restored, and No.17 has a current boiler certificate, but has not been stripped down and repainted, as reported in LRN 121 (p.9). No. 23 is at the Hunter Valley Training Company where it has been restored, with transfer to North Rothbury expected in early 1998.
The new three-road locomotive shed has been constructed on the site of the former Rothbury Colliery engine shed, with the No.1 road utilising the original track. It has been built in the style of an authentic 1890s locomtive depot, although modern materials are used. It is hoped to operate tourist trains over the 6.5km line by late 1998. Editor 12/97



Victoria

GEELONG STEAM PRESERVATION SOCIETY
Bellarine Peninsula Railway, Queenscliffe 1067mm gauge
Ex-Pioneer Sugar Mill (Qld) 0-4-2T *KLONDYKE* (Perry 271/1927) was returned to service in early November 1997. It was donated to the GSPS in October 1971 and stored at Belmont Common for many years before restoration commenced at a Moorabbin factory in the mid-1980s. The loco was transferred to Queenscliffe for final restoration in early 1997. Together with recently overhauled ex-Australian Portland Cement 0-4-2ST No.6 (Hudswell Clarke 646/1903), *KLONDYKE* made a trial run to Lakers Crossing on 1 November and the locos were then scheduled to haul a 0930 fun-run special train the following morning. One of the drivers was tripped at the starting line and *KLONDYKE* hauled the six-car train on its own. No.6 and *KLONDYKE* double-headed the 1330 Lakers Crossing train, then ran a triple-header with 4-6-0 PB15.454 to Drysdale at 1430. *RNV* No.100, December 1997

PUFFING BILLY PRESERVATION SOCIETY Menzies Creek Museum 610/1067mm gauge
Hudswell Clarke 0-4-2ST (B/N 1559/1925), formerly No.4 at Pleystowe Sugar Mill, was successfully steamed at the *Olde Time Festival* on 12 October 1997. Work is continuing to complete the painting of the cab. The old paint is being stripped back to bare metal. The ex-Mt Lyell Abt rack locomotive No.5 (NBL 24418/1938) has had the rack rail replaced under the rack mechanism to allow visitors to see the means by which this engine ran when operating on the rack section of the railway.
PBR Monthly News, Dec.1997

Heritage & Tourist

EMERALD TOURIST RAILWAY BOARD Puffing Billy Railway
762mm gauge
With the planned opening of the extension from Lakeside to Gembrook in 1998, the ETRB is required to upgrade the present station facilities at Lakeside to facilitate through and terminating trains. The Traffic, Passenger Operations, Mechanical Engineering and Refreshment Services divisions have contributed their ideas on the required features and the Ways & Works people have prepared preliminary designs. John Thompson has prepared the accompanying sketch of the proposed station (at left) based on these designs (courtesy *Narrow Gauge* No. 146, September 1997). The sketch shows the new island platform in relation to the existing station building and toilets.

WALHALLA GOLDFIELDS RAILWAY RESTORATION SOCIETY INC.
Walhalla Goldfields Railway, Gippsland 762mm gauge
This society has changed its name to the above. A visitor reported that clearing the scrub from the next bridge toward Walhalla past the 'belly girder bridge' was virtually complete on the up side of the bridge (25 October, 1997). This bridge remains intact with its three girders suspended over Stringers Creek, but the supporting girders were washed away many years ago. The WGR plans to build scaffolding beneath the girders to enable new supporting trestles to be constructed. Forty-eight bridge girders have been retrieved from Euroa and were expected to be moved to Walhalla yard during November [see LRN.120, p.14]. They should provide sufficient steelwork for most of the bridges in Stringers Creek gorge to bring the railway back into Walhalla.
The Society is considering its options for meeting future motive power requirements and plans for the construction of two new NA-class locomotives (18A and 19A) have been put forward.
Much work has been done on the "Kasey" locomotive (E M Baldwin

Heritage &Tourist

4wDH 3225-1-2-70 of 1970) with the intention of having it available for the Christmas - New Year traffic, though this was appearing unlikely during November. It is a major rebuild, including fitting of Westinghouse airbrake equipment. In September 731 passengers were carried, whilst 1458 were carried in October. These were both increases on the same month in the previous year.
John Robin, 10/97; Frank Stamford 12/97; *Dogspike & Diesel* Nos 5 & 6.

