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LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



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Imperial to metric conversions:

1 inch (in)	25.40 millimetres
1 foot (ft)	0.305 metre
1 yard (yd)	0.914 metre
1 chain	20.11 metres
1 mile	1.61 kilometres
1 ton	1.01 tonnes
1 pound (lb)	0.454 kilogram
1 acre	0.4 hectare
1 horsepower (hp)	746 Watts
1 gallon	4.536 litres
1 cubic yard	0.765 cubic metres
1 super foot (sawn timber)	0.00236 cubic metre

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Editorial

I am sure we can all agree that the year 2022 was better than the last couple regarding covid 19 and lockdowns etc.

The LRRSA has had another very good year and we are very proud to have achieved the following:

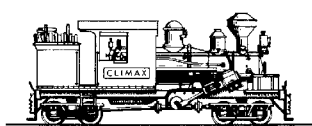
- Published six 48 page editions of *Light Railways*
- Published two books – *Tramways, Coconuts and Phosphate* by David Jehan, and *Wooden Rails and Green Gold* by Peter Evans – both are selling very well
- Our Facebook page continues to thrive and now has about 4400 members – well above the total at this time last year. The topics covered on the site vary widely and often make fascinating reading. Also, there are many photos that get published which would otherwise not be made available to our readers
- Held 7 members entertainment meetings on Zoom covering a wide range of subjects and presenters – and most had an average of 80 to 100 persons join us on line each time
- Awarded the annual JLN Southern award to John Browning

I trust that enjoy this edition of the magazine where we present another fascinating and varied range of light railway topics.

On behalf of the editorial team, the LRRSA Council, and the many contributors to the magazine, I would like to wish all of our members, readers and Facebook group members a very merry Christmas and all the very best for 2023.

Richard Warwick

Front Cover: *Walhalla yard, Sunday 11 September 2022. Due to the failure of the usual running loco, 0-6-0 John Fowler No.14, which had suffered a broken pulley housing, No.30 Kasey, (EM Baldwin & Sons) has been deputised to run the normal Winter timetable. Here we see Kasey running around, following its 12 noon arrival from Thomson, preparatory to its 1pm departure. At left is No.1001, Spirit of Emu Bay looking resplendent following its recent repaint. Though having the body of an Emu Bay 10-class, the engine and bogies are not original. The loco was rebuilt some years ago by the late Bill Ferris but recently suffered a breakdown and is seen here awaiting a replacement part. Photo: courtesy Phillip Milbourne, past president Walhalla Goldfields Railway*



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of Australia Inc. A14384U**
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The Light Railway Research Society of Australia Inc. was formed in 1961 and caters for those interested in all facets of industrial, private, tourist and narrow gauge railways in this country and its offshore territories, past and present.

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

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

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

Fire & Flood

The Lithgow State Coal Mine

by Mark Langdon

In the April 2019 issue of *Light Railways*, John Shoebridge, in his article describing the flooding at Aberdare Extended Colliery, made the comment that “As far as I know the only inrush of surface water into a working mine in NSW took place at Cobar Colliery in Lithgow, but as there were no railways involved this is not the venue in which to document it.”¹

The Cobar Colliery, or Smelting Works Colliery as it was also known, was flooded on two separate occasions – in February 1928 and June 1964 – by Farmer’s Creek breaking into the mine. On the second occasion, the inrush of water eventually caused flooding of the Lithgow State Coal Mine and its abandonment. This flooding also led to a salvage operation to recover the underground machinery that the State Mines Control Authority described as being undertaken “in conditions which at best can be described as frightening, the employees and staff performed a salvage operation which we believe to be without parallel in the Australian coal mining industry.”² The State Mine had a 2’ 6” gauge railway system³ and used locomotive haulage both underground and on the surface.

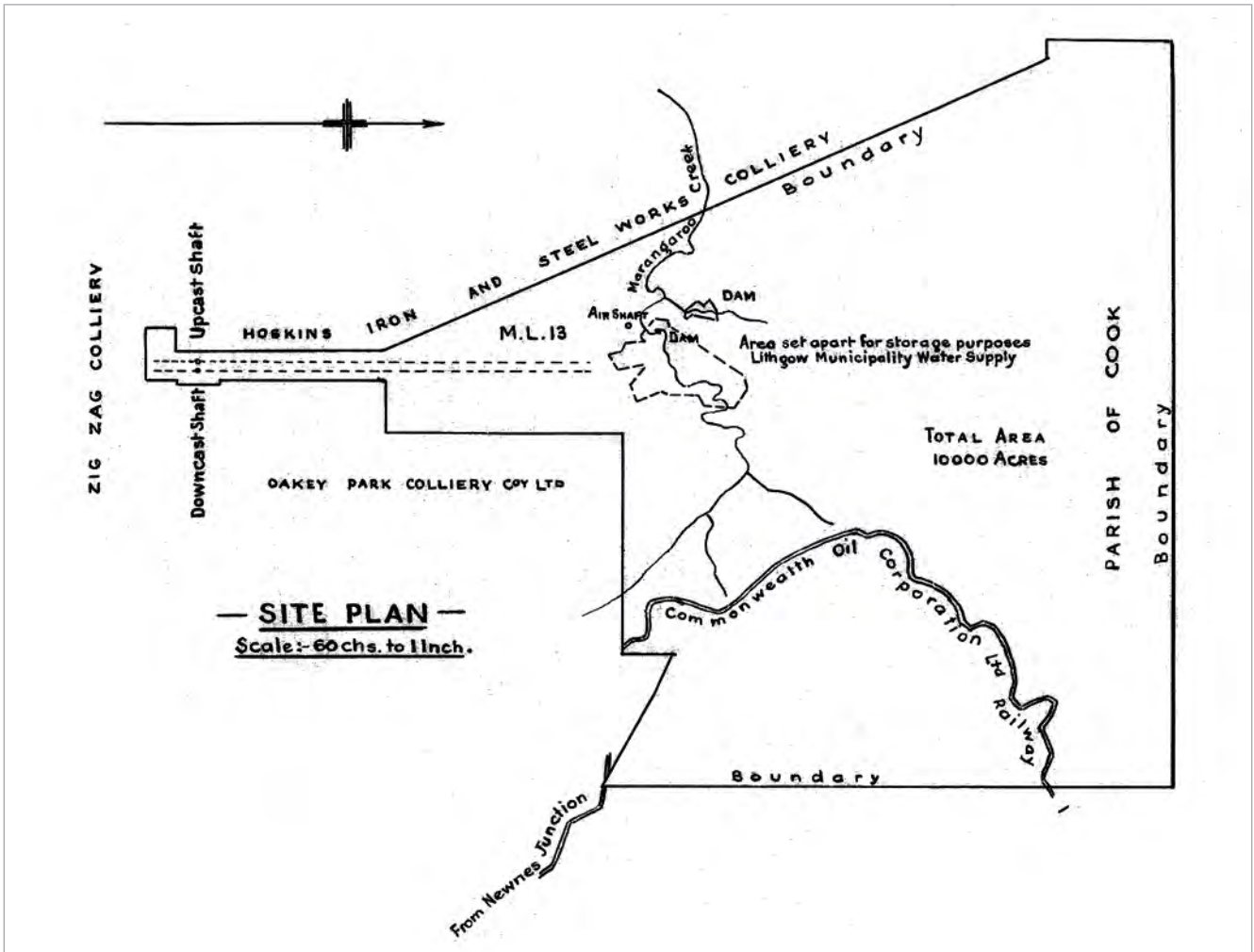
The State Mine

Construction of the State Mine commenced in September 1916,⁴ but work was suspended in late June 1917, owing to the state government’s policy of ceasing works that were not absolutely necessary during the First World War.⁵ Work resumed at the mine in August 1920,⁶ and shaft sinking resumed in April 1921.⁷ The coal seam was struck at a depth of 252 feet in the upcast (No.1) shaft on 12 November 1921⁸ and the downcast (No.2) shaft reached the seam early in May 1922.⁹ Coal production in the mine gradually increased and it reached the milestone of 1,000 tons per day in February 1923.¹⁰ However, it would take another two years to complete the erection of the permanent winding gear. The headframe over the downcast shaft, which would be the main winding shaft, was not completed until mid 1924.¹¹ Construction of the engine house and installation of the winding engine for this shaft was not completed until June 1925.¹²

By the 1950s, the underground workings of the State Mine extended due north for a distance of almost four and a half miles from the main shafts.¹³ For the first mile and a quarter, the mine’s lease was only 292 yards wide, owing to the presence of the Oakey Park Colliery lease to the east of the State Mine and the Steelworks Colliery leases to the west.¹⁴ From this point, the mine’s lease only gradually increased in size and it was not until almost two and a half miles from the main shafts that the main body of coal was reached. Three shafts accessed the underground workings, the Nos. 1 and 2 Shafts at the southern end of the mine and the No.3 Shaft, a new airshaft, that was completed in 1931, three miles north of the two main shafts.



On the 19th February 1928, an intense rainstorm on the hills above Lithgow caused Farmer’s Creek to “become a raging torrent, sweeping over its banks.” The flow of water caused the roof of the Cobar Colliery to collapse and a cavity 100 yards in diameter was created. “The roar, as the earth subsided and the water rushed into the narrow neck of the tunnel was awe inspiring.” An estimated 175,000,000 gallons of water flooded the mine. A sandbag wall had to be erected to divert Farmer’s Creek away from the cavity, and months of pumping were necessary to dewater the mine. Fortunately, there was no one in the mine when the flooding occurred. The photograph shows the flood water entering the Cobar Colliery. When Farmer’s Creek again flooded the Cobar Colliery on the 10th June 1964, it caused the gradual flooding and eventual abandonment of the State Mine. Photo: Lithgow Learning Centre



A site plan of the State Mine Lease in May 1932, showing the adjoining collieries. It had been proposed to erect the State Mine on the Newnes Plateau, with a siding connecting the mine to the Commonwealth Oil Corporation's Wolgan Valley Railway. Instead, the mine was established on the outskirts of Lithgow and the resulting funnel shaped lease increased mining costs at the mine, owing to the increasing haulage distances to the shafts as the mine expanded. Extract from Drawing; "N.S.W.R. Railway Coal Mine, Lithgow. Site Plan & Arrangement Underground Workings & Machinery." Dated 25 May 1932.

After the completion of the No.3 Shaft, Nos. 1 and 2 Shafts became the downcast shafts and the No.3 Shaft was the upcast shaft.¹⁵

Grunching, where the coal was blasted out of the seam without previous undercutting, was the mining technique used in the mine.¹⁶ The long distance between the main shafts and the working areas, four miles away, meant that the miners only spent four and a half hours working the coal. During this time the "Darg" was to fill eight skips.¹⁷

"The main haulage consisted of two endless rope haulages operating in tandem over a distance of four miles." The skips "were horse wheeled to the district endless rope haulage for delivery to the main line endless rope haulage."¹⁸ On the main haulage the skips were coupled together in sets of twelve.¹⁹ The skips were raised to the surface through the No.2 Shaft in single deck cages. Full skips were "pushed from the cage by compressed air rams and, after passing over the weighbridge the skips pass to an endless rope retarder, thence to four tumblers placed in parallel."²⁰

The skips had a heaped capacity of twenty-eight hundredweight,²¹ but problems with the roof in the main haulage way meant that they were only allowed to be filled to water level.²² Miners periodically over filled skips, which then caused smashes on the main haulage way, resulting in a loss of production. This prompted the mine manager, Leslie Moore, to comment in

January 1955, "that repeated requests and instructions regarding the filling of skips, are ignored, I would suggest that consideration be given to completely mechanising the mine."²³

Mechanisation and Locomotives of the State Mine

During 1939, a new district, 10 West, which was almost four miles from the main shafts, had been developed. The mine manager, Robert Edward Fullagar, made a submission, in June 1939, to the State Coal Mines Control Board about the possible use of locomotives in this district.²⁴ In October 1939, the mine manager "was authorised to make investigations with a view to the possible building of battery locomotives at the State Coal Mine."²⁵ In August 1941, Fullagar stated to the Board that "he was prepared to undertake the construction of a battery locomotive for use in a new section of the mine."²⁶ Rather than constructing a locomotive, the Board approved, in May 1942, the purchase of a battery locomotive from Noyes Bros. of Sydney for £3,410.²⁷

This was the first locomotive constructed by Noyes Bros. and, owing to munitions being given priority for resources by the Commonwealth government, and the wartime shortage of materials,²⁸ it took two years to complete. The final price of the locomotive was £2,567 and it was placed in commission on 17 May 1944, after having been received in "good order" from Noyes Bros.²⁹ However, the commissioning of the locomotive

was not problem free. On the day that it was placed in service, it ran out of sand and “it went sliding along the slippery rails at great speed.” Two passengers leapt from the locomotive, “however, the engineer was able to pull up with about seven feet” from two closed doors.³⁰ In May 1946, the motor of the Noyes Bros. locomotive broke down and it was reported that “arrangements had been made for the use of horses in transporting the employees from 8 West to 10 West and in coal haulage in 10 West.”³¹

Later in the same month, the mine’s manager, Arthur Donne, made a submission to the Board “giving specifications of a Storage Battery Locomotive suitable for use in the State Coal Mine” and the Board decided that “the Department of Railways be asked to call tenders” for the locomotive.³² In the *Sydney Morning Herald* of 1 June 1946, the Department of Railways called tenders for this locomotive³³ and, in August, the tender of Gibson Battle Ltd., to supply a locomotive for £3,625/10/- was accepted and the order was “placed through the Department of Railways.”³⁴ Gibson Battle was manufacturing Jeffrey type locomotives³⁵ and, in February 1948, it was reported that Joint Coal Board “officials have asked the Department of Trade and Customs to facilitate the importation of two flame-proof electric motors” for this locomotive.³⁶ The locomotive, but not its battery, had been delivered by the middle of January 1950.³⁷

The mechanisation of the State Mine had commenced in 1945, when the first scraper loaders commenced work in the mine.³⁸ Prior to their introduction, there were 87 pairs of miners and 29 wheelers working in the mine.³⁹ By February 1946, five scraper loaders were in operation.⁴⁰ The scraper loaders were “operated by a team of four men, who bore, fire, timber, and fill the skips, which are hauled by horses to the flat, a distance of

up to 200 yd.”⁴¹ But the majority of the coal was still produced by hand loading.⁴² Over the next five years, a further six scraper loaders and two Joy loaders were introduced.⁴³

It was not until the mid 1950s, that a more extensive mechanisation program was undertaken, that included significant changes to the underground haulage system. “The old rope haulages and most of the horses have been displaced by 10 conveyor belts and a locomotive to handle materials.”⁴⁴ Prior to the introduction of the conveyor system, the mine had 55 horses and over 2,000 skips in use.⁴⁵ Using the conveyor system, the coal was “transported by belt from as close to the working face as possible to the main rope haulage.” At the haulage way the coal was transferred into skips to be hauled to the bottom of the shaft and then wound out of the mine.⁴⁶

During 1949, work had started on an inclined drift one and a half miles from the existing surface workings. Named Dobbs Drift, after Jack Dobbs, who had originally proposed the idea.⁴⁷ It was driven over the State Mine’s “old goaf area and over the Oakey Park workings to enter the seam again at a point beyond all old workings.” It would provide direct access to the 1 East District of the mine.⁴⁸ Dobbs Drift broke through into the existing mine workings in December 1952.⁴⁹

Two fires in the early 1950s were to significantly affect the operations of the State Mine. On 25 January 1952, a bushfire destroyed the headgear over the No.3 Shaft, which then collapsed into the shaft. After the collapse, the bottom of the shaft was “blocked up tightly with debris, which included shaft rings and backing boards, electric cables, guide ropes, winding rope and cage, together with rock and dirt which had been brought down the shaft with the falling material.” To enable the mine to resume operations, the ventilation arrangements at the mine had to be altered to enable the No.2 Shaft to



The State Mine looking from the north. On the left hand side of the photograph is the headframe over the No.2 Shaft. This was the coal winding shaft for the mine and it straddles the gantry that contained the tumblers for unloading the skips and the coal picking belts. On the right is the headframe over the No.1 Shaft, which was the mine’s upcast shaft, and to its left is the fan drift, fan house, fan engine house and the evasee chimney, which was used to expel the air drawn out of the mine by the fan. To the right of No.1 Shaft are the stables. Between the two headframes are the mine’s boiler and power houses. Directly above the boiler house chimney is the mine office. Photo: Department of Mineral Resources



The State Mine in 1937, looking from the west. In the centre of the photograph is the headframe over the No.2 Shaft and the coal gantry. Above the gantry is the Lithgow Power Station. The power station was completed in December 1927 and was continually extended until, by 1937, it supplied power to Lithgow, Bathurst, Orange and Wellington. Modernised in 1949 and 1950, it was closed in 1960, when the Wallerawang Power Station was opened. When the Lithgow Power Station was opened, the mine's power house was de-commissioned and eventually converted into a bath house. The headframe over the No.1 Shaft is partially obscured by the tree in the middle of the photograph. In front of the No.1 Shaft are the stables. Photo: State Library of New South Wales, PXE 839

again be used as the upcast shaft.⁵⁰ It took until September to remove the debris from the bottom of the shaft,⁵¹ but a further fall again blocked the bottom of the shaft⁵² and a scraper loader had to be stationed at the bottom of the shaft to remove the continuing rockfalls.⁵³ The damage to the No.3 Shaft caused two significant problems, ventilation problems in areas of the mine⁵⁴ and power supply problems. The main power supply cable to the northern areas entered the mine via the No.3 Shaft and this cable had been destroyed in the fire.⁵⁵

The bushfire was followed by an underground fire in the main transport road. This fire was discovered early in the morning of 12 August 1953⁵⁶ and “in one area the coal was alight on a front of 200 yards and six pillars were burning” and the main transport road was blocked by falls of rubble. Initially, the fire was contained by building walls of stone dust and sand bags.⁵⁷ Brick seals were erected to permanently contain the fire, including a seal across the main transport road.⁵⁸ Production was then confined to the 1 East District.⁵⁹

At the time of the fire, 50 horses were employed in the mine and 21 horses died in their underground stables as a result of the fire. A number of horses were led to safety by another horse, ‘The Duke’. Miners described The Duke as “one of the brainiest animals they had seen in any colliery.”⁶⁰ The Duke was eventually “pensioned off” and died on 13 October 1960, aged 26.⁶¹ He was the only horse named in any State Mine official reports.

The combined effect of these two fires contributed to the decision, in late 1954, to abandon the area of the mine beyond the site of the fire adjacent to the main haulage way.⁶² However, salvaging of equipment from this area of the mine continued until 7 October 1957 and, after this date, the abandoned section was sealed off from the rest of the mine. This included sealing the top of the No.3 Shaft on 19 October 1957⁶³ and selling all plant, equipment and buildings at the top of the No.3 Shaft.⁶⁴

After the Oakey Park Colliery had been abandoned in the 1930s, the Oakey Park leases had been acquired by the State Mine in May 1936⁶⁵ and the mine was then able to expand eastwards into the unworked portion of this lease.⁶⁶ This area was entered during 1956, and coal production from the old Oakey Park lease commenced in July 1956.⁶⁷ This was known as the new No.1 East District.⁶⁸ The coal seam dipped from the flooded Oakey Park workings towards No.1 East District.⁶⁹ To avoid breaching into the flooded Oakey Park workings, “patterns of five and six boreholes each 42 feet long [were] bored on alternate nights in each of the working places.”⁷⁰

During the Christmas 1955 holiday shutdown of the mine, the conveyor belt in the 1 East District was completed and this reduced the haulage by skips “to little more than one mile.”⁷¹ On 20 January 1956, a second Joy loader was brought into use in the mine.⁷² The entry into service of this unit completed the full mechanisation of the Lithgow State Mine and the last 12 contract miners were made redundant.⁷³



In July 1956, approval was given for the construction of a transport system from near the bottom of Dobb's Drift for a distance of 1,300 yards to the 1 East District.⁷⁴ In June 1956, the State Mines Control Authority purchased a Mancha Hercules locomotive from the Joint Coal Board for £3,000,⁷⁵ to operate the proposed new transport system. After it had been purchased, it had to be converted from 3'6" gauge to 2'6" gauge at the workshops at Awaba.⁷⁶

Just over twelve months later, in August 1957, locomotive haulage of men and materials was commenced from the bottom of Dobb's Drift. Initially, "seven hundred yards of 60 lb track have been put down and the 10-ton "Mancha" locomotive and the altered transport trollies prepared for the transportation of men."⁷⁷ Expansion of the underground rail system continued and, in January 1960, "arrangements for transporting materials by locomotive, from the foot of the New Drift to the producing districts were completed [...] and the rope haulage previously used for the purpose was discarded."⁷⁸ By March 1960, all the miners were taken into the mine through Dobb's Drift.⁷⁹

Immediately after the new arrangements were put into place, the Noyes Bros. locomotive was taken to the surface for an overhaul. "By making use of the locomotive roads put down recently above and below ground it was possible, for the first time, to bring a piece of equipment out of the mine to the shops by way of the new drift, without dismantling it."⁸⁰ In March 1960, after the break down of the Noyes Bros. locomotive, it was necessary to carry out "structural alterations to the Jeffrey



Top left: The skips used in the State Mine had a heaped capacity of 28 hundredweight, but problems with the roof in the main haulage way meant that they were only allowed to be filled to water level. Miners periodically over filled skips, which then caused accidents on the main haulage way. A photograph of the main haulage "60 yards from face", taken on 10 August 1940. The problems with the roof have caused the roof timbers above the miner to break and sag. Cockerton photograph, State Archives & Records NSW, Series NRS 19449

