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LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways

Light Railway Research Society of Australia Inc.

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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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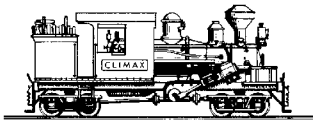
Contents

Editorial

Over time, the Editorial team has developed detailed processes for the production of each edition of the magazine, in the process creating a sustainable approach to editing and producing documents such that there are very few paper copies used. However, there are occasions when we are challenged. For example, in the last edition there was great debate and much discussion about the use of apostrophes in certain circumstances. The Macquarie Dictionary, the Australian Government Style Guide, the wife and of course Dr Google, were all consulted and offered varying degrees of direction on this most serious issue. The matter was finally resolved to the satisfaction of all parties and production of the magazine went ahead. We trust that our readers noticed the very subtle use (and non-use in some cases) of the apostrophe, and appreciate the amount of effort needed to resolve the matter. For the record, as we all learned at school, there are two types of apostrophe – the possessive and the abbreviative.

On more important matters, we hope that you enjoy this edition of the magazine with a wide variety of topics and geographical locations, including reports from Queensland on the start of the cane crushing season. Your editorial team also notes the change of Federal government and looks forward to additional funding to the National Library for further Trove newspaper digitalisation – a valuable research tool for historians writing in this and other magazines. *Richard Warwick*

Front Cover: *Karridale, WA, 1897. The little 0-4-0WT shown is not even ten years old yet has already worked in three colonies. Built in 1888 by Thomas Green & Sons Ltd, Leeds, England (b/n 132) for J S Lee, sawmiller of Duck River, near Smithton in North-West Tasmania. Unfortunately, the loco had barely started work when the 1890s depression arrived, and Lee closed his mill for some years. The loco was sold, to Victoria, named* Werribee, *and used by the Standard Quarrying Co on its construction tram along the Werribee outfall sewer. By 1893, with the contract completed,* Werribee *was sold to sawmillers M C Davies Co Ltd, who renamed it* Kate *and used her in the Karri forests near Karridale. In 1902* Kate *was acquired by Millars Karri & Jarrah Co (1902) Ltd. Sold in 1917 to the WA Public Works Department,* Kate *was sent to Wyndham to shunt the jetty and meatworks. Out of use in 1952, she later returned south and is preserved at Margaret River. Photo: ANU 023-48-68*



Light Railway Research Society 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.

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

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

Material is accepted for publication in Light Railways on the 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.

Usually said to be the EBR's first foray into passenger rail motors was this Burnie-built Riley-engined 4-wheeled vehicle, though a 1917 newspaper report mentions an earlier Darracq-engined vehicle, however details are lacking. There is a cross-bench seat at the front and a central knife-back seat at the rear. Was a canvas blind provided in inclement weather? Seen here at Waratah in 1916, driver Roy Dowling, resplendent in his EBR uniform, is trying to look busy with his oil can. At right is the Athenæum Hall, opened in 1887 – it still stands. Amongst its exhibits are historic Waratah district photos by our photographer. *Photo: J H (Jackie) Robinson*

Rail Motors of the Emu Bay Railway

by Les Morley

Background

In the late nineteenth century, the West Coast of Tasmania was known for its mining and timber industry and by 1900 there were mines at Waratah, Queenstown, Zeehan, Rosebery, Tullah, Linda and elsewhere. Earlier, in the 1870s, there were only two ways to get there from the rest of Tasmania, by sea or by walking overland from the north-west or from the south-east.

Tin had been discovered at Mt Bischoff, near the future town of Waratah, in 1871 by James Smith. With the Mt Bischoff Mining Company being formed it was found to be the largest tin discovery at the time in the world. Whilst it is one thing to start a mine in a remote area, you must have access to it, and so the mining company cut a track through the virgin bush to Emu Bay, today's Burnie. The track proved to be a nightmare for the teamsters that were using it, as it became wet and boggy due to the continual rain and the teamsters were charging a fortune to transport goods. The Van Diemen's Land Company (VDLC) held the lease on the land on which the cart track ran, and indeed it held all the land from Burnie to Woolnough that consisted of tens of thousands of acres. It could see big money being made if a decent tram was constructed over its lease, to Mt Bischoff.