Tasmania

ABT RAILWAY SOCIETY, QUEENSTOWN 1067mm gauge
The $20 million Abt restoration project has been endorsed as the top priority for Tasmania's 'share' of the Federal Heritage Fund [see LRN.121, p.20]. Tasmanian Premier Tony Rundle made a visit to Queenstown on 5 December to announce the Government's decision. Mr Rundle reported that financial and engineering feasibility studies showed the railway could be viable and sustainable in the long term. The restored railway is expected to attract 80,000 passengers in the first full year of operations. *The Advocate*, 6/12/97 via John Robin

VAN DIEMEN LIGHT RAILWAY SOCIETY INC.
Don River Railway, Devonport
1067mm gauge
We have received two detailed reports of the DRR activities to commemorate the centenary of the Emu Bay Railway on 1-5 Oct.
Restored EBR 4-8-0 No.8, *HEEMSKIRK*, (Dubs 3856/1900) was a star performer at the events. On 1 October, No.8 led a triple-header steam train from Burnie to Melba Flats, then returned to Rosebury at night. This 11-car train was the longest passenger train to operate on the West Coast and the first to Melba Flats for 30 years. The following day two return trips were made from Melba Flats to Boco for some 1100 school children, while tour passengers visited other West Coast sites. The special returned to Burnie on 3 October, with EBR diesel 1106 added at Primrose to help save coal and water.
Saturday 4/10 featured No. 8 and DRR 2-6-0 CCS.23 double-heading a heritage mixed train with two original EBR goods vehicles (C2 and E8), an ex-EBR DB van and an ex-North Mt Lyell end-platform carriage amongst the historical stock. On 5 October five passenger trains ran between Burnie and Ridgley using EBR diesels and DRR steam locos MA.2 and CCS.25.
John Robin, Harry Wright, 10/97

South Australia

COBDOGLA STEAM FRIENDS SOCIETY INC. 610mm gauge
Rolling stock for the Bagnall 0-4-0ST now comprises all-sprung carriages, the wheel sets being converted from 4 wheel unsprung skip trucks. These comprise a four wheel tender (1992), and 3 bogie carriages, an all steel 16-seat toast-rack carriage (1993), a wooden-bodied carriage with fore-and-aft seating for 28 passengers (1997) and a guards carriage (1995) which has a small guards compartment on one end and a Furphy water tank and fire fighting pump on the other. The ex-Farleigh sugar mill Simplex 4wDM (Motor Rail 7369/1939) has been restored except for the engine unit, and is currently being fitted with an Izuzu diesel motor. Denis Wasley, 11/97

Western Australia

WA LIGHT RAILWAY PRESERVATION ASSOCIATION (INC.)
Bennett Brook Railway, Whiteman Park, Perth
610mm gauge
The *Friends of Thomas the Tank Engine* Day on 12 October 1997 was an outstanding success with 3100 ticketed passengers carried. Trains operated between 0900 and 1700, with departures from Whiteman Village on the Bushland Loop line every 12-15 minutes. These trains were hauled by 2-8-2 NG15 118 (Henschel 24476/1938), 0-4-2T *BETTY THOMSON* (Perry 8967.39.1 of 1939) and the 4wDM Ruston & Hornsby (404982/1957). Trains on the Mussel Pool branch comprised 0-4-2T Bagnall replica *ANNIE* (built Wato Engine Works 1990) and *MAYLANDS* 4wPM (Maylands Brick 1960) working three small coaches 'top and tail', and a train of goods wagons fitted for passengers worked by 0-6-0DM *ROSALIE* (J Fowler 4110019/1950) and Gemco 4wDM *WYNDHAM*. Work of restoration of the O&K Mallet locomotive is gathering pace, the front engine being ready for testing at Willis Engineering by early December 1997.
BBR Newsletter, 12/97

Donnelly River Holiday Village
The former timber-milling township of Donnelly River, located 26 km from Nannup, Manjumup and Bridgetown, has been recreated as a holiday village with 35 cottages available for hire.
The Heritage Council of WA has listed the Bunnings timber mill, which closed in 1978. Mill tours are conducted every Tuesday and Sunday at 1130. The Donnelly River mill was constructed in 1948 and was served by 19km of railway back to Yornup. It was Bunnings last steam-hauled railway, with 2-6-0 locomotive Yx.86 operating until 1970.
The holiday village was a finalist in the 1997 Tourist Awards.
Holiday South-West, Winter 1997