Above: The battery locomotive supplied by Noyes Bros. to the State Mine, was the first locomotive constructed by this company. Owing to munitions being given priority for resources by the Commonwealth government during the Second World War, and the wartime shortage of materials, it took two years to complete. The final price of the locomotive was £2,567 and it was placed in commission on 17 May 1944. It is shown here underground at the State Mine. Neville Morris photograph, State Mine Heritage Park Collection

locomotive to enable it to be brought into use for hauling supplies and timber from the drift to the producing sections.”⁸¹ On 10 October 1960, “locomotive transport commenced running to the No.4 West District.”⁸² In October 1961, the underground transport was extended to the bottom of the shafts and the employees then accessed the mine from the shafts rather than by Dobbs Drift.⁸³

In February 1958, work had commenced on a second new drift located behind the No.1 Shaft at the mine. Called the Middle North Heading Drift, it was going to be used to eliminate rope haulage by extending the conveyor system to the surface.⁸⁴ The new surface arrangements required the removal of the headframe over the No.1 Shaft and concerns were raised by the union’s District Check Inspector, J Watson, about how this would affect egress from the mine. But delaying removal of the headframe would seriously affect the construction of the new surface arrangements⁸⁵ therefore, the protest was unsuccessful and the winding ropes were removed from this shaft on 9 September 1958, with the dismantling of the headframe commencing on 11 September.⁸⁶ The drift broke through into the underground workings on 28 November 1958,⁸⁷ and the new conveyor system was completed in May 1959. This conveyor eliminated coal winding and the last day of coal winding from the shafts was the 22nd May.⁸⁸ “The practice of sending timber and supplies into the mine by way of the New Drift was commenced in July, 1959, and the shafts and all the steam plant, with the exception of the boiler necessary for heating the bathrooms, went out of use on July 17th.”⁸⁹

The new underground conveyor system was claimed to have been one of the largest in Australia when it was installed. The main conveyor system, which had been built by Noyes Bros., was 6,428 feet long and rose 379 feet from underground in the mine to the top of an above ground storage bin.⁹⁰ However, the new conveyor system did not completely eliminate rope haulage underground. In September 1960, it was reported that “serious consideration will have to be given to the replacing of the existing rope haulage transport with a loco unit. Most of the rope is nearing the end of its useful life” and 2¾ miles of rope would have to be purchased to replace it.⁹¹ Almost 600 skips were still being used in the mine.⁹²

The last major development occurred in May 1960, when the first continuous miner,⁹³ a Lee Norse model 37X commenced work in the mine.⁹⁴ On 19 September 1960, this machine produced 654 tons of coal and the mine manager, Leslie Moore, claimed that this was “the highest single days output from a Lee Norse Miner in this state, irrespective of the length of the working day.”⁹⁵ In December 1963, a second continuous miner, a Lee Norse model 48X commenced operation⁹⁶ and, in late March 1964, the last conventional mining unit was withdrawn from service. From that date, all coal was produced in the State Mine by the two Lee Norse continuous miners.⁹⁷

In the late 1940s, when mechanisation of the State Mine had commenced, there were over 500 persons employed in the mine, with over 400 working underground.⁹⁸ After the mine had been fully mechanised in 1956, the total number of persons employed had fallen to just under 400.⁹⁹ By the middle of 1964, when the second continuous miner entered service, there was less than 200 persons employed at the State Mine.¹⁰⁰

In July 1959, the State Mines Control Authority approved the purchase of two second hand Planet locomotives from “F de Heselle of Dubbo at a total cost of £1,037.19.6, including all charges for storage and Custom Duty.”¹⁰¹ In the following month, locomotive haulage was introduced on the surface when “a small diesel locomotive brought into use [...] to handle supplies and materials.”¹⁰² There may have been a



Owing to the increasing distance of the working areas from the No.1 and No.2 Shafts, adequate ventilation of the mine became a problem. In April 1930, construction of an air shaft, the No.3 Shaft, was commenced, two and three quarter miles to the north of the existing No.1 and No.2 Shafts. Completed in July 1931, it was initially used as an additional downcast shaft. In 1935, it became the main upcast shaft for the mine and the No.1 and No.2 Shafts became the downcast shafts. On 25 January 1952, a bushfire destroyed the headgear over the No.3 Shaft, which then collapsed into the shaft. The damage to the No.3 Shaft caused by the bushfire, and the underground fire in August 1953, led to the abandonment of the area of the mine beyond the site of the underground fire. The top of the No.3 Shaft was sealed on 19 October 1957. Photo: Lithgow Learning Centre

proposal to use these locomotives underground, as there is a comment in the mine manager’s report for late August 1959, that “suitable flame proof equipment for the two diesel locos is unavailable. The agents for other make locos are reluctant to fit their equipment on another make.”¹⁰³

These two locomotives had been built by F C Hibberd & Co. Ltd. in the United Kingdom in 1950 for the D’Arcy Exploration Company.¹⁰⁴ This company was a subsidiary of British Petroleum and was one of the partners in Australasian Petroleum Co. Pty. Ltd.¹⁰⁵ Australasian Petroleum was “drilling for oil in the delta area of the Gulf of Papua” at Wana, northwest of Port Moresby, and “a wharf [had] been constructed and a light railway laid to handle equipment and supplies.”¹⁰⁶ The two

locomotives were Planet 39 type 18/22 and were fitted with Lister type 18/2 diesel engines. Delivered on the 17th August 1950, they were shipped to Port Moresby.¹⁰⁷ Drilling ceased at Wana in February 1951, but exploratory drilling continued at other locations in Papua.¹⁰⁸ In mid 1956, Australasian Petroleum stated that, from 1957 onwards, helicopters would be used to deliver materials to drill sites “to eliminate road building.”¹⁰⁹ The two Planet locomotives were then advertised for sale in November 1957¹¹⁰ and in February¹¹¹ and March 1958.¹¹²

The Authority also approved, in July 1959, the purchase from “Noyes Bros. Pty. Ltd. Of a Lee Norse Jitney Model TSA, complete with locally manufactured battery, at a total cost of £4,030.”¹¹³

Flooding and abandonment

In spite of the increasing mechanisation of the State Mine, its long term future was in doubt. “The fate of the Lithgow State Coal Mine is wholly dependent upon the sale of washed cobble coal to the Railway Department for use in steam locomotives and unwashed small coal to the Electricity Commission for Wallerawang Power Station.”¹¹⁴ In late 1961, the Commissioner for Railways stated that “Railway requirements from the State Coal Mine would practically cease within the next two years.”¹¹⁵ The State Mines Control Authority was unsuccessful in finding other markets for the Lithgow State Mine’s coal.¹¹⁶ In August 1963, the Chairman of the State Mines Control Authority visited the mine and

stated “that the future of the mine is very uncertain [and] the men were advised that if they could obtain alternative employment they should do so.”¹¹⁷

The beginning of the end for the State Mine came in June 1964, when heavy rains fell in Lithgow and other parts of the state. Early in the morning of 10 June, “the rain swollen Farmers Creek ripped through the concrete canal base at the northern end of Sandford Avenue and created a whirlpool which dug away the overburden above the workings of the Cobar Colliery.”¹¹⁸ It took three days until the breach into the Cobar Colliery could be filled and it was filled using old car bodies, sandstone and slag. “Old car bodies were brought from all points in the district and gradually blocked up the holes.”¹¹⁹

The State Mine had continually suffered from flooding problems and an extensive series of pumps were used underground to keep the mine dry. The coal seam in Lithgow dips from west to east and the lowest part of the mines in Lithgow was the abandoned Oakey Park Colliery, which adjoins the State Mine.¹²⁰ The Oakey Park Colliery had been allowed to flood when it was abandoned in late 1937. Concerns had been raised then about the potential flooding of the State Mine, but barriers of solid coal had been left between the two mines to reduce this risk.¹²¹

In April 1950, the potential flooding problems for the State Mine increased with the flooding of the Vale of Clywdd Colliery. Seepage from heavy rain early in the month had flooded this colliery’s main haulage way.¹²² After eight



The State Mine after the completion of the new conveyor system in May 1959. In the right rear of the photograph is the workshop building and immediately to its left is the Middle North Heading Drift. The conveyor stretches from this drift, across the top of the bath house (original power house), to a storage bin. Only the headframe over the No.2 Shaft remains, as the headframe over the No.1 Shaft was removed in September 1958, to enable the construction of the conveyor. Coal winding via the No.2 Shaft ceased on the 22nd May 1959, and the gantry surrounding the No.2 Shaft headframe was removed. In the bottom right hand corner of the photograph, are the cooling ponds for the power station. Above the ponds is the conveyor for taking coal from the mine to the power station. Photo: State Mine Heritage Park Collection

weeks of pumping, the Vale of Clywdd Colliery was ready to resume operations in mid June. However, no sooner had the re-opening of the mine been announced,¹²³ further heavy rains again caused an inrush of water.¹²⁴ Although the pumps were removing a million gallons of water per day, it was estimated that eight million gallons (the equivalent to 35,000 tons) of water was flowing into the mine daily.¹²⁵ As a result, the directors of the Vale of Clywdd Colliery Ltd., decided, early in July 1950, "that further pumping would be useless and agreed to withdraw the pumps."¹²⁶

In August 1950, Jack Parkinson, the State Mine Lodge [Union] Secretary, warned about the risk to the State Mine from the adjacent flooded mines. Parkinson stated that "at the State Mine now we have three defunct collieries on our boundaries. They are Zig-zag, Oakey Park and the Vale of Clywdd. In these there is an enormous body of water built up which, in my opinion is a definite menace to the State Mine workings." He also stated that the "Oakey Park colliery should be pumped dry to relieve pressure at the State Mine from that direction."¹²⁷

In the beginning of 1951, the lack of a pump in the heading adjacent to the Oakey Park boundary caused this heading to be flooded "to a depth of about 1'6" near the face."¹²⁸ It was not until the middle of 1951, that the flooding problem in 1 East was resolved.¹²⁹ In spite of these problems, it was not until 1956, that the State Mine installed a pump in the Oakey Park mine shaft to dewater the abandoned workings¹³⁰ and to reduce pressure on the barriers between the two collieries.¹³¹ A million gallons of water was pumped out of the Oakey Park Colliery daily using this pump,¹³² but there were also indications that water was entering the Oakey Park workings from the abandoned Zig Zag Colliery.¹³³ After two years the water level in the Oakey Park shaft had been lowered 60 feet.¹³⁴ In 1957, fifty pumps were being used to remove a million gallons of water from the State Mine each day.¹³⁵

But the problem had continued and, in February 1960, it was stated that investigations were "still proceeding regarding the drainage of old collieries which worked under the city of Lithgow and drain into the State Mine. Many years ago attention was drawn to the accumulation of water in Oakey Park Colliery and it now appears that the State Mine is receiving a lot of water from these old workings, as the coal seam dips to the north-east in the direction of the State Mine workings."¹³⁶

The day after Farmers Creek had broken into the Cobar Colliery, underground work ceased at the State Mine because "the floodwaters surging through the underground workings of the Cobar Colliery pose a real threat to the safety of the State Mine." More simply, nobody knew where the millions of gallons of water that had poured into the Cobar Colliery was going.¹³⁷ Owing to the risk of the State Mine being flooded and the loss of railway orders for coal, dismissal notices were given, on 26 June, to 150 of the 200 men employed at the State Mine.¹³⁸

The State Mine started to flood at the end of June and, on 2 July, an underground inspection was carried out by Alan Graham Sykes, the mine manager, James Watson, the Secretary of the State Mine Lodge and Robert Menzies, the District Mines Inspector. As a result of this inspection, the State Mine Combined Mining Unions agreed to make an attempt to remove the underground equipment.¹³⁹

To assist in the salvage effort, a number of the dismissal notices were withdrawn and a bonus scheme was introduced. This scheme "provided for a fixed amount to be placed on each machine which amount would be paid into a pool and divided among the men engaged on the recovery proportionate to the number of shifts worked. Thus, the quicker the recovery, the greater the amount payable to each employee concerned."

When the salvage operation commenced on 11 July 1964, it was estimated that two million gallons of water per day was flowing into the mine and it was stated that the water level in the Oakey Park shaft was "up and down like a yo-yo." During the first two days, "two continuous miners, coal cutter and six shuttle cars had been recovered" and, by the 14th, "all possible mobile machinery [had] been recovered and brought to the surface." On the same day, the underground conveyor was started for the last time and 150 tons of coal was brought out of the mine. This was the last coal brought out of the State Mine,¹⁴⁰ after 43 years of mining since the first coal had been brought to the surface on 12 November 1921.¹⁴¹ In that period the State Mine had produced over 13,000,000 tons of coal.

The two areas being worked in the State Mine were the 5 West and 6 East sections¹⁴² and these areas were being worked by the two Lee Norse Continuous Miners.¹⁴³ On 16 July, all remaining worthwhile equipment was recovered from the 6 East section and this section had filled with water by 31 July. On 20 July, all equipment was removed from the 5 West section and it had flooded by 21 August and the water level was increasing in the main headings.¹⁴⁴ On 7 August, termination notices were given to 38 of the 69 men working on the salvage effort.¹⁴⁵

Although all salvageable equipment was being removed from the underground workings in the State Mine and it was being allowed to flood, the decision to officially abandon the mine was not made until 28 August. On the previous day, an underground inspection of the State Mine and the adjoining Steelworks Colliery lease had been made. The Steelworks Colliery had been abandoned in 1957,¹⁴⁶ and the State Mines Control Authority had taken over the Steelworks Colliery leases in early 1963.¹⁴⁷ It had been suggested that temporary employment could be found for the State Mine employees by extracting the pillars in the Steelworks Colliery. A deputation from Lithgow met with the Minister for Mines on 28 August, to discuss options for the State Mine. However, the government mining inspectors would not agree to the pillar extraction and the Minister stated "he was not prepared to over-rule the mining inspectors on a question of safety" and that "he had no other option but to recommend to cabinet that the mine be closed because of the danger to life."¹⁴⁸ The official announcement was made on 2 September and, after the announcement, "action towards the recovery of the Main North Heading belt installation [proceeded] with all despatch."¹⁴⁹

The last of the salvageable conveyor system was removed on 10 September and the last underground inspection of the mine was also carried out on this day.¹⁵⁰ At that time, it was estimated that the mine would be completely flooded in three months.¹⁵¹ Just over a week later, both Dobbs Drift and the Middle North Heading Drift were sealed and, by the middle of October, both shafts had also been sealed.¹⁵² The salvage effort had recovered over £344,000 worth of equipment and material¹⁵³ or almost \$10,000,000 in today's dollars.

After the closure of the mine, some of the recovered equipment was transferred to other state mines, while tenders were called in 1965 for the "disposal of outdated mobile machines, stores, plant and equipment of no further use" to the State Mines Control Authority. Tenders were also called for the demolition of the buildings.¹⁵⁴

In October 1964, the State Mines Control Authority decided to sell the two Planet locomotives and it also approved "the tender of E.M. Baldwin & Sons Pty Ltd to convert 3 locomotives to 3ft. 6in. gauge, for the sum of £1,686."¹⁵⁵ These locomotives were the Lee Norse Jitney, the Gibson Battle 4-wheel battery

electric and the Mancha battery electric locomotive. After they were re-gauged they were then sent to Awaba, Oakdale and Wye State Mines respectively.¹⁵⁶ The Planet locomotives were advertised for sale in November 1964 “as is where is. These locomotives were in use at Lithgow State Mine until its recent closure.”¹⁵⁷ The two locomotives were then used on Brampton Island on a tramway that connected the tourist complex with the jetty.¹⁵⁸ The two Planet locomotives were last reported to be use on Brampton Island in 2008.¹⁵⁹ The Noyes Bros. locomotive was also advertised for sale in October 1964,¹⁶⁰ and in November 1964, it was sold to the Blue Mountains Colliery for £450.¹⁶¹

In spite of the mechanisation of the State Mine, a handful of pit ponies continued to work in the mine until the end¹⁶² and they were used to transport pit props and carry out other light haulage tasks.¹⁶³ In August 1962, the mine had purchased extra horses¹⁶⁴ and, after the mine’s closure, tenders were called for the purchase of six horses.¹⁶⁵

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In July 1959, the State Mines Control Authority approved the purchase of two second hand Planet locomotives from F de Heselle of Dubbo. These two locomotives were Planet 39 type 18/22 and were fitted with Lister type 18/2 diesel engines. They had been built by F.C. Hibberd & Co. Ltd. in the United Kingdom. Given Hibberd Builders Nos.3475 & 3476, they were delivered on the 17th August 1950 to the D’Arcy Exploration Company for use in New Guinea. After the State Mine closed, they were sold for use on Brampton Island on a tramway that connected the tourist complex with the jetty. One of the locomotives is seen here on the 6th September 1972, fitted with an ‘ornamental’ chimney. Brampton island was bought by United Petroleum in 2010 and subsequently closed, as the company intended to redevelop the resort. The redevelopment did not occur and the island remains closed. The two Planet locomotives were last reported to be use on Brampton Island in 2008. The Late Keith McDonald Collection, Courtesy John Browning



After the closure of the State Mine, the Noyes Bros. locomotive was sold to the Blue Mountains Colliery in November 1964, for £450. Ross Mainwaring photographed the locomotive at the Blue Mountains Colliery on the 11th December 1997. Photo: Ross Mainwaring Collection

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CSR's Proposed Tweed River to Nerang Heads Tramway

by Peter Cokley

Introduction

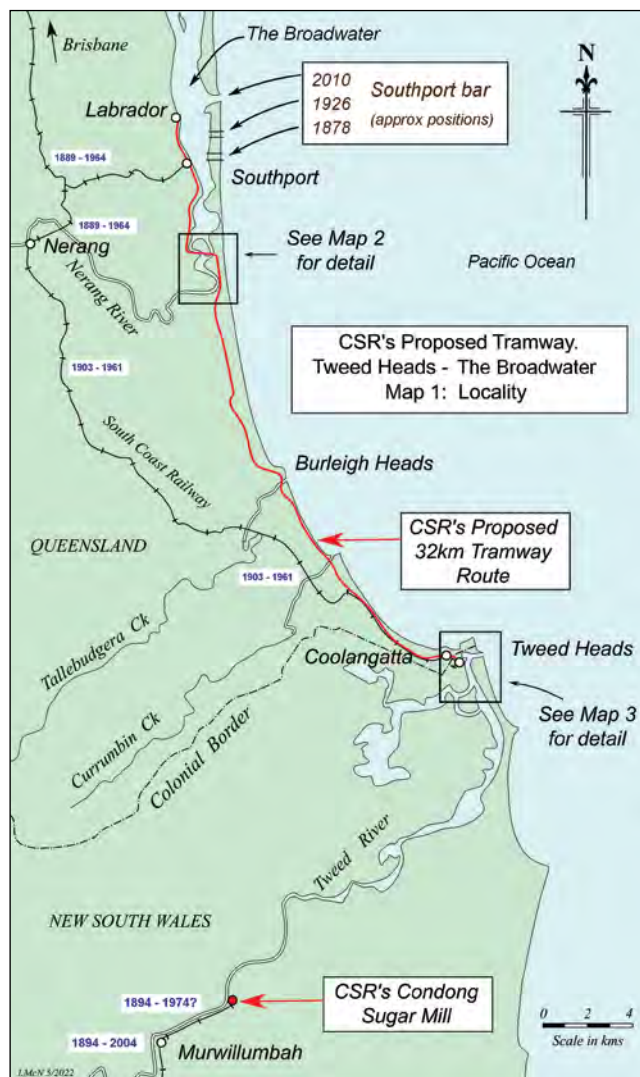
In 1880, the Colonial Sugar Refining Company (CSR) established a sugar mill at Condong, on the Tweed River, a few kilometres downstream from Murwillumbah, in northern NSW. A couple of years earlier, as part of its investigations into sugar milling in the area, CSR was concerned that the Tweed River, like some other NSW coastal rivers, had a problematic shallow entrance bar and the river itself was subject to shoaling, thus there was a problem sending processed sugar to Sydney. Accordingly, to bypass the dangerous Tweed River entrance, it planned a tramway alternative, to a shipping place where it believed it would get a better port – at the Nerang River Heads in the adjoining colony of Queensland. Some details of this proposed tramway have survived and reveal the surveyed route was along what is now the main Gold Coast beach tourist areas.

In March 1878, CSR approached the Queensland government with its Tweed River to Nerang River tramway proposal; six months later it apparently dropped the project. By that stage CSR had a vessel on order that could manage the Tweed River entrance. The steel-hulled paddle wheeler PS *Terranora* (199 tons)[†] was launched in Scotland in August 1878, and arrived in Cooktown on its delivery voyage on 30 December, and Sydney on 18 Jan 1879. Had the tramway been built, the PS *Terranora* would probably have been utilised to carry processed Condong sugar from its Nerang River tramway terminus to Sydney. During the 1880s, this shallow draft ocean-going ship was also used to carry sugar products from other Northern NSW riverside CSR mills to its Sydney refinery. Interestingly, at the same time the *Terranora* was launched, August 1878, the CSR surveyor was busy examining the possible Tweed to Nerang River tramway route.