In 1874 the Van Diemen's Land Company surveyed a route for a horse-drawn wooden tramway that was some 45 miles in length. Construction began in 1875 but the tram was not completed until 1878. The 3ft-gauge tramway finished at what was known as Rouse's Camp, some two miles from Waratah. Mr Rouse wanted an exorbitant amount to let the VDLC's tram cross his land, so it stopped at the VDLC/Rouse boundary – unfortunately for the VDLC, Mt Bischoff and Waratah was just a couple of miles beyond its property! The Mining Company then built a tramway from Waratah to Rouse's Camp to meet the VDLC's tram to complete a rail connection to serve the town and of course the mine. In 1883 or 84 it was decided to re-gauge the whole tramway to 3ft 6in and relay it with iron rails to allow steam locomotives to be used. To facilitate this, a new entity, the Emu Bay and Mt Bischoff Railway Company was formed. This new line was an improvement over the earlier wooden tramway and continued to serve the Waratah district.

In 1897 another new company was formed, the Emu Bay Railway Company Limited (EBR). It was the intention of the EBR to build a railway from Burnie to tap into the rich Mt Lyell field on the West Coast. A start was made on the line from Guildford (about three-quarters of the way along its line to Waratah) and it was built through some of the roughest country in Tasmania.

The first train arrived in Zeehan in 1900, thus providing a continuous line, albeit over three different railways, to Mount Lyell and Queenstown. Various surveys were run for a direct line from Rosebery to Queenstown but came to nothing.

Guildford, on the Waratah line, became Guildford Junction and the EBR started running goods and passenger trains to both Waratah and Zeehan. Zeehan, being more important to the EBR, resulted in Waratah being relegated to branch line status. As time went by, output from the mine at Mt Bischoff was diminishing and the population started to dwindle, even though the mine and the mill were still operating, but not on the previous scale. Accordingly, passengers to Waratah from Burnie now had to travel on the passenger train that ran to Zeehan and change at Guildford Junction and catch the Waratah train for about ten miles along what was now a branch line.

EBR rail motors

With passenger numbers declining the railway company had to do something, so it looked at building a rail motor using Riley motor-car components consisting of motor, gear box and radiator. It seems the idea came from Queenstown where, in mid-1908, the Mount Lyell Mining and Railway Company had built a small rail motor using components imported from the Riley Engine Company, of Coventry, England. The four-wheeled rail motor, able to carry a maximum of nine, was not much more than a enclosed motor trolley and was for use on the North Mount Lyell railway, from Linda to Kelly Basin.[1] Before being transported to the North Lyell railway, it ran a trial trip to Devonport in early August – the Mount Lyell line to Strahan, the TGR to Zeehan, the EBR to Burnie and then the TGR to Devonport.[2] The EBR already had seven small motor trollies, six for use of the gangers and one upmarket version, for management use – all were found to be extremely useful.[3]

James Stirling, the EBR's energetic and cost-conscious general manager, must have been impressed by the Mount Lyell's machine[4] for later in August a similar order was placed with the Riley Engine Company for the necessary components which duly arrived the following May. Within a couple of months, the 12-18hp twin-cylinder water-cooled engine had been fitted to a body built by the EBR's Burnie workshops and was trialled in July 1909. Said to be capable of carrying ten (a tight squeeze by all accounts!) it could reach 30mph, similar to the Mount Lyell's motor. The EBR's Riley-powered rail motor proved to be a success but it misjudged the carrying capacity in that it was not large enough for the traffic offering. When new AEC-engined rail motors arrrived in the 1920s, the Riley was sold to EZ Co, re-gauged to 2ft and used between Zeehan and the smelters for workers' transport.