YARLOOP WORKSHOPS INC.
Historic Mill Workshops, Yarloop 1067mm gauge
The major restoration project here for 1998 is a large twin cylinder steam-driven air compressor of Ingersoll Rand manufacture. Concurrent with the engine restoration is the survey/inspection and installation of an ex-Midland Railway Workshops ASG (Australian Standard Garratt) boiler, last used in a stationary capacity at this works. This will provide us with our increased steam requirements - we hope!
Colin Puzey is building a steam tram, which it is hoped will run on a spur line out of the complex for a short distance. The tram will compliment the diesel locomotive which operates for 'rides' on steam-up days. Bob Tanner, 12/97

Coming Events

FEBRUARY 1998
14 Puffing Billy Railway, Belgrave, Victoria; St. Valentine's Day Luncheon Special train; Phone (03) 9754 6800 for details.
21-22 Puffing Billy Railway, *Thomas the Tank Engine* Weekend with special trains, food outlets and the Fat Controller in attendance! *Peter Peckett*, Puffing Billy's little brother will run trips on the restored line at Gembrook.
21-22 Wee Georgie Wood Railway, Tullah, TAS. Steam train operations ('twilight' on 21st). Phone 03-6234 8233.
28 Redwater Creek Heritage Museum *Steamfest*, Sheffield, Tasmania. Agricultural and steam heritage exhibits on display, including a recently restored 1896 steam-operated carousel. Steam trains hauled by Krauss 0-4-0WT operate over 1 km of 610 mm gauge track. Contact Peter Martin for details - phone 03 6424 7348.

MARCH 1998
1-2 Redwater Creek Heritage Museum, *Steamfest* continues.
7 Puffing Billy Railway, Commissioner's Inspection Tours. Be a VIP for the day with a fully guided tour of the railway in plush VIP carriages. Tour includes lunch and morning/afternoon tea.
8 Yarloop Workshops, WA, steam running day for industrial stationary engines.
8 Wee Georgie Wood Railway, Tullah, TAS. Steam train operations.
21-22 Wee Georgie Wood Railway, Tullah, TAS. Steam train operations ('twilight' on 21st). Phone 03-6234 8233.
28-29 Hunter Valley Steamfest, Maitland NSW. Double-headed 38s to Maitland and special operations at **Richmond Vale Railway**. Regular buses from Maitland railway to RVR site. Phone (02) 4936 1124 for details.
28-29 Puffing Billy Railway, *Peter Peckett*, Puffing Billy's little brother, will run trips on the restored line at Gembrook.

APRIL 1998
4 Puffing Billy Railway, Commissioner's Inspection Tours; Phone (03) 9754 6800.
4 Wee Georgie Wood Railway, Tullah, TAS. Steam train operations.
9-26 Semaphore & Fort Glanville Tourist Railway, Port Adelaide SA (457 mm gauge). Daily operations during school holidays pending locomotive availability.
Phone 08 8341 1690 for details.
11-12 Australian Narrow Gauge Convention, Blackheath, NSW. Third convention of narrow gauge railway modellers at Blackheath Public School. Contact George Paxon for details: Phone/fax 02 4757 2629; e-mail to: paxon@pnc.com.au
11-12 Wee Georgie Wood Railway, Tullah TAS. Steam operations on this popular 'little railway' on the West Coast. Phone 03 6234 8233 for details.
11-13 Alexandra Timber Tramway, VIC. Train operations with John Fowler 0-6-0T and Kelly & Lewis 0-6-0DM, together with Marshall portables, Bartram vertical boiler and Tangye pump, and Buffalo Pitts traction engine. Phone: 015 50 9988.
12 Cobdogla Irrigation & Steam Museum, Barmera SA. Pump and steam day with Humphrey Pump, steam train and traction engine in steam.
19 Cobdogla Irrigation & Steam Museum, Barmera SA. Steam train operating day.
26 State Mine Railway Heritage Park, Lithgow NSW. Open Day as part of Heritage Week. 2-6-2ST 2605 in steam with a display of Glen Davis underground locomotives, battery cars and transports. Contact museum 02 6353 1513 or Ray Christison, e-mail to: christsn@lisp.com.au
26 Puffing Billy Railway, *The Great Train Race Fun Run*. One of Australia's most popular Fun Runs where runners compete with Puffing Billy over a 13.5km course. On 25th and 26th *Peter Peckett* operates at Gembrook.