The proposed route

The original route was described in contemporary newspapers as from the Tweed River to the Nerang Heads, although the eventual survey crossed the Nerang River and went some 6 km further northward to deeper water at Labrador, about 20 miles (32 km) in total. This would have seen the line extending from Tweed Heads, NSW, through today's Burleigh Head, Broadbeach and Surfers Paradise to the suitably named Deepwater Point, Labrador, just north of Southport, on the Broadwater. At the time, the Nerang River was often termed Nerang Creek. Indeed, the latter name was predominant until the 1900s. The size of the Condong mill gives a basic indication of the expected tramway traffic, with 365 tons of sugar from 5564 tons of cane from its initial year, with greater tonnages as the area developed. As the Condong mill was about 26 km upstream from Tweed Heads, any export of bagged sugar would have needed a river trip from the mill to the southern tramway terminus near the Tweed Heads.¹

[†] SS *Terranora*, built by D & W Henderson & Co., Glasgow. Launched 20 Aug 1878. Engines also by Henderson: Diagonal 2cyl (30 - 54) 94nhp. Length 141.5 ft; breadth 27.1 ft; depth 10.4 ft. First registered Sydney 4 Feb 1879. Sold to NZ 1890, hulked 1906. Details at <http://www.clydeships.co.uk> and *Express and Telegraph* (Adelaide, SA), 31 December 1878



In March 1878, when CSR asked the Queensland Government about the possible tramway construction, it may have known from *The Brisbane Courier* of 24 October 1877, that the government was surveying a railway towards the area. This was from Oxley, on the Brisbane - Ipswich line, to Tallebudgera near the inter-colonial border, but the government surveying a line in 1877 and completing a railway by the start of cane crushing in August 1880, were two different matters! To place CSR's 1878 enquiry to the Queensland Government in historical perspective, Queensland Railway's (QR) South Coast line from Brisbane, through Beenleigh, finally reached Southport and Nerang in 1889 and Tweed Heads in 1903.

Map 1 (above) shows the proposed 1878 route along the coast from Tweed Heads to the navigable portion of the eastern area of Nerang Creek, as described in *The Brisbane Courier's* 29 August 1878 report of CSR's surveyor Climie's survey. Tweed Heads itself would be the logical tramway starting point to avoid the extra cost of a mountainous route over the border ranges inland from there. Working north from Tweed Heads, the tramway route through what is now the Coolangatta business district would have been relatively straightforward in 1878. This is because Tweed Heads and Coolangatta were surveyed later, around 1885, so some flexibility was possible, although Tweed Heads existed as a minor settlement before 1878, a number of the residents being associated with the adjacent Pilot Station and Customs House. There also was a small community around the Light house at Fingal Head, a few kilometres south, as well as timber getters and farmers etc. Further north, Burleigh[‡]

was marked as an urban area on an 1878 map, so tramway land acquisition costs there would have been a concern. Neither the Broadbeach area nor what is now termed Surfers Paradise were shown as urban areas on that 1878 map.

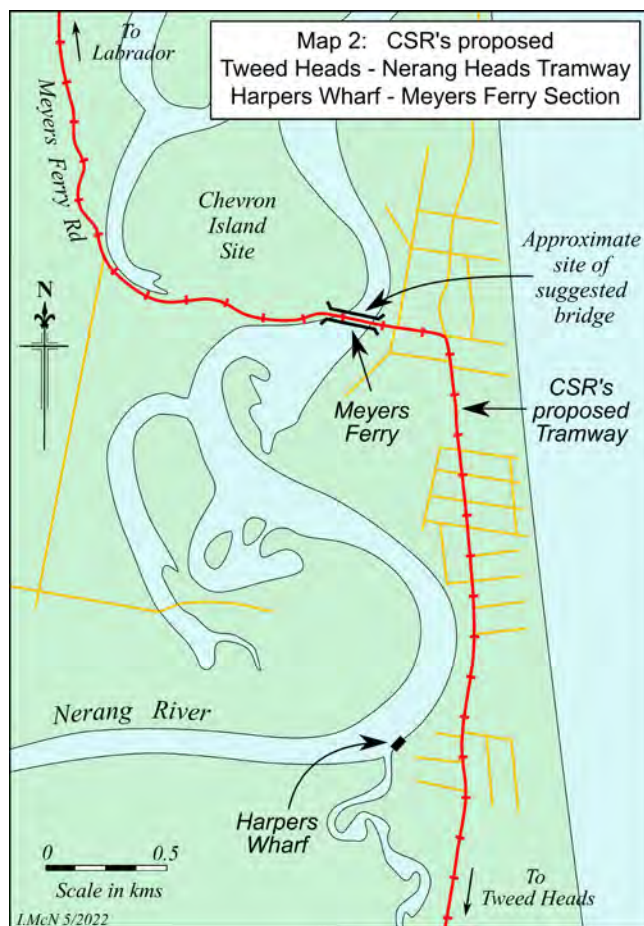
Whilst the tramway route shown on map 1 is indicative of the basic route as described in the newspaper, precise route details would have been more complicated. As an example, immediately north of Coolangatta, the CSR surveyors would have encountered the same Kirra ridge that also faced the government surveyors planning the QR's Nerang - Tweed Heads railway in 1900. The QR construction crews dug a substantial 40 foot (12 metre) deep cutting through the Kirra ridge, which remains today as a monument to its construction methods. The designing and building of the lengthy Currumbin and Tallebudgera Creek tramway bridges would have been costly, plus the Nerang River bridge if needed. None of the newspaper reports mentioned locomotive size which might have given a guide to the bridge strength requirements. The construction timetable for these engineering structures would have been tight as Surveyor Climie's tramway survey was August 1878, just two years before the mill's August 1880 inaugural crush.

The coastal route, as defined by the newspaper, would have reached the Nerang River near the present day Wharf Road at Surfers Paradise, 23 km from Tweed Heads. The Wharf Road name honours a five acre Nerang River Wharf Reserve marked on a 1886 map and sometimes known as either Harper's Wharf or Reserve 57, with Edmund (Neddy) Harper's 40 acre 'portion 27' adjoining to the south. More on Harper's Wharf later. Surveyor Climie could have planned a wharf anywhere along the Nerang River, but as parts of its mouth region had a depth of only 1½ ft (46cm) to 2½ ft at low tide, he therefore continued his survey further north, crossing the river and terminating at Deepwater Point, Labrador.

The newspaper pointed out the Labrador option meant an expensive bridge across the Nerang River. It also meant the purchase of allotments in the Southport urban area, some of which the 1878 newspaper noted recently sold for high prices! The township of Southport was surveyed in 1874 and named Southport in 1875, so predating the CSR tramway plans. At the 1890 census it was the only large settlement in the area, having a population of almost 900. Nerang's population was about 270; Burleigh less than 100 residents. That newspaper suggested instead placing the tramway terminus at the Nerang River to save the bridge and Southport land resumption costs and request the Government deepen the river to three ft at low water. This dredging, the newspaper wrote, would not be a costly undertaking (!), and would be of benefit to the general trading vessels, besides CSR. Three feet depth was stated as the minimum required on the boat passage for Brisbane-bound general trading vessels north of Labrador.

Labrador's Deepwater Point jetty is about 3 km north of the Southport business district. The Deepwater Point Government Wharf Reserve was shown on an 1880s map.² Remarkably, this map has the notation "Proposed site for terminus of Tweed River Railway" near the Labrador wharf reserve. That suggests even as late as the 1880s, someone still considered the CSR tramway a possibility! Although, it could also refer to a QR plan to go there instead of Southport. Present-day Broad

[‡] Originally, Burleigh Head was spelt Burley Head (singular Head) on Dixon's 1842 map, and still Burley spelling on the 1858 proposed colonial border map. The town of Burleigh itself was named as Burleigh, without a mention of Headland, in the Government Gazette notice concerning the July 1872 land sale. The headland itself was termed Burleigh Head (singular) and still Burleigh Head on the government 1982 topographical map. However, Burleigh, Burleigh Head and Burleigh Heads (plural) all used indiscriminately for a hundred years!



Street is marked on this 1880s map, with parts of the Gold Coast Highway marked as Government Road.³ A present-day Deepwater Point jetty landmark is the Grand Hotel. An earlier structure with the same Grand Hotel name on the same site was indicated on an April 1885 Deepwater Point Estate land sales plan, along with the Government Wharf Reserve and Broad Street.

The Nerang River tramway bridge

Map 2 (above) shows a 'suggested' Nerang River tramway bridge near what became known as Meyer's⁵ vehicular ferry in 1881. This writer suggests that bridge site as Climie's own selected 1878 bridge site was not specified by the newspaper. That suggestion is offered as it was near that vehicle ferry area, considering if it was a suitable ferry site, then a CSR tramway bridge and route to Southport may also have been feasible. In fact, that site was shown as a proposed road bridge site to replace Meyer's Ferry for the Southport - Burleigh road on a 1920s map. But that same map also showed another Meyer's Ferry replacement bridge option that was eventually built at the mouth of the river, the 1925 Jubilee Bridge.

From 1881, Meyer's Ferry allowed vehicle access from Southport across the river to the areas now known as Main Beach, Surfers Paradise, Broadbeach and southwards. The vehicular ferry was located at the end of what is now Cavill Avenue in central Surfers Paradise. While obviously there was road access by land from Southport to the ferry in 1881, that is no longer the case.

⁵ Often spelled Myers Ferry. Southport Divisional Board minutes reported in the newspaper states the lessee of the ferry was 'W L Myer'. The names Myers and Meyers were often interchangeably spelled at the time. It is thought that 'W L' was a son of J H C (Johan/John) Meyer, who had settled in the area in 1875, and had a number of business interests including a sugar mill and, from 1888, the Main Beach Hotel. J H C Meyer died on 15 Oct 1901 on the Southport railway station platform, aged 73.

Part of the western Meyer's Ferry access road was dug out and replaced by a canal in March 1960 as part of the Chevron Island real estate project. The pre-1960 Chevron Island area, including the then Goat Island, was the western riverbank, with the road back to Southport now known as Ferry Road and shown as Meyer's Ferry Rd on some older maps.

Another cost consideration was any Nerang River tramway bridge would have probably required a lifting span as vessels traded upstream to Nerang. Even the 1925-built Jubilee Bridge contained a lifting section to accommodate larger river-trading vessels. This lifting span was removed in 1933 as there was no longer any significant river traffic to Brisbane. This 1925 bridge was replaced in the 1960s on a different alignment.

Harper's Wharf (at the Nerang River Wharf Reserve) was the river landing for the mid-1920s Southport-Burleigh Road construction tramway. Road metal for the Southport-Burleigh Road was quarried at Molendinar, upstream on the Nerang River and brought down by river transport. This was then transported to the road construction areas by a tramway as described by John Browning's *The Southport-Burleigh Road Construction Tramway* in *Light Railways* 213 June 2010. (An updated version of this article is currently in preparation – Ed). But the need to bring in road base for the 1920s road, partly due to the generally sandy nature of the route, also suggests any 1878 CSR tramway may have also needed track ballast over portions of a similar very sandy route. The Wharf Reserve, marked on a map in that LR 213 article, today exists as a public picnic area, the 'Neddy Harper and William Duncan Park', in honour of these two colonial timber-getters who shipped their logs from this wharf.

One example of a Brisbane-based cargo vessel that could navigate the Nerang River all the way upstream to the Nerang town wharf was the 52-ton iron-hulled paddle steamer *The Maid of Sker* today is preserved in a park at Nerang. Its Brisbane launch was reported by *The Brisbane Courier* of 12 November 1884, which also noted its draft as 1ft 6in, so matching the critical factor mentioned by Climie. It had a carrying capacity of 60 tons and engines of 16hp and was built at Evans, Anderson, Phelan and Co's Phoenix Foundry. Other details were a length on keel of 75 ft and beam of 17 ft; making it substantially smaller than the PS *Terranora*. The Nerang River exit to the ocean is between the southern tip of Stradbroke Island and the northern tip of the Southport Spit. Maps from around 1878 show that the ocean entrance passage was about due east of the Southport business district, some 3km south of its present position – see map one.

The Government's Tramway Conditions

An enquiry to the Queensland Government by CSR on 16 March 1878 mentioned the Tweed River shipping difficulties and asked three questions: Will the government construct this line?; If the government won't build the line, will they sanction its construction by CSR?; If yes to the second query, what conditions will they impose if CSR builds the line? CSR's Brisbane agents, Parbury, Lamb, & Co, who conveyed the enquiry to the Minister for Works, also noted the tramway would give the Queensland colony, among other advantages, an outlet for Ipswich coal into northern NSW. Presumably that included for the Condong mill's boilers which *The Leader* (Melbourne) of 5 November 1881 noted as having "seven or eight furnaces", burning coal as well as cane waste (bagasse). CSR's tramway enquiry to the government in Brisbane was reported in Beenleigh's *Logan Witness*, of 6 April 1878.

The government's response to CSR was in a general format as it was responding to two unconnected tramway applications

at the same time. The other applicant, besides CSR, was Powell and Company, a Maryborough coal company. That company's application was for the construction of what the *The Brisbane Courier* termed a short railway to connect the Burrum coal mines, north of Maryborough, with navigable water. The following summary is based on the newspaper's account of the Railway Commissioner's reply on behalf of the government to the applications. Fuller details are in *The Brisbane Courier* of 26 April and 23 September, 1878.

Clearly, the Railway Commissioner's general principles could well apply to any similar Queensland tramway application in that era. *The Brisbane Courier* noted that the government was not disposed to construct the line in question based on CSR's application at that time. But the Commissioner was prepared to submit to Parliament a proposal for the construction of the line provided the applicant's proposal was based upon what the Commissioner termed "grounds conducive to public welfare and sound commercial principles". The government was not prepared to indicate the conditions on which its consent would be given, and the conditions should be embodied in the proposals to be submitted by the company or promoters. *The Brisbane Courier* of 26 April 1878 noted the Commissioner's reply was undoubtedly dictated by the requirements of the Railway Amendment Act of 1872, part two.*

The newspaper included the point that the government could not be expected to subsidise any railway undertaking carried out by private enterprise with the view to profit, until it was satisfied that the company itself had invested an amount of capital in the project sufficient to justify the belief that it was of a substantial nature. The reply also stated: "Endowments, therefore, in land, or its equivalent, money, must be looked on as grants in aid. . . ." It can be interpreted that this 19th century terminology is the government telling any private tramway company to prove it had invested substantial amounts of its own money before the government would consider any aid!

The newspapers considered the CSR Tweed - Southport tramway would not cost more than about £15,000 including rolling-stock and other expenses. It also thought a government grant to CSR in money of a portion of the amount might, if considered preferable to a grant in land, be made without much inconvenience. It also felt a stipulation might be inserted in the agreement empowering the government to buy out CSR's interest in the tramway at any future time at a fair valuation. Possibly all this was just wishful thinking by *The Brisbane Courier*, or did they have a contact within government?

The Railway Commissioner also required a detailed survey defining the route, as well as an estimate of the probable cost of construction. Section 24 of that legislation required plans and a book of reference including the names of the owners, proprietors, and occupiers of the required lands. It also required a description of the lands setting forth the bearings of such railway or tramway as the case may require and the nature and quantity of cultivation, the enclosures (if any) and the quantity of such land which may be required for the purpose of making such railway or tramway. Accordingly, CSR's Surveyor Climie's detailed route survey in August 1878 could be seen as CSR's response to the Railway Commissioner.

The Brisbane Courier also suggested some of the conditions the government might impose on CSR's tramway, and in doing so, highlighted some possibilities regarding the tramway

* Actual legislation at Supplement to the *Queensland Government Gazette of Saturday 24th August 1872*. The Railway Amendment Act of 1872 covers 27 sections. Part 2 is titled *As to Proposals from Private Persons or Companies* and mainly comprises sections 20 to 26. Colonial QLD Government Gazettes can be downloaded from <https://www.textqueensland.com.au/gazette>

operation. The suggestions were that the gauge of the line should be the same as the government railways (3ft 6in); that when finished a train should run from each end daily, taking passengers and freight, at the rates charged on the government lines; mails should be carried free; and that the government should have the right of purchase either at a valuation or at a fixed price. The mention of government gauge is the only indication found to date for the possible gauge – all other documents are silent in this regard.

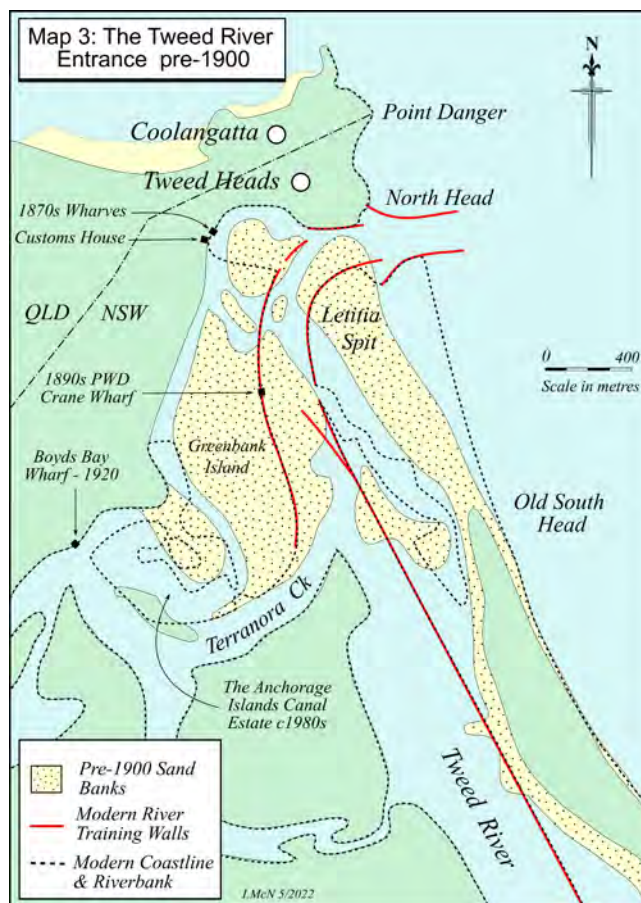
The end of CSR's interest in this tramway was reported by *The Brisbane Courier* of 23 September 1878. It noted that as no further communication had been received up to 5 September, and it was suspected that CSR had dropped the project. It is tantalising to ponder if that resulted from CSR receiving Surveyor Climie's August 1878 report. This showed the tramway was perhaps somewhat pointless since Climie highlighted how shallow the Nerang River was, which raised the question of whether the Nerang River area had any real water depth advantage over the Tweed River! Hence the extension of his survey to access deeper waters in the Broadwater (Southport Broadwater).

Tramway versus Ship

As noted earlier, the paddle wheeler PS *Terranora* could have carried Condong processed sugar to Sydney from the Nerang Heads tramway port had the tramway been built. The question for CSR in the late 1870s was whether the tramway was in fact needed. Clearly some senior CSR hierarchy were concerned enough about the Tweed River's problems to approve the money to investigate the tramway. On a side point, the paddle wheeler *Terranora* is not to be confused with a later Tweed River vessel of the same name, the single-screw steam tug *Terranora*, built in 1896.

Interestingly, not every CSR official thought it needed the tramway anyway. The most senior CSR official in the Northern NSW sugar area already considered an ocean steamer could handle the Tweed River all the way to the Condong mill. That person was Edward William Knox (EW Knox), who also wrote that the same ship could also carry the products of the other CSR mills on the Richmond and Clarence Rivers to its Sydney refinery. EW Knox's comments were in two memos, 19 October 1876 and May 1877, well before CSR contacted the Queensland government in March 1878. These memos were sent to CSR's General Manager Joseph Grafton Ross, so head office was aware of his thoughts on the matter. In 1869 E W Knox was appointed manager of the Northern Rivers NSW mills with the title of Superintendent of CSR's Clarence River Mills. EW Knox is not to be confused with his father, Edward Knox, later Sir Edward Knox, who was Chairman of Directors at various times. In 1880, the same year CSR's Condong mill opened, E W Knox replaced J Grafton Ross as CSR's General Manager. E W Knox, like his father, also eventually rose to be CSR chairman.⁴

EW Knox's evidence that a suitable ocean vessel could navigate the Tweed River all the way to the Condong mill site was based on a small steamer on the Tweed - Brisbane run that had recently taken 800 bags of maize from the farms near where the Condong mill was proposed. Knox highlighted that the Tweed River entrance bar had from 8 to 10 feet at high water for the past four years. He also said an ocean steamer could depart the Tweed River with about 100 tons of cargo in a draft of five feet or 50 tons on 3ft 6ins draft. E W Knox's memos were *Extending Our Operations to the Tweed* of October 1876 and *Notes of a Trip to The Tweed & Richmond Rivers* of May 1877.⁵



CSR's use of coastal shipping to transport Condong's products to its Sydney facilities was aided by a Public Works Department (PWD) scheme to build Tweed River breakwaters and training walls. These improvements, started around 1891, included various construction tramways which will be analysed in a future article.

Condong: Transport to Market

Examination of sixty years' of newspapers from 1880 to 1940 revealed that ships carried Condong's sugar to Sydney from the mill's beginning through to at least World War 2 (WW2). As these very repetitive shipping reports are online via the Trove website, they are not detailed here. However, two examples from 1938 are noted. In December 1938 the mv *Comara*^{††} loaded approximately 6000 sacks of sugar and the ss *Coolebar*^{‡‡} also took a "full loading" of sugar. The latter, on its inward voyage, delivered coal for Condong mill and cement for Murwillumbah, according to the *Tweed Daily* of 7 December 1938. On its previous trip five days earlier it had taken 3250 sacks of sugar.