Accordingly, the company built another rail motor, this time utilising an old Berliet car engine, purchased in 1914; it was ready for a trial run in 1917. With room for 12 passengers, this rail motor did the job but around this time things changed at the Mt Bischoff mine – it got a new manager who then opened up a new find which in turn created more employment and Waratah received an influx of more miners and families. This put a strain on the Berliet so again something had to be done. The Company purchased an Argyll truck 25-30hp engine, which was a Scottish design and built a rail motor around it - it was completed in 1919. This rail motor was very

The Berliet-engined rail motor – said to be the second passenger rail motor built – on a trial run in 1916, posing for its photograph. The Burnie Advocate*, of 3 October 1917 notes that it weighed two tons, will carry a dozen passengers and can climb a 1 in 16 grade at 15mph. It had a 15hp 4-cylinder engine. The body was made of Tasmanian timbers, the finish being in polished blackwood with sliding doors, the upholstery of American leather and had polished brass foot rests. It was sold to R J Howard at Zeehan in 1950 where it was scrapped and wrecked in the mid-1960s. Photo: Ted Lidster colln. courtesy Trainiac, Flickr*

Construction of the third passenger rail motor started in 1917, designed to be larger and more powerful than the previous motors. Fitted with a 25-30hp Argyll engine (often misspelled as 'Argyle'. The engine was a product of Argyll Motors Ltd, Scotland) the rail motor was to seat from 16 to 20 persons with three sliding doors on each side plus a lockable luggage and mail compartment at the rear. Unfortunately the Argyll suffered a series of troubles – for instance in late 1919 Burnie advised the Melbourne directors that the vehicle was suffering from cylinder cracking. Photo: E A Winter, Weekly Courier *30 September 1920. Ted Lidster colln. courtesy Trainiac, Flickr*

complicated and caused all manner of problems and spent a fair amount of time in the workshop. In late 1923 the EBR's chief mechanical engineer, A B Richardson had it converted to a carriage, which was sold in early 1924, minus its engine, to the Marrawah tramway.[5]

AEC-engined rail motors

In 1924, after all the issues with the Argyll, the company decided to build another rail motor and an AEC truck chassis and engine was purchased from Associated Equipment Company in London, via their Australian office for £455. On arrival it was taken to the EBR workshops. The chassis was modified to take railway wheels with two pairs being added; the rear wheels being driven. It is not clear as to why they did not fit a four wheeled bogie under the front. The rear end was altered by shortening the axle housing and axles and the tail shaft was retained along with front and back springs. It looked a bit weird with the bonnet sticking out, but the wheel base had to be shortened, allegedly to allow it to run around the curves of the line. The rail motor, officially No.l, had a trial run to Waratah in late October 1925; its success heralding the start of five AEC-powered rail motors built by the company under the supervision of CME, Albany Richardson.