RESEARCH

FIELD REPORT:
Elphinstone Timber Tramway

The Elphinstone timber tramway, according to the article by Roger Seccombe in Light Railways No. 27 (Autumn 1969), was one of the shortest-lived in Victoria. The company operated for only four years from 1924 till 1928.

For those who do not have a copy of LR 27, which after all, was printed 28 years ago, a brief history may be in order. The line was planned to tap timber at Coliban Park, 9 miles from Elphinstone. A steam locomotive from the North Mount Lyell Railway, Tasmania, was used on the tramline, with a gauge of 3 ft 6 in. It would appear that only three miles of line was built to a point on the Metcalfe road, and unfortunately the company soon found themselves in financial trouble, and closed after a short operating period.

It has been the intention of the writers to explore any remains of the tramway for the past 30 years, and especially in the last 17 years since residing in Bendigo. It is a curious fact that while many excursions are undertaken to distant fields, one's backyard is often neglected. So it was with determination that a foray into the "backyard" was organised with satisfying results in the middle of June 1997.

That the tramway operated for such a short period of time, and considering that it has been dismantled for 69 years, it was surprising how much remains.

Starting from Elphinstone, the mill site is easily recognisable by the extensive concrete foundations lying just below the overpass on the Calder Highway. The manager's house also survives, although unoccupied and in a derelict state. The formation from the mill site to the edge of Olivers Road is almost impossible to discern, as much of the landscape is now covered in grape vines and housing. It is a strange sight to stand on a small segment of formation and see it disappear on one side into a backyard, and on the other under a dam. The current property owners are also amazed to find out that their country retreats are built upon a long forgotten tramway formation.

From Olivers Road the formation becomes more discernible. At the fence beside Olivers Road are log bearers with dog spikes still in position. The line forms a triangle with Olivers Road and Potts Road, and two very thin looking bridge piles are located in the middle of a small creek. At the Potts Road crossing log bearers may be seen with a few dog spikes remaining. It would appear that the tramway had to conform to strict road crossing standards as determined by the Shire Council. The bearers are positioned in shallow depressions and would appear to be a tramway version of a cattle grid. The same construction is also seen in a fence line in the middle of a paddock, highlighting the high standard of construction required to operate the tramline.

From Potts Road the formation is easily followed on a downhill grade to the bridge site on Sandy Creek. The bridge has disappeared since

the LR.27 article, although there are a few bearers in the creek bed, and the pig style type construction on the Elphinstone side of the approach embankment. Across the creek is an 2.5m high embankment, and from this point the formation is on a continuous rising grade until the fence where the other cattle grid site is positioned. The formation is clearly defined as it approaches the steep rise to the saddle, with the 3 chain curves. From the bridge site the formation parallels a fence on a rising grade, then, where the line leaves the fence, the grade steepens in order to cross the saddle. The line follows the saddle with small embankments and cuttings (average depth 60cm).

Having overcome the steepest section and rounding the saddle, the grade eases over open country, to the fence line where the site of another cattle grid is located. The high standard of the construction of the line in this section is clearly evident with the well designed roadbed being clearly defined.

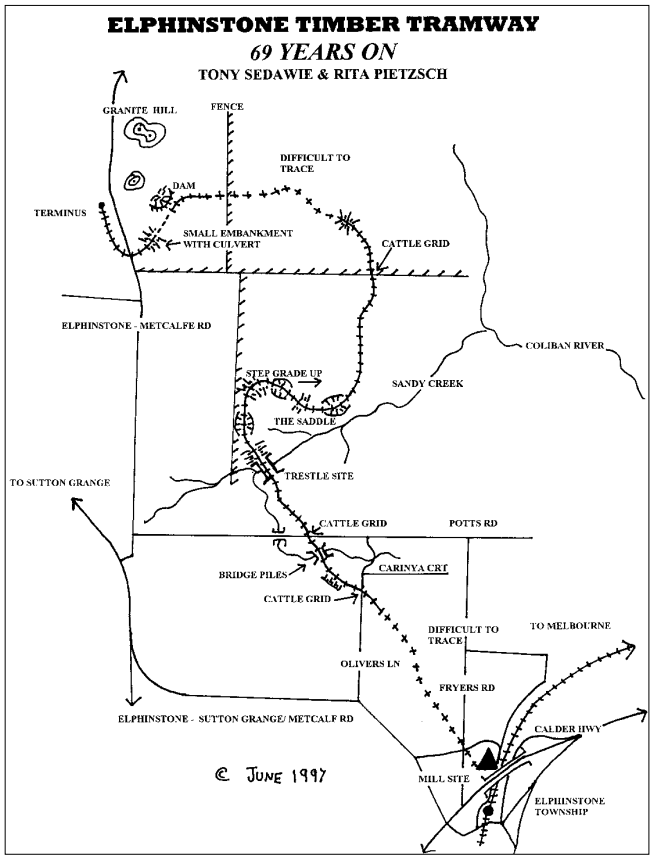
The formation then enters a paddock which has been ploughed over for the last 69 years, making it very difficult to discern. After a lot of wandering around the paddock with perceived tramlines running everywhere, the formation was finally discerned by standing on a dam wall, just below a large granite rock next to the Metcalf Road. The formation from below the dam again disappears and is only discerned by a small remaining section, comprised of an embankment with a culvert and shallow cutting. After crossing Metcalfe Road on a curve, the formation terminates at a site running parallel to Metcalfe Road.