The Tweed bar continued to disrupt shipping as the SS *Tyalgum* was wrecked there, inbound from Newcastle, in August 1939. Its cargo was reported as 197 tons of coal, 20 tons of cement and drums of benzine. At different times, including 1934 and 1937, the Tweed River was unavailable for Condong's use because of the bar and shallowing. For example, in 1933 only 70% of Condong's output went by ship,

^{††} mv *Comara*, built by Harland & Wolff Ltd., Scotland, 1937. Engines by same builder. For the North Coast Steam Navigation Co. Ltd. Length 173ft; Breadth 35ft 6in; depth 9ft 1in. Displacement 759 tons. Details at www.clydeships.co.uk

^{‡‡} ss *Coolebar*, built by Ardrossan Dry Dock & Shipbuilding Co Ltd, Scotland, 1911. Engines by Dunsmuir & Jackson Ltd., Govan, 4cyl compound (12½, 26 x 18") . For North Coast Steam Navigation Co Ltd. Length 150ft 3in; breadth 30ft; depth 8ft 7in. 479 tons



Loading bagged sugar on NSWGR wagons at Condong mill 1934. Syd Adams photo. TRMTH199-18

in 1935 about 50%, in 1936 some 38%. For the 12 months to the end of August 1937 just 4% of the mill's 177,200 sacks of sugar went out by ship.⁶ CSR's remedy was to use the NSW Government Railway (NSWGR) to move the bagged sugar the 56 km to Byron Bay's (new) ocean jetty, according to the *Tweed Daily* of 14 November 1934. The same newspaper of 12 July 1939 notes that in 1937 the bad state of the Tweed bar meant most of the sugar output from Condong mill was again railed to Byron Bay for shipment. This use of Byron Bay's facilities explains why CSR's records include two plans of Byron Bay's jetty, one 1929 and the other was 1940. (the first Condong sugar shipped from Byron Bay was in 1911) Both plans were labelled as CSR Ltd Condong, so pertaining to that mill. That 12 July 1939 newspaper recorded 46 vessels arriving at the Port of Tweed Heads with a gross tonnage of 28,330 tons during 1938-39. The approximate imports for 1938 amounted to 2,560 tons and the approximate exports totalled 13,389 tons.

World War 2 took its toll on North Coast shipping activities, and therefore Condong's ability to ship sugar to Pymont, in Sydney, as some vessels, including the ss *Coolebar*, were requisitioned by the navy. The North Coast Steam Navigation Company's (NCSNCo) *Nimbin* sank off Norah Head, NSW in 1940 after hitting a German mine and its *Wollongbar* was lost to a Japanese submarine off Crescent Head in 1943. NCSNCo itself traded until 1954, when it went into voluntary liquidation.

All sugar from Condong was railed to Darling Harbour, Sydney, in the 1943 season, according to Tweed Heads Historical Society (THHS) records. These records also note the last ship from Condong to Sydney would have been about 1939-40 while the last sugar ship load via Byron Bay was about 1942-43. The second half of 1943 saw several letters in Lismore's *Northern Star* newspaper wanting commercial shipping to resume from Byron Bay, although the same newspapers noted the navy needed more ships from the commercial coastal fleet for war purposes.

Perhaps some readers may have inadvertently assumed CSR sent its Condong sugar to its Brisbane refinery, but CSR's New Farm, Brisbane refinery was built in 1893, so did not exist in 1880 when the Condong mill opened. Some may have also thought Condong sugar was railed to the Brisbane refinery as the Queensland government railway reached Southport in 1889 and Tweed Heads in 1903. All records seen confirm that Condong's products went to CSR's Sydney harbourside refinery from the mill's opening in 1880 right through the coastal shipping and later railway eras. The earlier mentioned THHS records, using data from CSR Sydney, state: "Sugar was not shipped from Condong to New Farm although two ships, the *Cobaki* and the *Grazier*, were used to carry general cargo from Condong to Brisbane."

Eventually, in 1956, when Condong shifted to bulk handling of sugar, Brisbane's sugar refinery did play a role. In 1957 the Luya Julius Pty Ltd transport company had Condong's contract to truck the bulk sugar to the Brisbane refinery. The image of a bogged bulk sugar truck, seen here, was near the Condong Store. It appears that the Condong village had recently been sewerred and the truck struck soft ground!⁷ Of course, NSW government rail was still used to bring sugar cane the 27 km from the Crabbes Creek cane farm areas, north to the Condong mill until the early 1970s. The interesting sugar cane tramways of the Crabbes Creek area will form the subject of a future article.

Molasses in casks was another product of the Condong mill that could have been transported on the proposed tramway. In later years it transferred from sea to rail as a 1940 NSWGR plan for 'SS' wagons for the bulk rail movement of molasses, is labelled "2210 Gallon EW Molasses Container Condong Mill for CSR". This plan notes the six containers were made by A Sargeant & Co of Brisbane. It is possible molasses shipments moved to road transport at the same time as bulk sugar.



1957. A Brisbane-bound Luyas Pty Ltd truck with a load of bulk sugar, bogged at Condong. Photo: Ross Johnson image TRM MUS2016.53.4

Conclusion

In 1978 CSR sold Condong to the grower-owned NSW Sugar Milling Co-operative Ltd. Nowadays the mill is owned by Sunshine Sugar which is a partnership between the NSW Sugar Milling Co-operative Limited and the Manildra Group. In 2021 road transport took the processed sugar to Sunshine Sugar's Harwood Sugar Refinery. This is located alongside the group-owned Harwood Sugar Mill on the Clarence River. The product is then trucked to its Grafton rail loader situated on the south side of the Clarence River near the rail passenger facilities.

Acknowledgements

Thanks for historical guidance are extended to John Browning, Susan Cokley, Ross Johnson, Immy McKiernan, David Mewes and Bruce Rankin. Syd Adams' 1930s Condong sugar image is available from the Tweed Regional Museum (TRM). Also, thanks to members of the Tweed Heads Historical Society, which is part of the Tweed Regional

Museum at Murwillumbah. Gratitude is also extended to Gold Coast Council's Southport Local Studies Library. Grateful thanks are extended to Ian McNeil for the preparation of the excellent maps that accompany this article, plus his Tweed River entrance advice. CSR research notes, plans and images are from several sources, including deceased estates, and originally likely from research trips to CSR's record collection in the Noel Butlin Archives Centre at the Australian National University, (NBAC/ANU).

Endnotes

1. Mill's initial crush data from NBAC Z303 Box 37
2. Gold Coast Council's Local Studies Library, Southport
3. Map Southport North. ca1880s LS MAP CAD 00218 ID:34211017839061 REF-BOOK, Southport Local Studies Library, Gold Coast Council
4. Lowndes, AG. 'South Pacific enterprise: The Colonial Sugar Refining Company Limited'. Angus and Robertson, Sydney, 1956.
5. Both Knox's October 1876 and May 1877 memos; NBAC Z303 Box 37
6. *Tweed Daily*, Murwillumbah, 19 Nov 1937
7. Johnson, Ross. Personal communication 2017.

Condong's six-outlet molasses loader. This is on the Murwillumbah side of the then Pacific Highway level crossing outside the mill. TRMTH178-11





A and R Amos's sawmill and siding, about two miles north of Bundanoon railway station. NSWGR E.17 class locomotive No.20 (Robert Stephenson 1547/1864), sits with a train load of sleepers and logs in the round, on the single track mainline heading in the Down direction. It is presumed that the loco had earlier been shunting the siding as the guard appears to be standing near a stop block. Amos's sawmill, at right is adding to the smokey scene. No.20 was sold to the PWD in 1901. Photo: Author's collection

Bundanoon Sawmills and Inclines

by Jim Longworth

Introduction

In *Light Railways* No. 130, October 1995, I wrote an article 'Hung Out For Coal' (available free online at http://media.lrrsa.org.au/puny130/Light_Railways_130.pdf) about the Ringwood and Erith coal mines and their tramways near Bundanoon, about 120km south-west of Sydney, in the NSW Southern Highlands. The town of Bundanoon lies at an elevation of around 2200 ft and sits near the rim of the Bundanoon Creek gorge, over a thousand feet in depth. It was on the gorge sides that outcrops of coal were exploited. On the township 'plateau' and in the gorge there were vast forests of trees which many tried to exploit before the beauty of the area was fully appreciated. In these notes we look at a couple of the early sawmillers who utilised tramways within their operations.

A and R Amos' Sawmills

From the late 1860s, as work on extending the NSWGR's Great Southern Railway towards the Victorian border progressed, vast amounts of timber were required for temporary building works, sleepers, fencing, bridges, and railway buildings. A number of railway contractors were involved in this work, including brothers Alexander and Robert Amos, trading as A. and R. Amos,

who held contracts to extend the line southwards from Bowning in southern NSW. In 1876, to supply timber, the partnership had purchased the right to the timber on the property of Messrs Osborne and Morrice, adjacent to the railway near Bundanoon, for three years for a large sum.

Two sawmills, understood to have been named the "Steam Saw Mills", was erected at what became known as Amos' Siding on the Great Southern Railway, about two miles on the Sydney side of Jordan's Crossing. Known now as Bundanoon, it is today 162km from Sydney (Central), but was about five miles shorter via the old Main South line. It is about another 63km by rail to Goulburn. The saw-mills and works were situated on a spur of the range dividing the waters of the Shoalhaven and Wollondilly rivers, at a height of about 2200 ft above sea level. Built on the top of a thickly timbered hill, around which was nothing but dense forests of huge trees for miles. The average millable height of some of the trees was about 70 ft. and many eight- and 16-foot logs could be cut from splendid box trees. A few hundred yards from the mill the growth was almost tropical, with dense scrub containing splendid sassafras, beech, musk, cedar, and lily-pilly trees.

Timber was carried distances varying from 2½ to 3 miles. A local contractor, George Prosser, had erected a bridge supported by five 40 ft long girders over the 80 ft deep gorge of Indigo Creek. Forty-foot-long logs were dragged by bullocks, and by horses when a more even track was reached.

The mill at the railway siding contained one of Hoffman's patent mills, driven by two 16 hp Robey portable steam engines, breaking down logs with a 6 ft-diameter circular saw to make

the first cut in the logs, which were afterwards taken to smaller saws in the mill. Attached to this mill there was also an adzing machine for slotting sleepers. This machine could, with ease, prepare and make ready sleepers to be laid on the line at around 100 per hour. As soon as the sleepers came off the machine they were loaded into railway trucks, and despatched by train to their destination at a rate of about 600 per day. The timber used for these sleepers was box and stringy bark, of the very best quality obtainable. The average output of the mill was about 15,000 superficial feet per day – an amount which reputedly could not be equalled by any other mill in the colony.

From the mill next to the mainline, a 'tramroad' about a half-mile long led to another mill, which was worked by a vertical breaking-down saw, and two small circular saws, driven by one engine of 18 hp that was also used for cutting sleepers.

Besides the timber sawn for railway purposes, the first mill produced boards, battens, and scantlings of all lengths and sizes, which were sold to the public, being duly advertised in the local papers. About 100 workers were employed at these works, 60 of whom worked in and about the two sawmills, at a wage of from 7s 6d to 12s a day each. The other forty were engaged in the bush, splitting, and making hewn sleepers, girders, piles, and posts and rails; and were paid by contract. Eleven drays and 110 bullocks, and five horse-drays and 25 horses, were engaged drawing logs from the bush to the mills. Compared to the many other sawmills in the colony this was a very large operation.

Besides the mill premises and cottages for officials, there

TIMBER! TIMBER! TIMBER!
TO BUILDERS AND OTHERS.

SAWN TIMBER may be had in any quantity, cheap, at A. and R. AMOS' SAW-MILLS. For particulars apply to the undersigned by letter or otherwise.

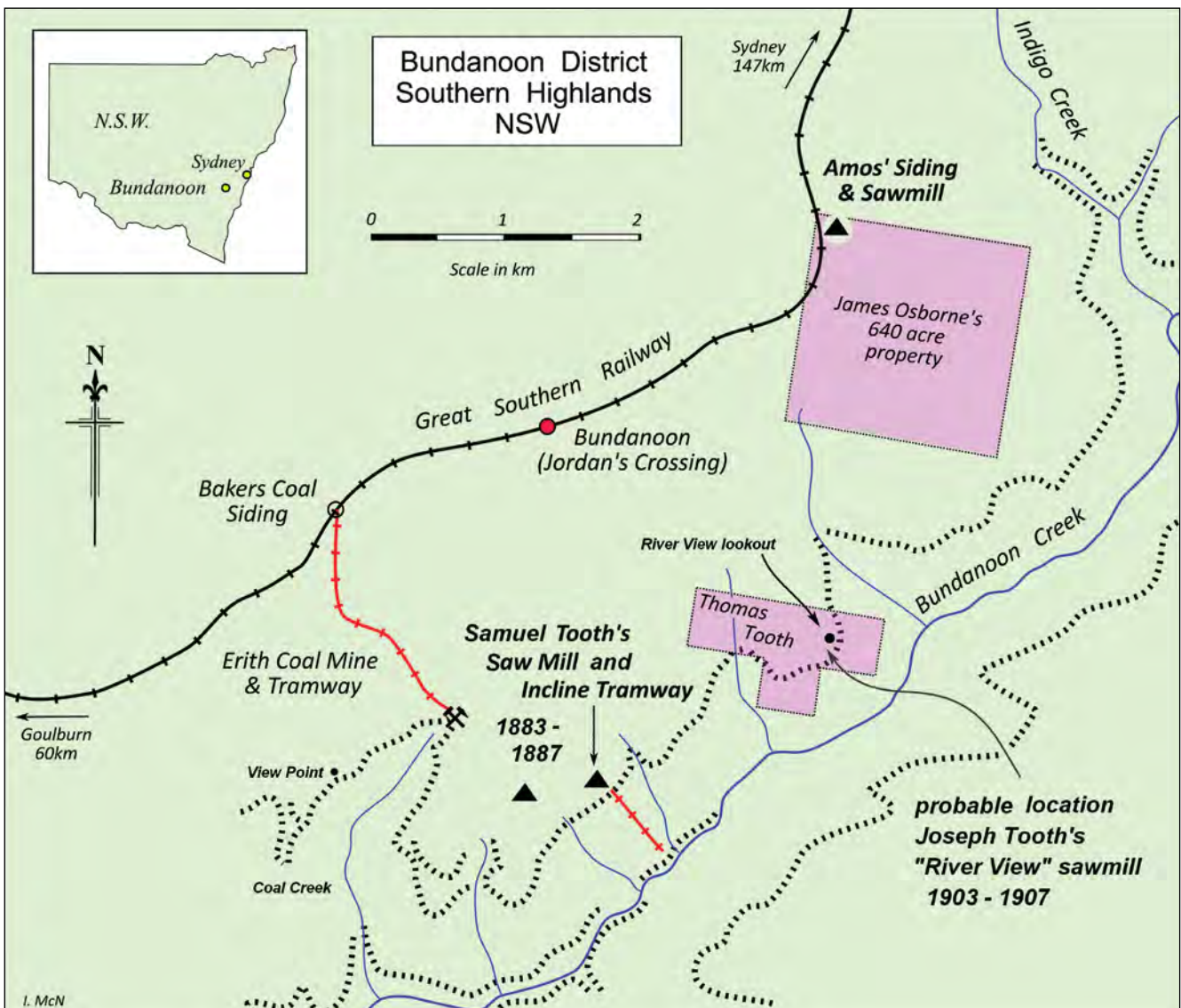
GEORGE PROSSER,
 Steam Saw-Mills,
 Jordan's Crossing.

37

From the Goulburn Herald 6 July 1878

were about 40 small wooden huts built by the workmen as residences for themselves, the timber for their construction being supplied at no cost. There was quite a little community at Amos's Siding including a general store managed by a Mr Smith, a blacksmith's shop, offices, workshops and stables.

The management of the sawmills was under the supervision of Mr J Bradley, said to be an able engineer with much experience in sawmilling. George Prosser, a practical man, became the general outdoor manager of all timber-related activities, besides superintending the loading of railway trucks, letting of contracts, etc. Prosser had also worked with Blunt and Williams, contractors for the extension from Goulburn to Yass, the whole of the time the Yass extension was under construction. Mr J B Hayes was the Clerk of Works.¹



During October to November 1877, 1170 tons of timber were sent away from the siding which was about the average quantity. Since the sawmills had been in full work, Messrs Amos had paid the NSW railways about £1200 per month for freight. Even that large sum would have been increased, were it not that it was sometimes near impossible to obtain railway trucks.

During that same month a very high wind fanned a rather serious fire at the mill and a spark from the engine set fire to a large bullock shed that had only recently been erected, and quickly destroyed it. The fire then spread to the hay shed and before it could be checked about five tons of hay together with the building were consumed. Had it not been for the exertions of the men, property worth £6000 would have been lost. As it was, the damage done amounted to £150.² Repairs must have been effected, because in July the following year the business was advertising the availability of timber and in August advertised to employ 'an efficient clerk'.

By December 1879, A and R Amos were having a clearance sale of timber at their sawmills on account of their sale to long-time mill manager, George Prosser. By early the following year Prosser, trading as the Sutton Forest Saw-Mill Co, was cutting 'prime box and blue gum' on H N Throsby's property, a couple of miles to the north of Amos's Siding. Shipments of timber were made from Throsby's Siding, said to be 90 miles (original rail mileage) from Sydney. According to the parish maps, vast amounts of land between Exeter and Moss Vale was originally held by Charles Throsby. It is believed that H N Throsby (possibly Herbert Throsby) is a relative. By the end of 1880, Prosser's advertisement still stated '90 miles' but the siding's name had changed to Meryla Siding. C C Singleton (ARHS Bulletin 379)³ notes that Meryla opened sometime prior to 1 September 1880, with no mention that it was previously Throsby's Siding. The mill was about 1½ miles distant from the siding at a location known as Colyer's Leigh. Meryla was later renamed Werai.⁴

Samuel Tooth's Sawmill and Incline

In 1880, well-known local man Samuel Tooth (1835–1914) is thought to have established a steam sawmill at the bottom of Constitution Hill, half-a-kilometre south-east of Jordan's Crossing station, working a nice patch of stringy bark, yellow gum and 'other good durable timbers'. A year previously he had been advertising himself as a quarryman, able to supply the 'Very Best Freestone', loaded on trucks at the local railway station, something he kept as a sideline following his move into the timber business.⁵ It was probably whilst the sawmill was at the Constitution Hill site that tragedy struck in early

TIMBER & FREESTONE.

To Builders, Contractors, &c.

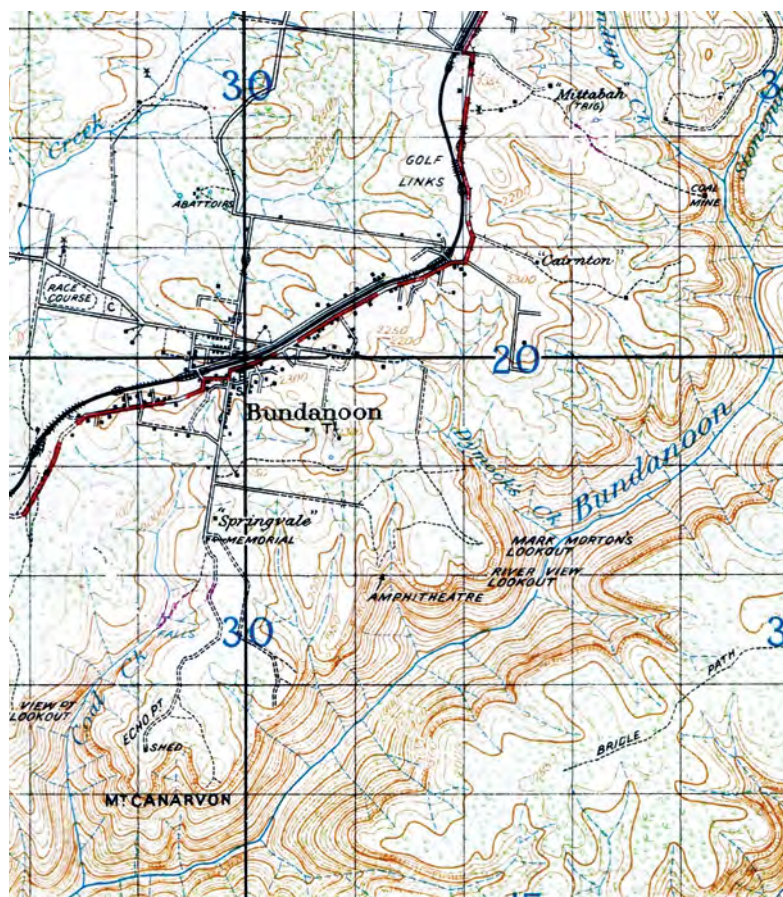
THE undersigned having recently erected a **STEAM SAW-MILL** in a good fall of stringy-bark, yellow-gum, and other Good Durable Timber, is now prepared to supply any orders he may be favoured with, at the shortest notice, and at prices as per agreement.

All orders will be delivered in trucks at Jordan's Crossing. Address

SAMUEL TOOTH,
Jordan's Crossing.

4986

Samuel Tooth advertisement Goulburn Herald 5 January 1881

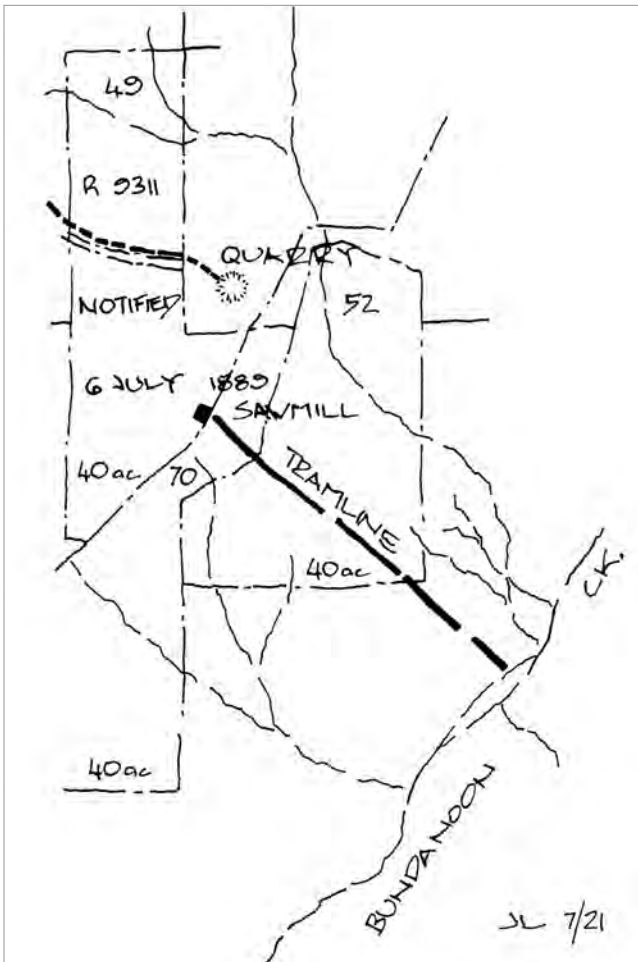


The 1933, Moss Vale Inch/mile topographic map. The location of Amos's Siding, about 1½ to 2 miles on the Sydney side of Jordan's Crossing (Bundanoon) would place the A and R Amos sawmill beside the railway about opposite the golf links, near the top of the map. Probably on the transition straight between the left- and right-hand curves.

July 1881. Occupying a bark house at the mill was a labourer named Dennis, together with his wife and family. Whilst the two adults were temporarily absent, a fire occurred and one of the children was burnt to death.⁶ For the next few years it seems Tooth returned to quarrying, plus some building work around the town.

Around 1885 Samuel, together with his sons Joseph and Edward, was operating a sawmill on Penrose Road near Ross Street, Bundanoon, about a mile west of the previous location. As the stands of millable timber were cut out they were forced to again relocate.⁷ In July 1885, it was noted that the mill was being repositioned a couple of miles to the east, right on the edge of the great gorge, above Bundanoon Creek. Presumably Tooth was planning to operate the sawmill and open an adjacent quarry – his plans to access the timber in the gorge were described as 'plucky'.⁸ By December it was reported that the mill was about to start⁹ and by April 1886 'has started'. After that date reports are very few – in July 1888 a visitor neither states whether it is working, just that the tramway is a good way for access 'to the gullies beneath'.¹⁰ Three months later, another visitor is more definite: "the mill was not working, despite there being a great forest of timber in the gully". Tooth had spent a lot of money putting down a tramline in order to raise logs up to the mill. The tramline had been laid from the mill down the steep rocky cliff towards the water below, a distance of about one mile.¹¹ Sceptical folk dubbed his undertaking 'Tooth's Folly'.

During the construction of his incline tramway, Tooth passed through a fossil bed, where there were fine specimens



Traced off Bundanoon Parish Map, Edition 2, January 1889, the 'tramline' shown on it has been transposed onto a current 1:25,000 topographic map. It shows that Samuel Tooth's incline descended from the sawmill at what is now called 'Tooth's Lookout', just north of the kink in the boundary between Portions 49 and 70, descended diagonally across Portion 52, to exit immediately west of the south-east corner of Portion 52, thence descend towards the creek. The footpath shown on the today's topographic map as a dashed line seems to follow the line of the incline pretty closely. These are the three Portions forfeited by Samuel Tooth in 1888, so it is presumed that this is the route of his abortive tramway. Note the nearby quarry, which the newspaper implied was close to his sawmill. Your editor awaits a field report!

of all sorts of shells. Even after closure of the sawmill, tourists would clamber down to try and find a fossil to take home. In 1908, Mr W Thorpe from the Sydney Museum visited the bed to collect some of the fossils.¹²

Forfeited Conditional Purchases' records at the Department of Lands shed some light on Tooth's operations. According to the *Government Gazette* in October 1888,¹³ Samuel Tooth conditionally purchased Portions 49, 52 and 70, each of 40 acres, parish of Bundanoon at various dates in 1885, 86 and 87. Yet all had been forfeited by the end of November 1888. It seems Tooth had overreached himself financially with the sawmilling operations, or more likely, the tramway construction, and had curtailed that side of his business, and he allowed the Portions to lapse. Following this, the local papers go quiet regarding Tooth's operations until 1892 when it is stated he is again supplying timber to order. That he was still dabbling in the sawmilling business is revealed in May 1895 when Tooth had a leather belt, about 6ft long by 8in wide, of 'double English leather' stolen. It was valued at £15 and Tooth is listed as a saw mill proprietor.¹⁴

Joseph Tooth's River View Sawmill and Incline

Whilst the local gullies[‡] were clothed with heavy timber, for a long time it was thought that nothing could be done to utilise it. The encompassing walls of perpendicular cliffs seemed to be an eternal bar. About fifteen years after the failure of their father's pioneering incline, Joseph Tooth is known to be in the sawmilling business, maybe using his father's old plant. Trading as Federal Saw-Mills, he was advertising in the *Goulburn Herald* from May 1902 that he has an assortment of building timber at Bundanoon railway siding, ready for despatch. A year later, assisted by his brother Edward, the pair thought they saw a way of getting at the latent wealth of yellow box, mahogany, stringy bark, and turpentine in the Bundanoon 'gullies'. By May 1903 the Joseph's sawmill had been re-located just behind the top edge of the Bundanoon gully, and a tramway was being commenced, intended to reach the river over a thousand feet below. The mill was appropriately named the River View Steam Sawmill.¹⁵

Like their father, the brothers were their own engineers, fitters, blacksmiths, sawyers, and workmen. By strenuous labour, they blasted and hewed and bored and hammered a passage down the beetling and forbidding face of the cliff. A way was cleared, and a start was made to construct a rough but strong wooden tramline. By late January 1904, 600 yards of line had reached a log landing, and it was proposed to extend the track a further 200 yards. To anyone not used to looking down from lofty heights, the gradient could be frightening. From the summit of the cliff to the temporary terminus there was a fall of 800 feet. When the intended extension to 800 yards was made the total perpendicular descent would be 1100 feet. The average gradient was reckoned to be 1 in 2½. The first 180 yards fell 450 feet. Looking down the track it seemed as if a little more tilting would make it perpendicular, the first 120 yards of track was out of sight owing to the sensational dip.

Sawn Timber.

EQUAL to Northern "Hardwood." Delivered on trucks at Bundanoon. Consisting of Yellow Box, Mahogany, Stringy Bark, and Turpentine. Bridge timber a speciality.

**J. TOOTH,
Saw Mills,
Bundanoon**

J. Tooth advertisement – Cootamundra Herald 9 Jan 1904

Altogether eight months of hard graft went into this preliminary work. Constructing the first 200 yards of line took the brothers four months, with the remaining 400 yards being completed in only 12 days as the gradient lessened and it could be laid directly on the ground. The steepest gradient was a terrifying one foot in just 16 inches. The steepest section, covering 180 yards, was raised on pile trestles, some of the stout 59 piles being 50 feet long. After labouring for five months, the brothers were congratulating themselves on its completion, when a flood swept down the gully and caused significant damage. Without regrets, and in no way daunted, they resumed work, and after 15 months of incessant toil they saw its completion.

The motive power, used also for driving the circular saw, was a 14 hp engine fitted with suitable winding gear. On the

[‡] The local use of the word 'gullies' to describe the spectacular gorge and its side creeks was queried by some tourists who couldn't understand why the local people were 'down-playing' their wonderful scenery.

drum was 800 yards of wire rope, the heavier section of it for taking the strain up the final steep incline, had a breaking strain of 21 tons, and the lighter portion, where the load was less owing to the easier gradients, a breaking strain of 6½ tons. The truck ran on four flanged wheels on timber rails. The sight of the wagon, standing almost literally on end, and disappearing over the crown of the dip, was enough to give one the shivers. The rope ran over grooved wheels mostly but in mounting the precipice it had to be kept down by running underneath an overhead pulley. Were it not for that the rope, which when strained would rise from 350 ft to 400 ft above the track. The same steam pressure required to drive a 4 ft diameter circular saw was sufficient to haul up a log containing 1000 ft of timber. When the truck was being sent down empty, inertia took it to the landing in two minutes indicating a speed of over 17 mph. The return journey with a load occupied about 10 or 11 minutes.

Owing to the lie of the land in the valley, it was only necessary in working on the hillside, to fall a tree, dismember its branches, strip off the bark, and give it a push, whence it would shoot away by gravity down to the track in the bottom of the gully. As at February 1904, only timber on the Bundanoon side of the valley was being harvested. To retrieve timber from the far side of the valley would require a cable suspension arrangement to cross a lower gully c.200 ft deep. Twelve bullocks were necessary to pull the logs up to the landing stage, where they were placed on the trolley, and hauled up the incline.¹⁶

In early January 1905, bushfires that had started on New Year's Eve swept through parts of Bundanoon and the surrounding forest. Seven houses and a church were lost. At the River View sawmill Joseph lost about £40 worth of sawn timber and had a great battle to save his mill. The log landing in the gully was destroyed with all the gear. It was said that he worked from 6.30 am on Saturday till 7.30 pm on Sunday fighting the fire at the mill. The flames came through the bush above the tree tops, and the mill was surrounded. Fortunately,

there was plenty of water and the mill was saved, though the fire ran through it, accounting for the loss of timber. According to the reporter, Joseph periodically plunged into a water tank to cool off.¹⁷

The mill must have been operating again by early March, when Joseph advertised for a "good, all-round Man, sawmill, spot, tailout; no duffers need apply".¹⁸ Later in the same month he was advertising in Goulburn and elsewhere that he had Yellow Box, Mahogany, String Bark and Turpentine hardwood available. His specialty was said to be Turpentine bridge timbers and piles.¹⁹ Also in June 1905, Joseph was enquiring in Sydney for 650ft of 5½in diameter plough steel rope, second hand but must be good!²⁰ Was it for replacement of a section of his incline rope, an extension of same, or for logging purposes along the valley? Later, in July Joseph is again wanting a good all-round man – maybe the earlier one had turned out to be a duffer! Three months later he is advertising for a good Tailer-out, 'one able to spot logs preferred'²¹ The largest log ever hauled up the incline tram was one containing 1400 super feet.

In early November 1905, the Railways' Goulburn branch of the Ambulance Corp travelled to Bundanoon for their annual picnic and Joseph Tooth was one of the local Bundanoonites who assisted the picnickers' arrangements around the 'gullies'. The picnic was held close to the old Erith coal mine, the decaying remains of which the party inspected.²² In March 1906, Tooth is advertising for six or eight good draught horses and two drays; also for 25 sleeper cutters to work a 'good fall of timber, long job'.²³ Cutting sleepers in the Bundanoon gorge could be dangerous work – one injured cutter had to spend the night in the gullies before eight men were able to carry him out the next day.

During April 1907 Joseph dismantled his sawmill plant at Bundanoon, and re-erected it out at Nandi.²⁴ Joseph's departure was a loss for the Bundanoon Progress and Tourist Association, of whose committee he was a member. Given the location of his sawmill he would be of some value to the association given that they were trying to publicise the

Joseph Tooth's 'River View' sawmill, c.1906. The mill was at this location for about four years, during which it was nearly burnt in the bushfires of January 1905. This was a favourite lookout spot for visiting tourists, being within walking distance of the Bundanoon station and village. Note the log tramway on right, about to head over the edge of the gorge, to the forest a thousand feet below. Photo: courtesy Bundanoon History Group





Going over the top at Joseph Tooth's River View sawmill, undated. Not something for the faint-hearted, by all accounts! Judging by the burnt stumps visible, it may be a year or so after the 1905 bushfires. It is suggested that the River View sawmill was adjacent to the lookout that now bears the same name. Absolute confirmation is pending. Gauge unknown but 3ft 6in seems quite likely. Photo: courtesy of Grahame Tooth, Bundanoon History Group collection

'gullies' and attract tourists. A couple of years later he was in a partnership, Tooth & Murray[†], trading as Nandi Sawmills, at a locality known as The Cross Roads, about six miles north-west of Bundanoon.²⁵ One suspects the bushfires had taken out much of the timber he was planning to mill.

An Aerial Ropeway

While talking of wire ropes, another deserves mention. On top of the rocky plateaux an aptly named "View Point" looked out at a wire rope, 2280 ft long which was suspended across the valley from cliff to cliff, 900 ft above the creek below. Its purpose was to haul timber from the far side of the valley to the Bundanoon side where it could be more profitably sent off to market. A number of newspaper reports refer to it as Tooth's Wire Rope and worth visiting if one is a tourist. Was Samuel Tooth, having failed in his 1885 incline tramway, obtaining logs from over a side gorge for his sawmill?²⁶ If one measures 2280 ft (760 yards) from View Point, one can only reach across Coal Creek, a side creek where the Erith Colliery had been, to the next plateau on the same side of the gorge. The author would be most appreciative of any further knowledge of any of the interesting tramway operations around Bundanoon. (and so would I – Editor!)

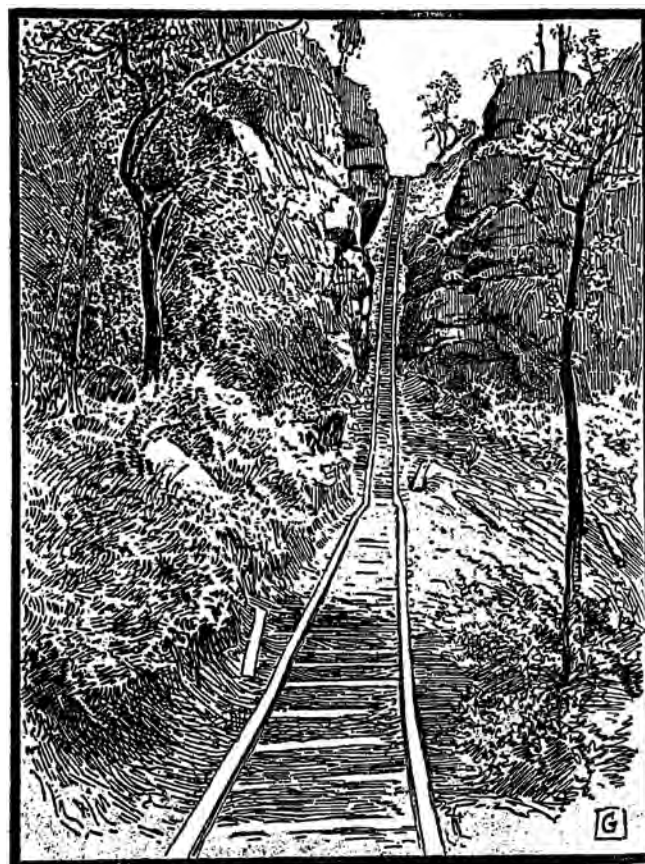
Acknowledgements

Willing help from Garry Allen and Beryl Seckington of the Bundanoon History Group is acknowledged and appreciated. Additional Trove research by Phil Rickard.

[†] Joseph Tooth, fifth son of Samuel Tooth, married Eleanor Murray, eldest daughter of James Murray, in 1910.

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A view up part of the awe-inspiring incline built by Joseph and Edward Tooth in 1903. This engraving was prepared from a photograph – I wonder where that is today? *The World's News*, Sydney. 30 September 1905.

Longworths' (Laurieton) Limited, Kendall, NSW

Standard gauge logging railways in Australia were next to none, the nature of the forest being logged generally militating against it. There were none of the dense packed moist forests so often found in North America – Western Australia's south-west being the only place where such operations might have succeeded. Yet, even in W.A. there was a key consideration – the state railway system was 3ft 6in gauge and offered a ready and inexpensive supply of second-hand locomotives suitable for the task, so why go to a wider gauge and face the extra expense? The medium gauge of 3ft 6in did all that was required. In the forests of the east coast's moist regions, again, medium railway gauges sufficed, with 3ft and 3ft 6in predominating, though 2ft 6in and even 2ft were used. Broader gauges were often used in the early years, around 1860, but were soon superseded by medium gauges for reasons of economy. Here and there, broader gauges were used but they were in a minority. One such operation was that of Longworths' (Laurieton) Limited, operating in the valley of the Camden Haven River on the NSW mid-north coast, near Port Macquarie. In hindsight one can see no reason why one of the medium gauges would not have sufficed. There were none of the giant sequoia (Redwood) or Douglas fir (Oregon) of the Pacific north-west coast, requiring substantial transport

infrastructure. Our photographs make this clear. The diameter of log being harvested is such that the use of standard gauge, with all its associated higher costs seems rather extravagant and over-engineered.

Construction of Longworths' tramway started pre-Great War, from Kendall, on the lower Camden Haven River and eventually extended for about 16km westward into the timber country. Its sole motive power was a class B Climax geared loco, from the Climax Manufacturing Co., Corry, Pennsylvania, USA b/n. 1375/1916. It weighed in at 25 tons, the same as the 2ft 6in-gauge Climax for the Forests Commission of Victoria! Part of Longworths' tramway originally had timber rails but these and later extensions were all re-laid or laid with steel rails. In our below picture the loco has arrived at a log dump on a newly-laid stretch of track. A large stockpile of logs, brought in by bullock teams, awaits collection. The large image, opposite, (a pair to that on the back cover of LR133) shows the train returning to the mill, crossing a newly-constructed bridge presumably on the same new tramway extension. Note the water-lifting hose adorning the loco's front and the hungry boards extending the bunker's fuel capacity. Could the gent on the right be either Robert or John Longworth himself? The loco ran until the start of the Depression, was stored for four years and then in 1933, fell through a bridge on its first journey, resulting in closure of the line. Readers may wish to consult LRs 112 and 131 for fuller details of the line, with supplementary notes in LRs 133 (map), 218 and 227. *Notes: Phil Rickard*





This fine image is one of a pair taken at the same location, believed to be on a recently constructed section of tramway along the Cataract Creek valley, west of Kendall. The date is thought to have been 28 March 1922. One suspects they are part of a batch of publicity photographs for Longworths' (Laurieton) Limited. Readers can see the other image on the back cover of Light Railways No.133, July 1996, available for free at: media.lrrsa.org.au/kabo133/Light_Railways_133.pdf Photos: Mark Plummer colln, LRRSA archives



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 email: industrial@lrrsa.org.au

Special thanks to contributors to the *Sugar Cane Trains/Navvy Pics 2ft* Facebook page.

QUEENSLAND

RIO TINTO ALCAN, Weipa

(see LR 277 p.35)
 1435 mm gauge
 23 August 2022 – The Speno rail grinder and Downer EDI 2,260 kw/3030 hp Co-Co DE locomotive R1006 (08-1764 of 2009) were seen at the back of the workshops at Weipa. A tarpaulin over R1006 and its location suggest it is currently out of service. (This loco was involved in a collision in 2019 - Editor) The operational status of the rail grinder, an RR28E model possibly purchased originally by Mount Newman Mining for use in the Pilbara in the

1970's is unknown. Locomotive R1005 (08-1763 of 2009) of the same class as R1006, was at the head of the regular service between the grading facilities at Andoom and the load facility at Lorim Point with a 32 ore wagon set – each wagon has a 100 tonne capacity. The service runs 24 hours a day 7 days a week with a round trip taking about 75 minutes.

24 August 2022 – R1005 was observed propelling an out of gauge load, a Komatsu articulated truck with belly dump trailer, from Weipa back out to the Andoom mine with road traffic on the Weipa Mission Bridge halted during the move. Ore is moved from the mine to the sorting and rail load point at Andoom by these dump trucks via dedicated haul roads. David Price 8/22

FAR NORTHERN MILLING PTY LTD, Mossman Mill

(see LR 286 p.32)
 610 mm gauge
 Com-Eng 0-6-0DH *Faughy* (AL4190 of 1965) was working without its multi-unit partner Com-Eng 0-6-0DH *Douglas* (AL2562 of 1963) on 27 August. William Thomson 8/22

MSF SUGAR LTD, Mulgrave Mill

(see LR 286 p.32)
 610 mm gauge
 These days, the Little Mulgrave line terminates at a road/rail interchange between Peets bridge and Ross & Locke with the line beyond seeming to be largely intact. The short branch across Peets bridge is also closed. Com-Eng 0-6-0DH 8 *Charringa* (A1926 of 1958) was seen working the line on 21 August and Com-Eng 0-6-0DH 9 *Meerawa* (FC3473 of 1964) on 10 September. Clyde 0-6-0DH 18 *Barron* (64-379 of 1964) was seen working out of the Redlynch Depot on

15 September. By 24 September, it had been replaced by Clyde 0-6-0DH 13 *Hambledon* (64-316 of 1964). Walkers B-B DH locos 20 *Mulgrave* (612 of 1969) and 21 *Gordonvale* (595 of 1968) have had their names applied to the cab sides in fluorescent yellow on a black background. This year, the former has been seen paired up with *Hambledon* Mill 6 wheeled brake wagon 11 (built in 1990 using frame of Baguley Drewry 2514) and the latter with EM Baldwin 6 wheeled brake wagon BV13 (7065.4 6.77 of 1977). As well, Clyde 0-6-0DH 19 *Redlynch* (65-435 of 1965) and Clyde 6 wheeled brake wagon 18 (CQ132 of 1965) have been seen working together. Luke Horniblow 8/22; Clinton Lancaster 8/22; Anthony McIlwain 9/22; William Thomson 9/22; Danny Nolan 10/22; Mick Brown 10/22

MSF SUGAR LTD, South Johnstone Mill

(see LR 287 p.32)
 610 mm gauge
 EM Baldwin B-B DH 25 (6470.1 1.76 of 1976) was repainted this year and has retained its yellow livery rather than being painted in the green and yellow Mulgrave Mill livery that South Johnstone's rebuilt locos carry. A road vehicle collided with a cane train at Gundah Singh Road, Moresby on 20 August. The vehicle caught alight and the occupant sustained significant burns to his legs and feet. A rescue working took place at South Johnstone on 21 September when Com-Eng 0-6-0DH multi-unit locos 38 (AH4695 of 1965) and 39 (AH4688 of 1965) failed on the uphill grade north of the township. EM Baldwin B-B DH 32 *Liverpool* (10385.1 8.82 of 1982) was dispatched to assist and resulted in the three locos heading the load back to the mill. Clyde 0-6-0DH multi-unit locos 2 (55-56 of 1955) and 3 (56-90 of 1956) were seen back working together at Moresby on 13



Rio Tinto Alcan Downer EDI Co-Co DE R1005 (08-1763 of 2009) propels an out of gauge load over the Weipa Mission bridge on 24 August. Photo: David Price



On 23 September, Tully Mill Walkers B-B DH locos 8 (606 of 1969) and 6 (653 of 1970) combined to haul a large load of fulls over the range section south of El Arish with 6 cut in seventeen units from the front. Photo: James Chuang

October. Com-Eng 0-6-0DH multi-unit locos 1 (A1821 of 1957) and 10 (A2027 of 1958) were working the Silkwood area late in September. Ex South Johnstone Mill Drewry Baguley 0-6-ODM 15 (2520 of 1954) was noted to be still on display at Mourilyan on 8 October.