It is incredible that such clear remains exist in an area which has been extensively farmed for the previous 69 years. The atmosphere of such a walk is in stark contrast to the normal bush bashing excursions undertaken in the past. The walker is in open country with large scattered gum trees, cockatoos flying overhead, and on the saddle excellent views of the surrounding landscape.

A postscript to this report is the amazing fact that, when standing on the mill site at Elphinstone, one can gaze to Granite hill in the distance and see the terminus of the line, and of course the reverse occurs when standing on the formation at Granite Hill.

With a good imagination one can visualise the mill workers gazing from their labours to the distant hills, and watch the little loco and its timber load beginning its winding course to the mill.

Tony Sedawie and Rita Pietzsch



LETTERS

Dear Sir,

Hartley Vale Shale Tramway, (LR 64, 71, 78, 107, 115, 118)

The researches of Ron Madden of Wagga Wagga have uncovered some significant new information about the 2-4-0ST locomotive that worked in the valley:

We had an opportunity of examining, a few days since, a small tank engine in course of completion at Mort's Engineering Company's Works, Balmain: it is a neat and compact little engine, with outside cylinders 7 inches diameter, 12 inches stroke; there are four wheels coupled, 2 feet 6 inches diameter, with a single pair of wheels in a bogie in front; the water is carried in a saddle tank on the top of the boiler, and over the foot-plate is fixed a canopy or cab for the men; the engine is for 3 feet 3 inches gauge, and will be tried shortly, when we hope to lay further particulars before our readers.

The Australian Engineering and Building News 1 July 1879.

Some very successful and interesting trials were made last week at the works of Mort's Dock and Engineering Company, in connection with locomotive engineering. The New South Wales Shale and Oil Company some time since entrusted the above firm with an order to manufacture for them a locomotive capable of working the narrow gauge railway in connection with their mines, which, consequent on the conformation of the country, had to be capable of working on a curve of not more than 200 feet radius, and of hauling 10 tons up a gradient of one in twenty-two.

The trials above-mentioned were carried out under such conditions, and the results reflect great credit on the establishment, the locomotive working freely round a curve of 180 feet, and hauling twelve tons up a gradient of one in twenty. The locomotive is of the outside cylinder type, having a pair of coupled wheels, and being fitted with a bissel bogie; the valve motion is driven by an overhung crank of Fairleigh's description, so that all portions of the motion are easily accessible for cleaning and repairs.

This engine is the thirty-second locomotive executed by Mort's Dock and Engineering Company for Government and private firms.

Sydney Morning Herald 9 July 1879

We last month referred to the small tank locomotive then being constructed by Mort's Dock Company, Sydney for the New South Wales Shale and Oil Company, the engine has since been completed, and is of the following dimensions - viz., cylinders, 7 in. diameter, 12 in. stroke; boiler 2 ft 6 in. diameter, 9 ft. 6 in. long; firebox, 2 ft 5 in. by 2 ft 3 in.; 60 tubes 1 3/4 in. diam., 9 ft 10 in. long; four wheels, 2 ft. 3 in. coupled, with a small pair of bogie wheels in front, the saddle tank has a capacity of 200 gallons, and the weight of the engine in running order, with water and coal, is 9 tons 10 cwt., gauge of railway, 3 ft 3 in. The line on which the engine is intended to work has a gradient of 1 in 20, with curves of 200 ft. radius, and the load which the Company have stipulated it shall be capable of taking up this incline is 10 tons, exclusive of itself. With a view of testing its hauling powers as far as possible before delivery, a short piece of line was laid down in the works at Balmain to the same gradient, and although the rails were laid very unevenly, and the resistance, therefore, much increased, the little engine succeeded in taking 12 tons up the gradient, while coming down the break power was sufficient to bring the load to a standstill on any part of the line.