William Thomson 7/22, 9/22; Luke Hornblow 7/22, 9/22; Cairns Post 20/8/2022; James Chuang 9/22; Kel Ryan 10/22; Doug Witteveen 10/22

TULLY SUGAR LTD

(see LR 287 p.32)

610 mm gauge

Work on the rebuild of Walkers B-B DH (586 of 1968) has continued and by 21 August, the hood had been removed and motor and transmission installed. On 23 September, Walkers B-B DH locos 8 (606 of 1969) and 6 (653 of 1970) combined to work a large load of fulls over the range section south of El Arish. 8 was at the front with 6 cut in seventeen units back.

Luke Hornblow 8/21; James Chuang 9/22

WILMAR SUGAR (HERBERT) PTY LTD,

Herbert River Mills

(see LR 287 p.33)

610 mm gauge

Victoria Mill's Clyde 0-6-0DH Perth (69-682 of 1969) was still on loan to Macknade Mill on 22 October. Following damage to EM Baldwin 0-6-0DH 14 (6/2490.1 7.68 of 1968) in a derailment on 26 August, EM Baldwin B-B DH Townsville II (6400.2 4.76 of 1976) saw some use on the Victoria Mill sugar train. On 8 September, it was

replaced by EM Baldwin B-B DH Darwin (6171.1 9.75 of 1975) and Com-Eng 4 wheeled brake wagon VRA 1 (PA101 of 1967) on loan from Macknade Mill. EM Baldwin 0-6-0DH 14 and Clyde 6 wheeled brake wagon VRA 5 (CQ3477-1 of 1976) were transferred from Victoria Mill to Macknade Mill overnight of 20/21 September and have since settled in on the Macknade sugar train. Assembly of the new Wilmar B-B DH loco has continued at the Macknade Mill loco shed. The bogies arrived on 2 September and were trialed under the loco then removed.

Brisbane plates had been fitted by early October. The frame was built by Bundaberg Walkers at Bundaberg, the hood and cab by the Wilmar Pioneer Mill workshop and the gearboxes by David Brown Santasalo at Mackay. The bogies were built by Wulguru Steel at Townsville with this including the fitting of the final drive gearboxes. It has a Mercedes V8 motor and an Allison transmission. The new bogie brake wagon for this loco arrived from Victoria Mill on 28 September and has the identity VRA 19. It was manufactured at Proserpine Mill using an ex Queensland Railways wagon, possibly a molasses tanker, and fitted out at Victoria. Dismantling of EM Baldwin B-B DH Rynne (5423.1 9.74 of 1974) commenced at the Victoria Mill loco shed around 1 September. By mid-October, it had been stripped to the frame which had been shortened and will form the basis of a new brake wagon.

Editor 8/22, 9/22, 10/22; Townsville Bulletin 26/8/2022

WILMAR SUGAR (INVICTA) PTY LTD,

Invicta Mill, Giru

(see LR 287 p.33)

610 mm gauge

On 6 October, Walkers B-B DH Jarvisfield (647 of 1970) collided with a haulout truck on the Airdale line alongside the Ayr to Dalbeg Road. Wilmar Sugar Australia 10/22; Luke Hornblow 10/22

WILMAR SUGAR PTY LTD, Inkerman Mill, Home Hill

(see LR 284 p.41)

610 mm gauge

Cane from south of Mt. Inkerman was being road hauled to Airdale Loop by semi trailer tippers on 7 September. From Airdale Loop, it is rail hauled to one of the mills on the north side of the Burdekin River.

Gary Lewis 9/22

MACKAY SUGAR LTD, Mackay mills

(see LR 287 p.34)

610 mm gauge

Com-Eng 0-6-0DH Eton (FB3170 of 1963) was seen with a ballast train in the Devareaux area in early September. A Racecourse Mill cane train derailed at the intersection of Cowleys Road and Schmidtkes Road on 12 September. On 22 September, an over length test train was trialed on Farleigh Mill's North Coast line. It consisted of Walkers B-B DH Ceders (693 of 1972) at the front followed by 132 x 6 tonne bins, Walkers B-B DH Dulverton (690 of 1972),



Above: Walkers B-B DH locos Cedars (693 of 1972) and Dulverton (690 of 1972) run an over size distributed power test train on Farleigh Mill's North Coast line on 22 September. Photo: Steven Jesser

Below: EM Baldwin B-B DH Norham (5383.1 7.74 of 1974) crosses Plantation Creek in Kalamia Mill's Jarvisfield area on 31 July. Photo: Mark Carter



88 x 6 tonne bins and Mackay Sugar bogie brake wagon BVAN04 (built in 1998) at the rear. The front fifty-five bins were cut off and left in Ossa 1 siding about ten kilometres from the mill. An ex Queensland Railways turntable from Kungurri is stored at Marian Mill. Also sighted at Marian Mill in mid September was EM Baldwin 4wDH 57 *Little Baldwin* (5/774.1 2.64 of 1964).

James Chuang 9/22; Steven Jesser 9/22; *The Courier Mail* 12/9/2022; TidesinSalonika Mark 9/22

WILMAR SUGAR (PLANE CREEK) PTY LTD, Plane Creek Mill, Sarina

(see LR 287 p.34)

610 mm gauge

Com-Eng 0-6-ODH D4 (FA1037 of 1960) is mainly used to shuttle bins back and forth between the mill and the Shannons Flat yard.

Lachlan Saxton-Riley 10/22; Jonathon Tait 10/22

ISIS CENTRAL SUGAR MILL CO LTD

(see LR 286 p.36)

610 mm gauge

The Wallaville line sustained washouts during this year's wet season and cane was being road hauled to the mill at the start of the crushing season. By September, things were back to normal and Walkers B-B DH 1 (602 of 1969) was observed working the Wallaville truck dump at Duingal on 18 and 20 September. Maryborough area cane continues to be road hauled to the transloader at Childers and the dump pad at the mill. EM Baldwin B-B DH 11 (10130.1 6.82 of 1982) did a working to the transloader on 20 September. The Childers Festival was celebrated during the week ending 30 July. Walkers B-B DH 4 (656 of 1970) with a rake of full bins was on display and available for public inspection at an unknown location.

Luke Hornblow 9/22; Gary Kemp 9/22; Brian Bouchardt 8/22, 9/22; Isis Central Sugar Mill Co Ltd 7/22

MSF SUGAR LTD, Maryborough Mill

(see LR 287 p.34)

1067 mm gauge

Purchase of this mill by Advanced Energy Group has been finalised and the recommissioning process has started to prepare the factory for reopening in 2023.

The Courier Mail 16/9/2022

MARTINUS RAIL PTY LTD, Queensland

(see LR 287 p.35)

1067 mm gauge

On 28 September, GM Canada A1A-A1A DE MR-0104 (A2221 of 1967 rebuilt Clyde 80-944R of 1980) was seen on road transport between Murrurundi and Wingen on its way back to New Zealand.

Phil Harrison 9/22; Trent Burt 9/22

NEW SOUTH WALES

SOUTH MAITLAND RAILWAYS PTY LTD,

East Greta Junction

(see LR 281 p.39)

1435 mm gauge

Aurizon purchased the remaining assets of this railway on 2 March giving it access to the sidings at East Greta and ownership of the mainline from East Greta Junction to the location of the former Bellbird Junction.

Motive Power September 2022

OVERSEAS

FIJI REPORT

September 18-28 2022

Fiji Sugar Corporation, Lautoka Mill, Viti Levu

(see LR 287 p.35)

610 mm gauge

This mill operates a main line stretching from Batiri about 83 kilometres south of the mill to the Ba River about 45 kilometres to the north. Loco depots are at the mill and at Navo, just south

of Nadi on the southern line. Less than 10% of cane is delivered to the mill by rail. Most cane comes hand cut on cane trucks but there are also upwards of 60 billet cane bins most of which carry sponsorship branding from the European Union.

Beyond the 2019 arrival of the two Com-Eng diesels from Bingera Mill, Queensland, several changes in the locomotive roster have been made since 2016. Clyde 0-6-ODH 11 (65-432 of 1965) was burnt out when it caught fire on 6 October 2019 and was subsequently transferred to Labasa Mill. Rarawai number Clyde 0-6-ODH 9 (64-378 of 1964) was transferred in to replace it and is now Lautoka 110. Clyde 0-6-ODH 21 (57-159 of 1957) was transferred to Labasa in about 2019. EM Baldwin 0-6-ODH 113 *Chilli* (9442.1 4.81 of 1981 rebuilt Ontrak 2435-1 of 2009) was transferred to Rarawai in 2020.

It is understood that there are usually three Lautoka Mill locomotives stationed at Navo but ComEng 0-6-ODH 119 (AJ2359 of 1962) was hit by an express bus on the Queens Highway on 11 September at the road crossing between the depot and the main line. It suffered a bent axle and was taken to the mill for repairs. This left two locomotives working out of Navo, Com-Eng 0-6-ODH 118 *Dunethin* (A1922 of 1958) and EM Baldwin 0 6 ODH 195 (3406.1 7.70 of 1970).

Three main line locomotives were working out of the mill. 110 and Hunslet 6wDH 198 (9273 of 1987) were seen working between the mill and Navo. It is understood that Clyde 0-6-ODH 199 (57-140 of 1957 rebuilt Ontrak 2435-3 of 2012) usually works to the north. 199 has what looks to be a running plate sand box from one of the Com-Eng locos mounted on its front buffer. The full yard shunter at the mill is Diema 4wDH 15 (5172 1991) while the empty yard shunter is an unnumbered Simplex U Series believed to be the former 14 (Simplex Mechanical Handling 4wDH 122U136 of 1973).

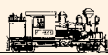
Two locomotives were in the shed at the mill with their engines removed for repair. They were Clyde

TRAMWAYS, COCONUTS AND PHOSPHATE

A HISTORY OF THE TRAMWAYS OF
OCEAN ISLAND AND NAURU



DAVID JEHAN



Light Railway Research Society of Australia Inc.
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0-6-0DH 112 (65-431 of 1965) and EM Baldwin 0-6-0DH 116 (6/1257.1 7.65 of 1965). Also out of use in the shed was Simplex Mechanical Handling 4wDH 13 (122U135 of 1973) and a navy line car.

Line cars are stationed at Lomawai and Navo. The Navo line car is numbered 122. The Lomowai line car was transferred from Natova. A shipping container has been provided as a new line car shed at Lomawai. The 1975 Clyde line car was noted in the shed at Natova but it is currently inoperable.

It appears that the following locomotives that were noted out of use or dismantled in 2016 were disposed of in a scrap drive in 2019.

9	0-6-0DH	Clyde	64-380	1964
14	0-6-0DH	Clyde	68-655	1968
15	<i>Oscar</i>	0-6-0DH	Clyde 56-91	1956
			rebuilt Ontrak 2434-2	2009
16	0-6-0DH	EM Baldwin	5058.1 5.73	1973
22	0-6-0DH	Clyde	59-204	1959
15	4wDH	Simplex	MH122U156	1975

Fiji Sugar Corporation, Rarawai Mill, Viti Levu

This mill operates a main line to Tavua and onwards to Drumasi, about 40 kilometres away to the north-east. There are also a number of branch lines closer to the mill. The rail bridge crossing the Ba River behind the mill lost several spans when cut by floods at Easter 2018 and has not been reinstated so the rail line on the left bank of the river has been transferred to Lautoka Mill. No billet cane bins were noted and only a small percentage of cane comes by rail. It seems likely that this mill's rail system is in some risk of impending closure.

There is an out-depot at Tavua where the two locomotives are now usually stabled in the open. They are Hunslet 6wDH 22 (9274 of 1987) and Clyde 0-6-0DH 56 (56-89 of 1956).

At the mill, the operating main line locomotives were as follows:

8	0-6-0DH	Clyde	62-271	1962
			rebuilt Ontrak 2435-2	2011
23	0-6-0DH	Clyde	59 202	1959
			rebuilt Ontrak 2434-1	2008
28	0-6-0DH	Clyde	55-66	1955
60	0-6-0DH	Clyde	60-219	1960

The yard locos are:

9	0-6-0DH	Baguley-Drewry	3772	1983
			truck shop	
17	4wDH	EM Baldwin	5060.1 9.73	1973
			weighbridge	
24	0-6-0DH	Baguley-Drewry	3773	1983
			empty yard	

Number 9 arrived from the closed Penang Mill in 2017.

EM Baldwin 0-6-0DH 113 *Chilli* (9442.1 4.81 of 1981 rebuilt Ontrak 2435-1 2009) arrived from Lautoka in 2020 and is currently awaiting repairs. Clyde 0-6-0DH 10 (64 -384 of 1964) was stored without its engine outside the loco shed.

On 23 September, number 17, the weighbridge shunter, made a rare excursion outside the mill yard when it was noted delivering empties to the lvi branch.

There are no line cars currently based outside the mill. The one normally at Tavua was in the



Top: Labasa Mill's EM Baldwin 0-6-0DH 14 (4413.3 9.72 of 1972) poses for the photographer at Qawa on 19 September. Photo: John Browning **Centre:** Com-Eng 0-6-0DH 118 Dunethin (A1922 of 1958) sits on the main line at the Lautoka Mill empty yard on 24 September. Photo: John Browning **Above:** Full yard loco EM Baldwin 4wDH 17 (5060.1 9.73 of 1973) at Rarawai Mill on 27 September. Photo: John Browning



Clyde 0-6-ODH 60 (60-219 of 1960) at Rarawai Mill on 27 September. Photo: John Browning

truck shop awaiting a new engine. One was noted depowered in the full yard and another was being used as a shelter shed at the empty yard.

It appears that the following locomotives that were noted dismantled in 2016 were disposed of in a scrap drive in 2019.

3	0-6-ODH	Clyde	55-62	1955
6	0-6-ODH	Clyde	57-157	1957
7	0-6-ODH	Clyde	57-175	1958
18	6wDH	Hunslet	9285	1987
20	6wDH	Hunslet	9087	1982

It is reported that Clyde 0-6-ODH 27 (56-113 of 1956) was sold for scrap earlier in 2022.

Fiji Sugar Corporation, Penang Mill, Viti Levu

This mill last operated in the 2015 season and was seriously damaged by a cyclone in 2016. Permanent closure was announced in 2017. At the mill, lines of cane trucks lie abandoned in overgrown sidings and the only other remains of

rolling stock seen were two damaged cabs left behind when the locomotives to which they had been attached were removed for scrap. The cabs are from Diema 4wDH 25 (5170 of 1991) and Baguley 0-6-ODM 8 (2727 of 1964). There was no sign of Hudswell Clarke 0-6-0 1658 of 1935, which was previously plinthed in the mill yard.

Fiji Sugar Corporation, Labasa Mill, Vanua Levu

This mill is a stronghold of the Clyde Model DHI-71 0-6-ODH. Most of the remaining cane coming by rail is from the Wainikoro area which lies about 50 kilometres to the north-east. A small number of billet cane bins were noted in use. Since 2016, Clyde 0-6-ODH 17 (DHI.6 of 1954) has been taken out of use for reasons unknown. Meanwhile, after being burnt out in an accident in October 2019, Lautoka Clyde 0-6-ODH Model HG3R 11 (65-432 of 1965) was transferred to Labasa. Subsequently the cab of Lautoka 11 was placed on the frame of 17, which lies disused

outside the loco shed. The cab off number 17 has been placed on the frame of Lautoka 11 which was noted in the shed. It appears that it is intended to rebuild this as the new number 17. Part of the radiator cowling and hood top of Lautoka 11 has been fitted to the empty yard shunter, EM Baldwin 4wDH 5 (one of EM Baldwin 3229.1 to 3229.6 of 1969-70).

Main line locomotives noted in use in September 2022 were as follows:

8	0-6-ODH Clyde	DHI.8	1955
9	0-6-ODH Clyde	62-270	1962
10	0-6-ODH Clyde	57-159	1957
14	0-6-ODH EM Baldwin	4413.3 9.72	1972
16	Damo 0-6-ODH Clyde	65-441	1965
	rebuilt IBS		2013
18	0-6-ODH Clyde	58-191	1958
21	0-6-ODH Clyde	64-385	1964

Number 10 was transferred from Lautoka Mill, where it was number 21, in about 2019.

Clyde 0-6-ODH 11 (64-319 of 1964) was in the shed but was hauling cane in early October. Clyde 0-6-ODH 10 (64-320 of 1964) and EM Baldwin 0-6-ODH 12 (5995.1 1.76 of 1976) are dismantled in the yard.

The weighbridge shunter is EM Baldwin 4wDH 4 (also one of 3229.1 to 3229.6 of 1969-70).

Of the three diesel line cars used by the navvies, only the one stationed at Nagigi was in use. The other two, at Waigele and Wainikoro, were awaiting repairs.

John Browning 10/22

As mentioned on page 31, a bus rolled onto its side when it collided with Lautoka Mill 119 on the Queens Highway at Navo on 11 September. The FSC chief executive officer stated in August that the miller's financial position "is in a critical situation". The way forward appears to be capital investment in the mills and increased cane production.

The Sun 12/9/2022; *The Fiji Times* 20/8/2022, 12/9/2022; FBC News 11/9/2022



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Field Reports

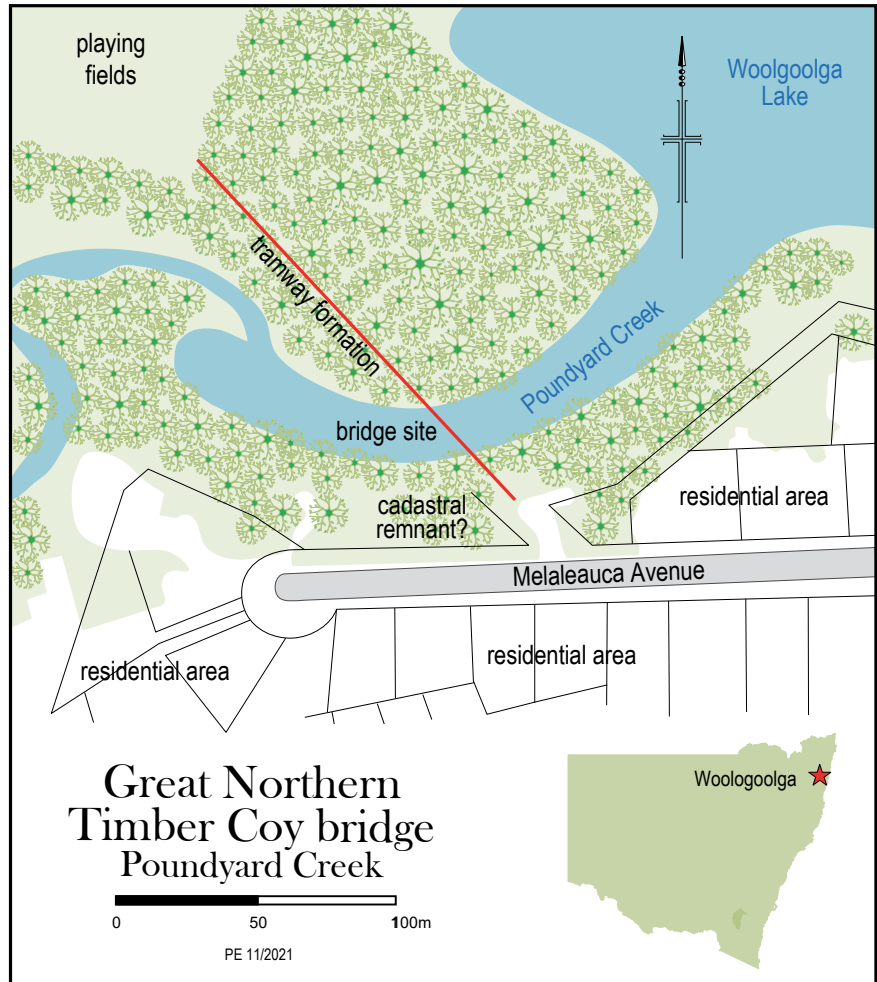
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Great Northern Timber Company Bridge site, Woolgoolga, NSW Gauge 1067 mm Ian Barnes reports

Ian McNeill's description of former timber tramways at Woolgoolga, NSW (LR 242, April 2015, page 8) has a map showing the route northward of the Great Northern Timber Company line crossing three creeks soon after leaving the sawmill. In September 2021 a kayak-based investigation attempted to find evidence of the three crossings.

The first crossing, Jarrett Creek, could not be physically accessed and the second crossing, Woolgoolga Creek, did not reveal any evidence of a tramway crossing. However, the third crossing, of Poundyard Creek still has remains of the timber bridge and associated earthworks. The most striking evidence is the timber pile and iron-spiked stringer remains and earthworks at both abutments.

The tops of the bridge stringers appear to have been adzed flat and sleepers iron-spiked directly to the stringers. At the southern creek



bank is a solitary bridge pile and a shallow box cut approach. Coincidentally, the cadastre just north of nearby Melaleuca Avenue indicates the remnant of a possible tramway easement aligning well with the bridge site. On the northern bank the formation is evident as it is raised above the ground level by approximately

600 mm from the bridge abutment for a length of approximately 100 metres north-west before its loss to more recently constructed sporting fields. The timber abutment at the creek edge is still very evident. Adjacent, there are two stringers present and two bridge piles. No other field evidence was detected.



At the southern bank of Poundyard Creek is a solitary bridge pile and a shallow box cut approach. Photo: Ian Barnes



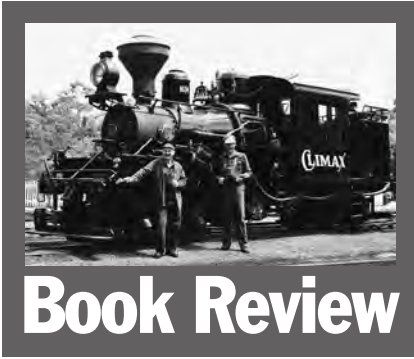
*At the northern bank of Poundyard Creek are more substantial abutment remains.
Photo: Ian Barnes*



*Bridge stringers in Poundyard Creek.
Photo: Ian Barnes*



*Iron spike in a bridge stringer.
Photo: Ian Barnes*



Book Review

Wooden Rails & Green Gold

A century of timber and transport along the Yarra Track

by *Peter Evans*

Published September 2022 by LRRSA. Hard cover, 288 pages on art paper, A4 size, 335 photographs, 54 maps and diagrams, glossary, bibliography, references, and index. Available from LRRSA online bookshop - \$77.00 plus postage (\$57.75 for LRRSA members).

The Yarra Track was the name given to the road built in the early 1860s to connect Woods Point to Melbourne, via Healesville. Woods Point is 114 km from Healesville and at the time of its construction the road was a major and expensive project of the Victorian government. Woods Point was a newly established gold mining town which appeared to have a bright future and construction of the Track was considered urgent to encourage gold seekers to stay in Victoria rather than go to the newly discovered gold fields in New Zealand.

Access to Woods Point was difficult and circuitous, via pack-horse tracks from Jamieson to the north, or Sale to the south-east. Gold mining machinery needed to be made in small sections which could be carried by pack-horse.

Known as 'The Great Mountain Road' during its construction, the Yarra Track followed a ridge reaching elevations of over 1100 metres. Chapter 2 of the book sets the scene by giving an excellent description of the difficulties finding a route for the Track, its construction, and the various little settlements along the way. It includes many historic photographs, detailed maps, and fascinating stories of the people who ran the staging points along the way. Most of these settlements have long since gone, but a few developed into towns, like Narbethong, Buxton, and Marysville.

Woods Point did not develop into the big gold mining town that was expected, but it has survived as a small, very remote, town serving a few gold mines.

The Yarra Track ran through country which contained some of the best timber in Victoria – the 'Green Gold' of the title.

It included the tallest hardwoods in the world – many over 110 metres. When the Healesville railway opened in 1888 it was expected it would be carrying large quantities of timber from this area. Chapter 3 gives a description and maps of a number of Victorian Railways (VR) alternative routes for 2 ft 6 in and 5 ft 3 in gauge extensions of the Healesville railway to Narbethong, which were intended to give access to this timber. But it did not happen! In 1891 the Melbourne & Metropolitan Board of Works (MMBW) developed the Watts River scheme north of Healesville to provide water to Melbourne. To maintain the quality of the water the MMBW had a large part of the forest protected from any form of development, including logging. The southern part of the Yarra Track ran through this protected forest. To discourage traffic, the MMBW did minimal maintenance and no improvements on the Track, which included a 1 in 6 gradient at the Black Spur.

A consistent theme running through this book is the ongoing conflict between the timber industry and the MMBW. This included conflicts between the MMBW and the Forests Commission of Victoria (FCV), both of which were state government organisations. Never mind which one was right, this book shows the MMBW almost always won – they could easily get the public opinion of Melbourne's population on their side.

Those wishing to log the timber outside the protected area still had to get it to Healesville station. To achieve this a private 3 ft gauge steam tramway was proposed, but the MMBW would not allow a private tramway. They would allow a government railway, but the government was not interested in this. As a result, the timber industry developed with many isolated logging tramways, sawn timber being carried by road over the inadequate Yarra Track. Most of the tramways were wooden railed and horse-hauled, but there were also many incline haulages.

Almost all the sawmills in the area served by the Yarra Track are described in the book, from Healesville in the south, to Narbethong and Buxton in the north, and Matlock and Woods Point in the east. These descriptions are augmented by detailed maps and many photographs. There are many interesting insights into the working and living conditions at the isolated mills and the innovative solutions to operational problems. Amongst these innovations recorded in the book, was the gradual change from the use of tramways and winches to bulldozers in logging operations.

An alternative access point to timber in the eastern part of this area was Warburton, and a number of alternative tramway proposals running through difficult country north of Warburton are described. One of these was a VR survey for a 12 mile 5 ft 3 in

gauge tramway for the FCV. It would have had five-chain [110 m] radius curves, and an ex-VR W class Baldwin 4-6-0 was the intended motive power. Another ambitious proposal was a 22 mile extension north of Hermon's 3 ft gauge Big Pats Creek steam tramway. Neither of these went ahead, but in 1923 work did commence on a 3 ft gauge steel-railed tramway north of Warburton, but by 1925 construction had stopped. The MMBW was hostile to all these plans as it intended to expand its protected area.

The 1939 bushfires affected almost all the area covered by the book, and throughout the book there are descriptions of miraculous escapes, heroic rescues, and tragic loss of life. There are many vivid descriptions of the day the fires came to individual mills. Also described is the massive effort over many years to extract as much of the fire killed timber as possible whilst it was still of useable quality. Because of the shortage of petrol, tyres, and spare parts during World War II, a number of new logging tramways were built, most of which were wooden railed and horse-drawn.

This book includes a detailed and well-illustrated description of what was probably the last traditional logging tramway to be built and operated in Victoria. It was 8 km long, of 3 ft gauge, with mostly steel rails, with a Fordson-engined Day's six-wheel rail-tractor as the motive power. The tramway had been built in the 1940s and was last used in 1961. It connected with an incline which had a 1915 Mack truck to provide the haulage. The location was at Wilks Creek, near Marysville.

A separate chapter describes the activities of the FCV and includes an interesting account of a day in the life of a Forests Officer. This includes their training, living conditions, and the type of transport they used to visit the sawmills. Because of the terrain, usually this was a pony rather than a car. Also running through the book are accounts of both the conflict and co-operation which existed between the management of the FCV and the mill owners.

The author gathered information for this book over a period of 35 years. His sources include many interviews with people who worked in the forest including mill owners, timber mill workers, and FCV officers; extensive carefully recorded site investigations at remote locations; official files and reports; newspaper reports; books; journal articles; and historic maps.

The result of the use of such an extensive range of sources is amply demonstrated in this book. It is a wide-ranging social, economic, political, and technical history of a very interesting part of Australia. I believe it will be a standard work of reference for many decades to come.

Frank Stamford



LETTERS

Aerial photography resources

LRRSA members interested in mapping or using aerial photography to research tramway alignments etc may find the following of interest. There are 'Spatial Digital Twin' websites at the following locations:

Victoria - <https://vic.digitaltwin.terria.io/>
 NSW - <https://nsw.digitaltwin.terria.io/>
 Queensland - <https://qld.digitaltwin.terria.io/>

As well, the National Map at: <https://nationalmap.gov.au/>, while not a Spatial Digital Twin, does have the aerial imagery draped over digital elevation/terrain models to give a 3D view.

In other words, this is a bit like Google Earth in a web browser but using locally-based websites and data (local, state and federal government level). The three state sites include some buildings in 3D.

The Victorian site has more state government data available than the other two states.

John Cleverdon
 via email

Rail Motors of the Emu Bay Railway (LR 286)

I was fascinated by Les Morley's article "Rail Motors of the Emu Bay Railway" (LR 286). During my first year in Australia in 1963, spent teaching at Ulverstone High School on Tasmania's north-west coast, I made two memorable trips on the Emu Bay Railway (EBR). The first took me most of the way to Queenstown and was just a few weeks before the original (Mt Lyell) Queenstown to Strahan railway was closed. The second took me to Rosebery, along with a group of high school students to visit the mines. On both occasions, I travelled on the EBR's 'West Coaster'.

Of the photographs I took, three are relevant to Les Morley's article. The quality may not be the best, but they are taken from 35mm slides now almost sixty years' old and, as is the case much of the time on Tasmania's West Coast, the weather was not the best for photography.

The first photograph, taken on 20 May 1963, shows Rail Motor number M4 and two passenger coaches, all then no longer in use, in a siding at Guildford Junction. The Rail Motor operated from 1933 and it was written off and scrapped in January 1964.

The other photographs show two of the motor vehicles adapted for rail use mentioned by Les Morley. The first shows the 1938



Top: Rail Motor number M4 at Guildford Junction. **Centre:** 1938 Chevrolet Master sedan at Guildford Junction. **Above:** International Harvester station wagon H1 at Rosebery station. Photos: Peter Crabb

Chevrolet Master sedan at Guildford Junction on 4 September 1963, it was in use until 1968. The second is the International Harvester station wagon, number H1, at Rosebery Station on 2 September 1963. It is most likely the International Travelall model dating from 1959-60 (or the Model B series

dating from 1960-61). It operated from 1962 and was out of use by 1977. The vehicles were used by the Permanent Way Inspectors, though Lou Rae (page 294) also describes the Chevrolet as the 'Manager's vehicle'.

Driving the Murchison Highway in 2014 was nowhere near as interesting!

References

Nick Anchen (2016): *Locomotive Enginemen of Tasmania*. Sierra Publications, Melbourne.
Lou Rae (1997): *The Emu Bay Railway*. Second edition. Lou Rae, Hobart.
John Sargent (Editor) (2009): *Railways and Tramways on the West Coast of Tasmania*. Train Hobby Publications, Pinewood, Victoria.

Peter Crabb
via email

Stories from the Otways (LR287)

It was fascinating to read these stories, narrated by Nick Anchen, of characters he interviewed during his railway researches in the Otways. Readers would have noted that the photo of G41 departing Beech Forest on page 23 was said to have been taken on the same date (28 May 1958) as the photo on page 25, however such cannot be the case.

The electric headlamp and marker lights, seen on page 25, are absent on page 23 (not to mention the different weather conditions). According to Peter Medlin in his valuable book *Steam on the Two Foot Six* (P Medlin, 1992), both Garratts were fitted with electric lamps, front, back and cab, to facilitate a timetable change in mid-1958 when a 2.00 am departure from Colac was instituted. G41 was 'electrified' in early May 1958 making the date on page 23 incorrect as G41 is shown sans-electricity.

Phil Rickard
Ringwood, Vic.

Waroona – Lake Clifton Ghost Train

I painted the attached picture for the local agricultural show in Waroona, which is a small town 80 km south of Perth. The photo shows children going to Lake Clifton for a picnic on Anzac Day in the early 1920s. No occupational health and safety rules applied back then!

The painting is based on an old photo of a steam engine, now fully restored at the South West Rail and Heritage Centre in Boyanup. It is one of, or similar to, the type of locomotive used to haul lime from Lake Clifton to Waroona, and onward to the WA Portland Cement works at Burswood.

The Waroona to Lake Clifton Railway was built for the West Australian Portland Cement Company and completed in late 1920, however, the lime in question proved to be unsuitable and as a result, the project failed. The rail line was bought by the WA Government in August 1922 and closed on 31 December 1924, after which the railway line was dismantled and transported to Lake Grace for the Lake Grace to Newdegate line.

Early maps show how the railway line to Lake Clifton from Waroona largely followed the agricultural drains leading towards the Harvey River and then on to Lake Clifton.

Anthony Horn
Waroona, WA
via email

Industrial wagons at Collie, WA

I visited Collie in south-west WA earlier this month and came across some industrial railway wagons in a disused complex on Flora



Top: The painting by Andrew Horn of a steam engine on the Waroona to Lake Clifton Railway. **Centre:** Children going to Lake Clifton for a picnic on Anzac Day in the early 1920s. **Above:** One of the mysterious railway wagons photographed at Collie, WA, by David Whiteford.

Road (also known as Collie Scenic Drive) some distance from the town. I have no idea what industry was conducted – there is no identifying signage and I have never seen such wagons before. I am presuming they were used to convey product along a straight track, possibly through the sheds, though I

could not see any tracks. I wonder if any LR reader has any knowledge of this or has seen this type of wagon elsewhere. The attached photo was taken on 12 August 2022.

David Whiteford
via email

(Editor's Note: Thank you David. The editorial team have examined the photos and wonder whether they were associated with a brickworks? Collie, with a ready supply of coal, would seem to be an ideal place for brick making. Hopefully one of our readers can assist further.)

Black Sands from Yamba (LR 287)

I was delighted to read Ian McNeil's account (LR 287) of the 1939 Angourie crocodile incident on the Yamba beach sands tramway. In the 1970s, my wife's family lived in Grafton for several years and I became aware of the crocodile story. It was suggested that I visit the town's best-known local rail enthusiast, a retired dentist, Jock Lowe, to ask his recollections of the affair. I was given directions – go up the hill at South Grafton and look for the house with the railway signal in the front yard. He was amused by my questions and helpful to a degree, suggesting that it was all a practical joke. He suggested that I should talk to a certain Grafton publican who had a reputation as a practical joker. Unfortunately, I never contacted that publican so cannot add anything further to the account. However, the townspeople that I met during that time were equally split between true believers and sceptics on the existence of the mystery beast.

Ian Crellin
Flynn ACT
via email

Letters to the Editor (LR287)

In his letter to the Editor regarding various matters, Michael Gourlay asked whether there is a published history of the tramways used at the Cataract Dam construction site. An introductory 12 page article has been published titled "Dam Builders at the Close of Steam - Construction Railways of the Upper Nepean Dams: Cataract Dam", Longworth J, in the ARHS *Bulletin*, July 1993.

Jim Longworth
Via email

Rail Motors of the Emu Bay Railway (LR 286)

In his letter to the editor regarding the Rail Motors used on the EBR, James Shugg included a photo of a wye used to turn Garratt locomotives. I have some childhood memories of the wye. There was an engine shed at end of the wye where the locomotive for Zeehan smelters was stabled. About half of the Rosebery mine output was roasted to some extent at smelters - Garratts rarely visited Zeehan till about the mid-fifties. The engine shed had plank flooring and a pit - Dübs locomotives required a pit for oiling underneath - the engine shed burned down in about 1950 and the locomotives were then stored in the shed at the TGR station. The first trip of an ASG locomotive to Zeehan derailed on the wye and the Zeehan leg of the wye had to be rerouted.

As the ASGs were longer than the Beyer-Garratts, the driver of one of the ore trains, Paddy Devlin was a bit all or nothing and used to charge down the wye to the coal stage and slam the brake on. He misjudged it once and went out the back of the shed! In later years one of the cleaners, a big fellow, could not get underneath for cleaning and as the crew had gone home, he decided to move the engine and it too went out the back of the shed - I watched that one being jacked up and righted and a short while afterwards I was the resident cleaner myself. The larger EBR railmotors turned on the wye but earlier Cadillacs turned with their trailer on the TGR turntable. There was also a North-east Dundas rail turntable and I don't think the remains have been built over, so it could be dug up, perhaps.

Robert Morley
Light Railways of Australia Facebook post 21 October 2022

Rail Motors of the Emu Bay Railway (LR 286)

Further to the article by Les Morley in LR 286 regarding rail motors used on the EBR, I have some photos taken in 1965 in Tasmania. The photos show EBR 'M4' and another (probably TGR) RM converted into fishing shacks at Great Lake.

Ian Crellin
via email



The former EBR and TGR rail motors, converted to fishing shacks, at Great Lake, Tasmania, photographed by Ian Crellin in 1965.



OBITUARY

Dr John McCutchan

1931–2022

Long-term member of the LRRSA Dr John McCutchan passed away on 20 August 2022. John was formerly head of the Department of Electrical & Electronic Engineering at the University of Melbourne. John was born on 16 December 1931. He studied electrical engineering in the department following the Second World War and, following five years working in England, returned to be a lecturer in 1958, and had a life-long interest in industrial heritage of all kinds. As such, the LRRSA was often the beneficiary of John's knowledge and experience at the society's Melbourne meetings. In addition, John was an active participant in several LRRSA tours.

John applauded the LRRSA's commitment to social as well as technical history, writing that: 'I was pleased when the Society started to write about the lives of the people as well as the number of rivets on the left hand side of the boiler'.

John was a great lover of the natural environment and a dedicated family man, and published widely on electrical engineering. He was the acknowledged expert on Victoria's first significant hydro-electric scheme, completed in 1908 to supply energy to the Cassilis gold mine in Gippsland. (The remains of the plant are

now incorporated into the Victoria Falls Historic Area, managed by Parks Victoria).

When the Cassilis plant was dismantled in 1916 and taken to Magnet in Tasmania, John followed-up the trail, and amassed enough material for it to be transferred to Tasmanian Archives in Hobart as deposit number NGT 3503.

His collection of early electrical equipment forms the basis of the Electrical Engineering Education collection held by the Museum of Victoria (Scienceworks).

John, along with Max Brooke and Harold Conder, was instrumental in ensuring that the Chilean Mill from a battery at Wandiligong was added to the mining machinery collection at Sovereign Hill. This Chilean Mill, built circa 1859, represents the oldest surviving item of locally-



John and Raimonne McCutchan, around 2016/17. Photo: Jennifer Henry

patented Victorian mining machinery.

John was a committed member of Engineering Heritage Australia and served for a time on its executive.

John was married to Raimonne for 64 years. We have lost a passionate engineer, a committed environmentalist and a true gentleman. The LRRSA passes on its sincere condolences to John's children and grandchildren.

Just published by the LRRSA ...

Wooden Rails & Green Gold

A century of timber and transport along the Yarra Track

By Peter Evans — Published by the LRRSA

Hard cover, 288 pages on art paper, A4 size, 335 photographs, 54 maps and diagrams, glossary, bibliography, references, and index.

The Yarra Track crossed the Great Dividing Range in Victoria, from Healesville to the gold mining town of Woods Point. The first wheeled vehicle to reach Woods Point via the Track arrived on 1 November 1864.

The first chapters of *Wooden Rails & Green Gold* give a detailed history of all the small townships which developed along the Track. There were many of these, including Fernshaw, Marysville, and Matlock. Detailed maps and historic photographs help to bring these places to life.

Subsequent chapters describe the development of the timber industry in the area. A large number of timber tramways were built to bring the timber from the forest to the Yarra Track.

The book includes many exquisite maps. One of these shows the alternative surveys for narrow and broad-gauge extensions of the VR's Healesville railway to Narbethong. No Narbethong railway was built due to the desire to protect the water catchment. The book explores the conflict which existed between the protectors of the water catchment and the timber and tourist industries.

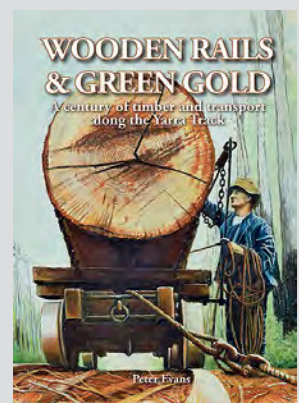
The book is based on 35 years of patient trawling through archives and newspapers, supported by interviews with many of the sawmill residents, and intensive field research at sawmills, mine and tramway sites. It describes what went on in these forests and the difficulties faced by those who lived and worked there.

Price \$77.00 (\$57.75 for LRRSA members).

All prices plus postage (\$18.40 within Australia).

Details and Online orders: <https://shop.lrrsa.org.au/>

Or by Mail: LRRSA Sales P.O. Box 21, Surrey Hills, Vic 3127.



LRRSA Burraga tour – September 2022

On Saturday 17 September 2022, an informal tour of the historic Burraga copper mine and firewood tramway was undertaken by a few LRRSA members and friends. The mine had closed back in 1919. Burraga is south of Bathurst in the Central West of NSW and is at an altitude of a little over 3000 feet. The day was brisk with a strong wind and an occasional shower.

The mine site was first inspected, with the remains of an incline tramway noted. The underground incline shaft once was serviced by double track 18-inch gauge tram lines.

The outstanding landmark of this locality is the tall brick chimney which is still in excellent condition as the bricks were cemented in place. Built to service the never used blast furnaces, an expensive mistake, the 160-foot high chimney has an internal ladderway of steel rungs set into the brickwork.

The hillside remains of the treatment mill were inspected where artefacts were lying about along with extensive brick and concrete foundations. Further north, the smelter site was indicated by an extensive slag dump complete with large slag 'skulls' scattered about beside the horse worked tramway along the crest of the dump. This was the location of the largest wood fired reverberatory furnace in the world.

After lunch, the party drove a few kilometres north along the Bathurst road to where the 3-foot gauge steel railed firewood tramway intersected the main road. From Burraga to this point the tramway traverse's private property. Two Shay locomotives

worked the line, bringing in firewood for the insatiable smelting furnaces. The Forestry Department have placed a sign post beside the road denoting the presence of the 'historic tramway'.