As we remarked last month, the engine is neat and compact, and appears well designed; but we much fear that in ordinary working she will require very careful driving to take the stipulated load up 1 in 20 unless the incline is very short; the resistance, due to gravity alone on this gradient is 112 lbs. per ton, adding 20 lbs. per ton for friction of engine and other resistances, we have 132 lbs. per ton as the total resistance to be overcome, which being multiplied by 19 1/2 tons - the weight of the engine with her load - gives 2,574 lbs. as the traction power required to be exerted to take 10 tons, beside herself up 1 in 20; this is equal to a mean cylinder pressure of 120 lbs., per sq. in., which cannot be maintained in so small an engine without an excessive boiler pressure, and we cannot but think that the engine would have been found more economical had the diameter of the cylinders been increased, and the working pressure reduced. Apart from this objection the engine reflects credit on the makers, and appears well suited for the particular traffic for which she was designed.

The Australian Engineering and Building News 1 August 1879

Jim Longworth
Cheltenham, New South Wales

Dear Sir,

Tasmania Mine, Beaconsfield, Tasmania

Behind the main street of Beaconsfield, a town on the west bank of the Tamar River 46km north of Launceston, are two shafts of the former Tasmania Mine. One of them, the Hart Shaft, is currently undergoing a renewal in the form of new workings by Beaconsfield Gold NL. The former, the Grubb Shaft, is partially restored as a very good museum.

The Grubb Shaft was constructed in the period 1903-1906 and was fitted with high capacity pumps in an attempt to keep the workings dry. The foundations for the shaft and adjacent pump house consisted of large blocks of concrete reinforced with lengths of tramway rail, seemingly thrown in at random. Much of the foundation work in the vicinity of the shaft has collapsed, revealing this reinforcing.

Most is standard cross-section flat bottomed light weight tramway rail, but one visible length of about 20 - 25 lb/yard has the same cross-section as Barlow rail. Where could it have come from, and was much Barlow type rail of tramway weight used in Australia?

Flinders Street Station, Melbourne, Victoria

The "Milk Dock" is the dead end track adjacent to Platform 1 West at Flinders Street. Its name probably indicates its original use, although in more recent times the whole area was used for suburban parcels traffic until the abolition of the parcels vans. The roadway into this area abuts both the platform and the ground floor level of the Flinders Street building.

Leading from the building, through what is currently an unused roller door, is one track of 13 inch gauge laid in lightweight flat bottomed rail, its head set flush with the platform level. It runs right to the edge of the roadway loading platform. What was it used for?

Andrew Hennell
Boronia, Victoria

Dear Sir

O'Shannassy Water Scheme (LR.135 & 137)

John Robin's meander would have ended earlier had he realised that only 23 miles of steel pipes were catalogued. The rest would seem to have been a compounded typological error. This does occur on occasion - and is often clarified with due courtesy of the erudite reader.

For instance, in LRN.119, p. 21, reference is made to "stell rail". This can probably be understood as "steel rail" - and does not necessarily indicate the use of an abbreviated form of stellite - an alloy of cobalt, chromium and tungsten.

Book Review (LR.137)

Concerning the book review on page 20, who is EL? Is he a long liver in Tasmania?

The only difficulty with J. Brannigan would seem to be that he may not be in LRRSA membership. Most likely EL has already attended to this discrepancy and both persons are now collaborating on a more definitive volume on the private railways of Tasmania.

David Mottram,
Herons Creek, NSW

Ed.: Point taken. We have decided as a matter of policy to ensure that the identity of reviewers is clearly documented in future.

Dear Sir,

Fowler Steam Loco (LRN 120 & 121)

In Light Railway News mention was made of a 12" (605mm) gauge steam loco.

My son-in-law and I constructed two of these locos (one each). I first saw the original at Gilltrap's Museum on the Gold Coast many years ago and obtained drawings from "Fowler" (Reading University) for this loco. My son-in-law's loco was constructed and sold to Cockington Green Miniature Town at Canberra. I completed my engine completely as per drawings (half scale) and ran it for some time at the Sydney Society of Model Engineers at Luddenham, Sydney, before selling it to a buyer in Queensland. I believe it is currently out of use.