Unfortunately, the adjacent westerly

marking the crossing after which the tramway descended the western flank of the hill towards the distant terminus.

With the onset of showers, the group drove back to the historic Burraga Dam which dammed Thompson's Creek so to



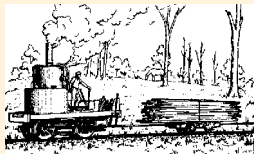
The tour group at the information board describing the European history of Burraga. Photo: Ross Mainwaring

hillside over which the tramway climbed on steep gradients has become overgrown with replanted pine trees, and with the activities of wild pigs and wombats the earthworks are now obscured in places. At the crest of the ridge beside the forestry road, another tramway sign was found

supply water to the mine's milling plant. The curved concrete wall was finished in 1901; after all the recent rain the spillway was overflowing nicely.

With the enjoyable day concluded, the group drove back to Oberon.

Ross Mainwaring



LRRSA NEWS MEETINGS

LRRSA members on line meetings

The LRRSA will be holding regular members meetings on line via Zoom conferencing on the dates below. Members wishing to "virtually" attend will need to pre-register by responding to an email inviting you to attend or via our website lrrsa.org.au. After registration, details of how to join the meeting will be provided to those that have registered.

December 2022 Members Zoom meeting

Date: Thursday 8 December 2022 at 8.00pm AEDT

Bob Gough will give a presentation on the last adventure of the steam locomotive *Bundy*. The story starts in 1997 at the Brisbane Model Train Show when the late George Hadley, a well-known person who worked at Moreton Central Mill Nambour,

was there and approached David Mewes and Bob Gough regarding helping with the Annual Sugar Cane Festival in Nambour. He asked if they would be willing to loan and operate the Bundy Fowler Locomotive No. 5 to demonstrate cane haulage on an hourly basis from Howard Street yard to the Nambour Mill hauling 45 or 50 6-ton bins of cane.

They both agreed and for one week each year from 1997 to 2000 they did the demonstration. The event was recorded in the film "Bundy's Last Great Adventure" and Bob will show excerpts and give a description of the annual train running in the main street of Nambour.

February 2023 members Zoom meeting

Date: Thursday 9 February 2023 at 8.00pm AEDT
John Dennis will be giving a presentation on the Stannary Hills tramway in Queensland. When tin was discovered west of the Atherton Tablelands in remote Far North Queensland, access to the mines was a significant problem. The 2 ft gauge Stannary Hills Tramway was constructed through spectacular countryside alongside Eureka Creek, servicing the mines, to a battery located alongside Walsh River. This tramway allowed the Irvinebank Co. to construct its own connecting line providing easy access for the mill and smelter to the

outside world. John's presentation will describe the history of these two tramways.

BRISBANE: "No Meeting"

At this stage it has been decided to postpone the Brisbane meetings, but this decision is under constant review – members will be notified if the situation changes.

SYDNEY: "No meeting"

There will be no meeting in Sydney in December – the next meeting will be held in February and further information will be provided in the next *Light Railways*.

MELBOURNE: "No meeting"

On line meetings via Zoom will be hosted from Melbourne and will feature presenters from far and wide.

ADELAIDE: "Bi monthly meeting"

The SA group meets every second month on the first Thursday of every even month to discuss matters of light railway interest. As accommodation is limited, interested persons should contact Les Howard at sagroup@lrrsa.org.au for details if you have not been to a meeting before.

Location: 1 Kindergarten Drive, Hawthorndene
Date: Thursday 1 December 2022 at 7.30 pm



Heritage & Tourist NEWS

News items should be sent to heritagetourist@lrrsa.org.au Digital photographs for possible inclusion should be sent direct to Richard Warwick at editor@lrrsa.org.au including the name of the location, the name of the photographer and the date of the photograph.

QUEENSLAND

BUDERIM PALMWOODS HERITAGE TRAMWAY INC., Buderim

762 mm gauge

The group has engaged a Town Planner to consult with Council regarding the assessment and development application of the Krauss locomotive building design proposal. He thought it wise to engage Council to seek their feedback on the architect's design before moving forward.

The response from Council was both surprising and negative on all accounts. It stated that it would not support the proposal in its current form and argued that the design detracted from the Old Post Office building and obscured the building from the street. The town planner has now recommended the best path forward was to engage a heritage consultant with expertise in the area of heritage buildings. The heritage consultant reviewed the design and highlighted some adverse heritage impacts on the Old Post Office inherent in the original design. These impacts will be addressed by the group's architect as he develops a new design for the building on the site.

Buderim-Palmwoods Heritage Tramway Inc. Facebook post, 28 August 2022

TINBERWAH MOUNTAIN RAILWAY, Tinbeerwah

610 mm gauge

In LR 213 of June 2010, Russell Savage reported that the Tinbeerwah Mountain Railway (TMR) was established in 1980 to gain access to the northern region of Mount Tinbeerwah. In 1990 this was achieved and in 2005 another branch over a significant watercourse was added. There was further progress after that with the Red Hill Bush Depot Saw Mill becoming operational in February 2010. This is primarily used for sleeper cutting logs acquired from the property. In total, 185 metres of track, five turnouts and a new triangle were installed as part of this complex. In May 2009 the TMR became the 35th railway in Queensland to be accredited under the Rail

Safety Legislation and the only private system. Total trackage is 2.2 kilometres and a variety of purpose built and acquired rolling stock is utilised. More recently Russell reported on what he says is probably the last narrow gauge railway in Australia still hauling logs, in this report, a Black Butt eucalyptus hard wood, so named because the butt gets blackened in bush fires but it does not affect the tree.

Russell continues his reports by posting photographs of the Wallan Signal Box on the TMR opened by railway historian and LRRSA member John Browning on 11 September 2022. We will publish some photos of the operation in Light Railways when space permits.

Light Railways of Australia Facebook Group, posts on 22 August and 12 September

ATHERTON-HERBERTON HISTORIC RAILWAY, Atherton

1067 mm gauge

Volunteer workers have started the restoration of the railway's second carriage, BL759. Meanwhile, the railway ran the "Tinlander" over the school holidays as well as conducting workshop tours.

September 27 was an important day for AHHR as it was a successful day of commissioning the Peckett 0-4-0ST (1069, which not too long ago was rusting away in a Mount Isa schoolyard) and carriage (BL 769). Workers are now waiting for confirmation from the Rail Regulator. It seems a fitting date as 27th October was a significant date in railway history when in 1825, George Stephenson's Locomotion No.1 became the first steam locomotive to carry passengers.

Atherton-Herberton Historic Railway Facebook Page, posts on 15 and 27 September

THE DURUNDUR RAILWAY, Woodford

610 mm gauge

The official fiftieth celebration of ANGRMS since incorporation in 1972 was held on 24 September.

While it has not yet been 50 years at Woodford, the group has something larger planned for that in a few years' time. The day also saw the opening of the annex and commissioning of the ballast wagon.

The following weekend was the celebration day for the fiftieth anniversary with a one-off model train show on the running day.

The Woodford Railway—ANGRMS Facebook Page, 24 September

NEW SOUTH WALES

PETE'S HOBBY RAILWAY, Junee

610 mm gauge

A group of Peter's friends and the volunteers at Pete's Hobby Railway gathered on Sunday, 2 October 2022 as part of the celebrations for the Junee Roundhouse's 75th Anniversary. Visitors were welcome to view, and photograph Pete's Hobby Railway in action from 10 am to 4 pm, but only from the street because under the provisions of the Rail Safety National Law 2012 (NSW), Peter is not permitted to allow the public on his property for closer inspection and/or train rides. However, excellent viewing is available from the street frontage.

Pete's Hobby Railway newsletter, 13 September 2022

MANDALONG VALLEY TRAMWAY, Mandalong

610 mm gauge

Graeme Belbin reports on the first steaming in nearly eight years for *Fairyhead* (BLW 10533 of 1889). After five years in a dismantled state, the little engine has passed a boiler inspection and on Sunday 11 September was steamed to 140 psi. It should be running by the end of the year. It was hydro-tested to 225 psi on the previous day. It is thought to be one of the smallest surviving Baldwin locomotives.



At the Illawarra Light Railway Museum at Albion Park, locomotive Burra was hauling its train with Society Chair Carolyn Dumont in charge. Photo: Brad Johns

Following up from his previous post, Graeme revealed that *Fairymead* received a visit from the boiler inspector on 5 October and later received a ticket for 150 psi operation. It also proved that it will restart (in the rain) on the track up to the servicing area, which is a 1 in 16 gradient. It now needs the cab, the sand dome and bell, the steam dome cover and headlight refitted, followed by lots of cosmetics and it will be complete.

Graeme Belbin Facebook posts on the *Narrow Gauge Enthusiasts Facebook Group*, 13 September and 5 October.

ILLAWARRA LIGHT RAILWAY AND MUSEUM SOCIETY, Albion Park

610 mm gauge

The year 2022 has seen the 50th year of the Society since its foundation in 1972. Since the Covid close down, the Society has moved forward and the museum and railway continue to provide a happy place for families to attend each operating day.

The operational locomotive works department of the Society ensures that all the diesel fleet is in operating condition and that the steam fleet, including the Davenport locomotive, ex-Kiama

Tramway and *Burra*, ex-Corrimal Colliery, are in operation to continue the steam experience for visitors.

Works around the grounds have seen the platform upgrade, the new ticketing area in operation, new fencing, and the construction of a shelter over the Tramway Deck that comes off the dining car, ex NSWGR LFA449. More works are continuing to make the museum a place for all to enjoy.

A project that has been ongoing over the last couple of years is the overhaul and rebuild of the Perry Locomotive *Tully*, number 6 ex-Tully sugar mill in Queensland, BN 7967/49/1 of 1949 built by Perry Engineering of Mile End South Australia. After the arrival of the locomotive in 1973 at Albion Park, restoration works began and it went into service in 1987.

The locomotive was operational until a few years ago when it was discovered that the boiler needed a rebuild. The Society obtained grant funding for the project and the works have been contracted out. The boiler is expected to return soon and works on the locomotive at the ILRMS are on track.

Operational days are traditionally held on the second Sunday of each month for steam operation and the fourth Saturday of each month for diesel operation. These running days have been positive with good visitor attendance.

Brad Johns, ILRMS, Albion Park via email, 8 October 2022.



Top: Walhalla Goldfields Railway. 31 August 2022. John Fowler 0-6-ODM (b/n 4210051 of 1951) No.14 Spirit of Yallourn shunts around in Walhalla yard before running its train to Thomson and return. No.14 can handle three cars, whereas No.30 Kasey (front cover) can only handle two cars.

Above: Walhalla Goldfields Railway. 31 August 2022. DH37, 3ft 6in-gauge diesel-hydraulic B-B. Ex-Queensland Railways. It was built by Walkers Ltd in 1969, and has sat in Walhalla yard for 12 years. It is currently being gauge-converted to 2ft 6in. The motor is in good condition and when the loco is restored it is planned to paint it in VR Blue and Gold, to match DH 59 on the Puffing Billy Railway. Photos: Phillip Milbourne

VICTORIA

WALHALLA GOLDFIELDS RAILWAY, Walhalla

762 mm gauge

The DH locomotive that has been sitting on its own section of 1067 mm gauge railway, was lifted off its bogies for the first time on 22 August. Lifting of the body of DH37 from its bogies will allow workers to remove the axles and send them away for re gauging. The bogie frames then need to be altered to accommodate the smaller axles when they are returned.

Once the new axles are fitted and after major works are done to the undercarriage, DH37 will then be moved to Thomson Workshops where the rest of the restoration works will take place. The railway has begun a funding drive to raise \$20,000 towards the regauging and restoration of the DH Locomotive. Any readers with money to spare can make a donation at <https://www.trybooking.com/au/donate/walhalaraildonate>. The railway also has another locomotive, DH 72, which is securely stored away from the railway. It requires significantly more work to restore to operating condition than DH37, with its engine requiring a major overhaul. It is most definitely needed on the railway but external funding is needed for any restoration. Railway management completed a very complex application for DH37 to the Federal Government last year but it was unfortunately rejected as it was classed as a 'movable asset'.

Walhalla Goldfields Railway Facebook Page posts on 22 and 23 August.



Walhalla Goldfields Railway. 31 August 2022. A perfect sunny, blue-sky day in the mountains. Ex-SECV ex-900mm gauge, John Fowler 0-6-0 diesel loco No. 14 Spirit of Yallourn, stands ready to depart with its 3-car train, from Walhalla to Thomson. Photo: Phillip Milbourne

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge

The museum at Menzies Creek reports that work has recommenced on Number 1 and 2 roads to the museum workshop. The roads for the rails have long been prepared and finally rail is starting to be laid from the museum to the workshop. When complete, the connection

will enable rolling stock from the museum to be moved to the workshop for restoration. This could include the Ali Shan Shay which has been unrestored on the railway for the last fifty years. The designer of the new Lakeside Visitor Centre, Terroir, has won one of the Chicago Athenaeum International Architecture Awards for 2022. It is not the first award from the American institute

for the Sydney, Hobart and Copenhagen-based Terroir studio that is noted for its often daringly responsive projects, but it is a welcome and novel win for the mainly volunteer people who maintain and run the heritage narrow-gauge Puffing Billy Railway. As chief executive Peter Abbott commented, "It puts Puffing Billy on the world stage".

Although it could look like a purely staged prop, the engine, number 3A, that was craned into place, could, in theory be craned out again at a later date should Puffing Billy decide to restore the locomotive to operation. This however would be extremely difficult as very little is left of the locomotive and any restoration would be very expensive and would require virtually a completely new build. Jenny Brown, in Commercial Real Estate on-line, 18 August.

For the first time since 2019 Climax locomotive No. 1694 ran a passenger train on Saturday 22 October. It departed Belgrave at 4.00pm and ran to Clematis where the passengers adjourned to the nearby Paradise Hotel where a good dinner was served. Arrival back at Belgrave was around 9.15pm. The train was made up of four enclosed NB cars and an NC van. This comment on the *Light Railways Facebook Group* seems to have summed up the feelings of those who attended: "It was amazing trip so happy I booked, coming home through the fog was epic! Congratulations to the Puff team for putting together an amazing event".

Post in *Light Railways of Australia Facebook Group*, 23 October.



Puffing Billy Railway Climax locomotive 1694 hauled a passenger train from Belgrave to Clematis on 22 October 2022. The locomotive is seen here at Clematis waiting whilst its passengers enjoyed a meal at the adjacent Paradise Hotel. Photo: Frank Stamford

TASMANIA

RAIL TRACK RIDERS, Maydena

1067mm gauge

As part of the government railway network, this extremity of the Derwent Valley line, which saw its last log train in 1992, would have been outside the scope of *Light Railways*. But since 2009 it has most certainly been a light railway operation. Railtrack Riders operates a fleet of two, three and four person pedal cars on two separate journeys, east towards National Park and further west into the Florentine. The vehicles are geared such that younger and fitter riders can complete even the 8 km return journey eastward which involves a long rising grade back to Maydena, without any assistance. But for the rest of us, a welcome push from behind is provided by a hi-rail equipped quad bike. The railway passes through spectacular rainforest and remnants of the timber industry, and the knowledgeable host is happy to relate the history of the area. Of interest in the shed is the railway's home built internal-combustion section car, which is used for weed spraying and trackwork.

James Shugg

WEST COAST WILDERNESS RAILWAY,

Queenstown

1067 mm gauge

A significant land slip across the tracks at Dubbil Barril in August took a few weeks to clear and meant trains from Queenstown had to turnaround at Rinadeena and the Strahan based journeys were cut back to Lower Landing. By September, services from both ends of the line to Dubbil Barril had been reinstated.

James Shugg

IDA BAY RAILWAY, Ida Bay

610 mm gauge

The Ida Bay Railway Preservation Society held its first two-day working bee at Ida Bay in early October, although the formal handover of responsibility for the site from the Parks department to the Society was due to take place later in the month. Strict adherence to the conditions of the five year licence and associated rail safety accreditation requirements mean that the Society cannot immediately start work on rehabilitating the railway, but members enthusiastically cleared the railyards of potential bushfire fuel, began redecorating the community room, inspected the rolling stock and started preparation of an inventory of the site's heritage fabric.

One highlight of the weekend was starting the Society's 1943 railmotor No. 7. All it took was a new battery and some fresh petrol to get the 90 year old Chevrolet straight six roaring into life, for the first time in four years. A short video of this can be seen on the Light Railways of Australia Facebook Group. The last passenger journey on the railway was in October 2018 when the railmotor was sent down the line to rescue passengers stranded by the derailment of one of the Malcolm Moore locomotives and train,



Top: A Railtrack Riders group about to set off eastwards from the Maydena station yard on 28 August. **Centre:** The section car used by the Railtrack Riders group. **Above:** The WCWR diesel locomotive runs around its train at Lower Landing on 22 August. Photos: James Shugg

which ultimately forced the commercial operator to cease operations. So it was fitting that the rebirth of the railway as a volunteer-run operation was marked by the rail motor's restart.
James Shugg

WEE GEORGIE WOOD, Tullah

610 mm gauge

The 2022/23 season opened on the first weekend of October and a busy running day was also held on 15 October, coinciding with a fishing competition in Lake Rosebery. During the off season, 130 sleepers were replaced using wooden sleepers obtained many years ago when the nearby 3 ft 6 in gauge Emu Bay Railway was realigned and upgraded with steel sleepers. The off cuts obtained when these are shortened to suit 2 ft gauge have proven to be excellent fuel for *Georgie*, much better than locally sourced firewood in terms of energy content and steaming qualities.

James Shugg



REDWATER CREEK RAILWAY, Sheffield

610 mm gauge

Redwater Creek ran three charter trips for 80 kids from Devonport in early October. For many it was their first train ride; one or two were a little apprehensive but mostly there was joyous screaming and excited banter. During their 90 minutes at Sheffield, the children also got to ride on the miniature railway and they were shown through the steam shed, which is packed with historic traction engines and other machinery.

The massive rain event that hit the east coast of Australia in mid October saw part of the railway submerged, and washed away the ballast near Dulverton station. Volunteers had completed remedial trackwork by the following weekend.

James Shugg



Top: IBRPS members at the working bee inspecting the Malcolm Moore locomotive on 8 October. Photo: James Shugg **Centre:** A Wee Georgie Wood volunteer pushes the fettlers trolley back to the Tullah workshops after a hard day's work replacing sleepers in the rain on 11 September. Photo: Ben Carrick **Above:** Wee Georgie out front of workshops. Photo: James Shugg



SOUTH AUSTRALIA

COBDOGLA IRRIGATION AND STEAM MUSEUM, Cobdogla

610 mm gauge

The Cobdogla Irrigation and Steam Museum has a new sleeper changing machine built by member Robbie Osborne from an old track lifter. It has had a couple of trial runs so far, but will soon be put to good use removing a lot of dead sleepers.

Cobdogla Irrigation and Steam Museum Facebook Page, post on 22 August

FARINA RESTORATION GROUP, Farina

1067 mm gauge

As an early part in the group's planning to relocate the Steam Town donated NSU No 62 diesel electric locomotive from Peterborough to Farina Creek in the next few months, the group had an on-site meeting in Steam Town. Before the move, the locomotive will be painted in the original colours.

The Ghan Preservation Society is lending the Farina group some lifting equipment, last used in November last year to move one of their own NSUs in Alice Springs. This is yet another example of the goodwill being provided to the Farina Creek rail re-development and is very gratefully received.

Post in Farina Restoration Group Inc Facebook Page 17 September.



WESTERN AUSTRALIA

MOUNT MAGNET TO SANDSTONE RAILWAY, Sandstone

1067 mm gauge

David Whiteford reports:

I have just returned from a goldfields exploration and attach a photograph that may be of interest. Although the Mount Magnet to Sandstone WA Government Railways line closed in 1949 and was quickly removed, the Sandstone goods shed survives as does much of the loading ramp beyond. Sandstone was a gold mining town and a scattering of mining equipment and other items form an open air display at the shed, and includes a couple of light railway items.

Photographed on 19 August 2022, David Whiteford. The gold mining centre of Mount Magnet, WA, has an extensive museum and it includes a former WA Government Railways' ADX suburban railcar (either ADX 661 or 670) that in 1980 was converted for use as accommodation at a mine site near the town. Also, in the museum are some interesting mining railway items, with one flat wagon on rails set up to serve a 'mine shaft'. Photographed on 20 August 2022, David Whiteford



Top: Krauss locomotive at Dulverton station performing light engine test runs through the passing loop on 3 September. This track is now considered part of the mainline, utilised by all Down trains from Sheffield. Photo: James Shugg **Centre:** Although the Mount Magnet to Sandstone W.A. Government Railways' line closed in 1949 and was quickly removed, the Sandstone goods shed survives as does much of the loading ramp beyond. Sandstone was a gold mining town, and a scattering of mining equipment and other items forms an open air display at the back of the Sandstone caravan park (adjacent to the shed) which occupies some of the former railway yard. This includes a couple of light railway items and was photographed on 19 August 2022. Photo: David Whiteford. **Above:** Mount Magnet museum's ADX suburban railcar that was converted for mine accommodation use near the town in 1980 and now houses a railway history display. Also in the museum are numerous light railway items including this small shaft and tramway mock up. Photo: David Whiteford



Above: Labasa Mill's Clyde 0-6-0DH 21 (64-385 of 1964) at the Daku Triangle in Fiji on 20 September. Photo: John Browning

Below: The points boy of Hunslet 6wDH 198 (9273 of 1987) does some hand sanding at Navutu Road on the southern approach to Lautoka Mill in Fiji on 26 September. Photo: John Browning