Simsville Tramway (LR 113)

Enclosed is a photo of a half-size replica of a logging carriage from the Simsville Tramway. I found the original at the bottom of a ravine (obviously an unrecoverable derailment) and documented it then built two units half size, placed on a small bridge and rail to suit at the front of my house.

Colin Wear
Bulahdelah, NSW

Dear Sir

The Tarago Aqueduct Tunnel Scheme, Victoria (LR 137)

Ruston & Hornsby Model 30DLU locomotives 285338 to 285343 were despatched ex-works in November 1949. Coming to the State Rivers & Water Supply Commission of Victoria, it seems likely that they were purchased for use on the Tarago scheme.

It seems possible that these six 30hp locomotives could have found use divided between the upstream and downstream portals of the Aqueduct Tunnel during the period of direct labour construction by the Commission from 1950 to 1952.

The reason for the purchase of the larger 40hp Motor Rail Simplex 4wDM 10058, also in 1949 and definitely for the same scheme, seems unclear. The theory that the Simplex was subsequently used for the direct labour lining of the upstream section of tunnel in 1954-7 seems very plausible.

Is there a possibility that tramways were used in association with other aspects of the scheme's construction, for example the various sections of channels? All the Rustons and the Simplex had exhaust conditioners, of course, but what about the Malcolm Moore with the Hercules engine?

The photographs of the Tarago scheme at the downstream tunnel portal during the period of their use by contractors Sainrapt & Bruce all seem to show the Ruston & Hornsby locomotives working nose into the tunnel. The clearance diagram with the locomotive outlines shown assume the locomotives are heading nose towards the point of view, as the clearance "envelope" includes provision for the driver, who sat sideways on the left hand side of the locomotive as shown in the photograph on page 13.

According to Arthur Winzenried's Victorian Tramway Register, the SR&WSC had three Malcolm Moores at Redcliffs, two with Hercules engines, and one with a Fordson. Confirmation of this, and that one of them worked on the Tarago scheme, would be welcome.

It is stated that the locomotive shown on page 10 was numbered 19-C-22. This seems unlikely, as SR&WSC locomotives had the prefix 18-C. As the Sewell loco at Waranga Basin was numbered 18-C-25, it seems reasonable to suggest that the Tarago locomotives may have been numbered in a series to 18-C-24.

The subsequent history of the six Ruston & Hornsby locomotives is of interest. As detailed by Peter Evans, it appears that four were available for use by the contractors in the downstream tunnel excavation in 1954-7. My records detail the use of five later elsewhere, although recorded observations of builder's plates and engine plates indicate that a fair amount of engine swapping went on.

285342 found its way to the Tatura depot of the SR&WSC, believed to have opened in 1956, so possibly this is one of the machines not made available to the contractors. When I saw it in 1976 it had engine 298890, corresponding to loco 285338. This loco, numbered 18-C-23, was still at Tatura in 1995 although re-engined.

Four of the locomotives are known to have found their way to Queensland. 285339 was being used on the jetty railway at Hayman Island by 1958, and it disappeared after being removed from the island around 1985. I have no record of its engine number.

285340 reportedly came to Proserpine Mill in 1958, and had engine 298908 according to the Queensland Machinery Department's records, corresponding to loco 285339. Out of use by 1974, it was subsequently obtained for spare parts by the Sunshine Plantation near Nambour where it was eventually dismantled. Clive Plater at Eudlo obtained its frame in about 1992. 285343, with its original engine

298919, reportedly came to Bowen Saltworks after 1963. There was also a second loco at Bowen Saltworks, which is also said to have arrived after 1963. This loco must have been either 285338 or 285341, although it had engine number 298920, corresponding to loco 285342. The two Bowen Salt locos were sold or scrapped about 1988.

This means that one locomotive is unaccounted for after the completion of the scheme in 1957, either 285338 or 285341.

There are many questions still to be answered. It would be interesting to discover the numbering of all the Tarago locos, the identities of those used by the contractor in 1954-7, details of those (if any) auctioned like the Simplex in 1957, and the engine number of the Hayman Island locomotive, to name a few.

There must also surely be more details available somewhere of the direct labour phase of the Tarago scheme, from 1950 to 1952.

John Browning,
Rockhampton, Qld.

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