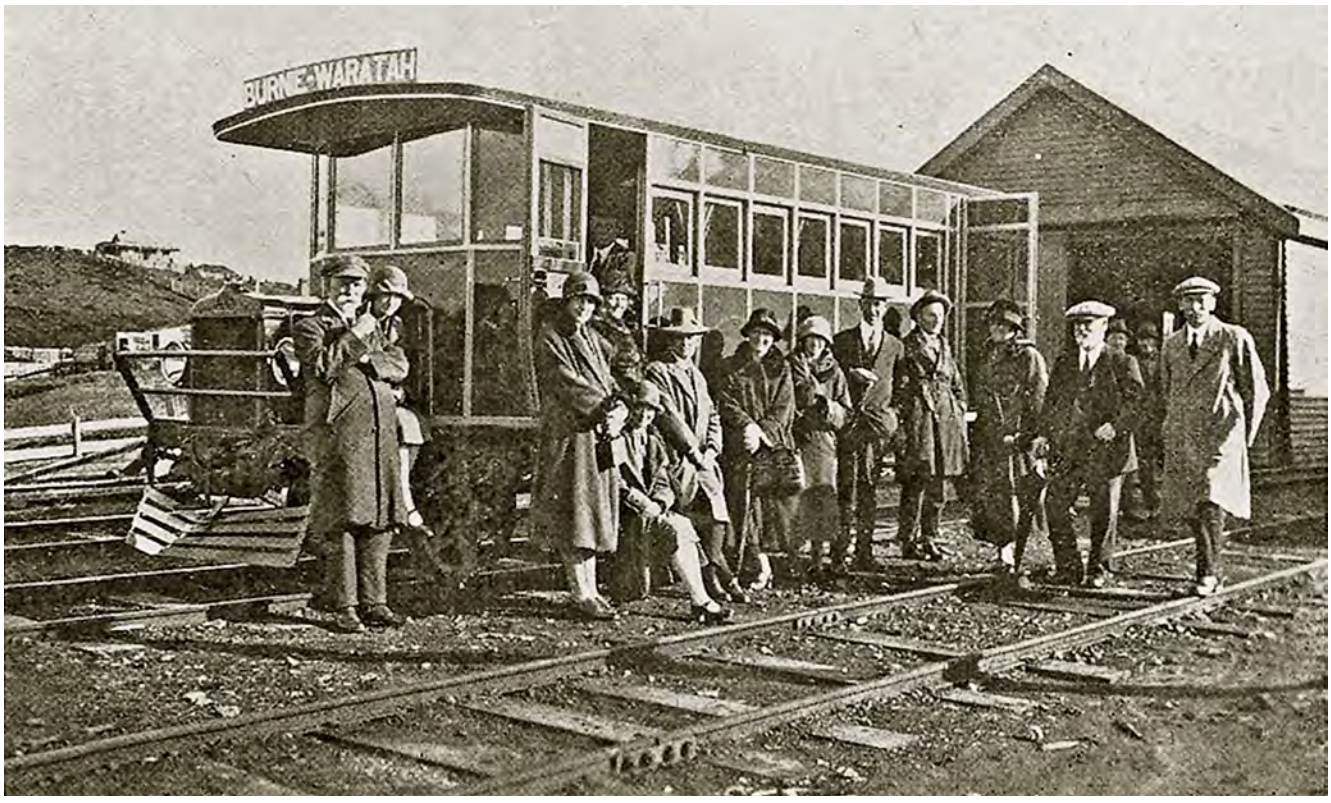
The first AEC-engined motor quickly proved a success and a second was soon started. No.2 was built along the same lines, albeit with improved internal fittings, and had a trial run in May 1926. These rail motors also ran to Zeehan on special occasions as the company was still using steam-hauled trains on that run but as time passed the passenger numbers slowly declined as the mines on the Zeehan field were starting to peter out. None-the-less, another AEC-engined rail motor was built. This was built for the West Coast run and the Waratah run and was slightly different in styling. The major difference being that where the roof on numbers 1 and 2 extended over the windscreen, on No.3 it stopped at the windscreen. No.3 had a trial run in 1928 and lasted until 1960 whereas the other two were scrapped in 1941-42 following closure of the Waratah branch line in mid-1940. All were four-wheeled machines.

As the mining slowed down on the West Coast the Tasmanian government started to advertise the area for its scenery and other attractions. A lot of marketing activities were carried out including photo shows, not only in Tasmania but on the mainland as well. This resulted in an influx of tourists to the area. They would arrive at Burnie, travel to Zeehan, then over the TGR line to Strahan, and the Mount Lyell line to Queenstown. There were no worries about accommodation in the area as both Zeehan and Queenstown had a large number of hotels. This influx of visitors put a strain on the AECs so the company went back to steam trains, running mixed loads that consisted of passengers and goods; the company looked at building larger rail motors.

Following a visit to Queensland in December 1932 and inspection of their rail motors by the EBR's CME Albany Richardson, the company purchased a larger AEC bus chassis and engine. The company altered the chassis by removing the front wheels and fitting a four-wheel bogie under it. The driver's seat was beside the 45 hp motor.[6] All in all, it was a good looking vehicle that proved to be a success – it was given a trial run to Guildford on 26 February 1933, then to Queenstown on the 28th.

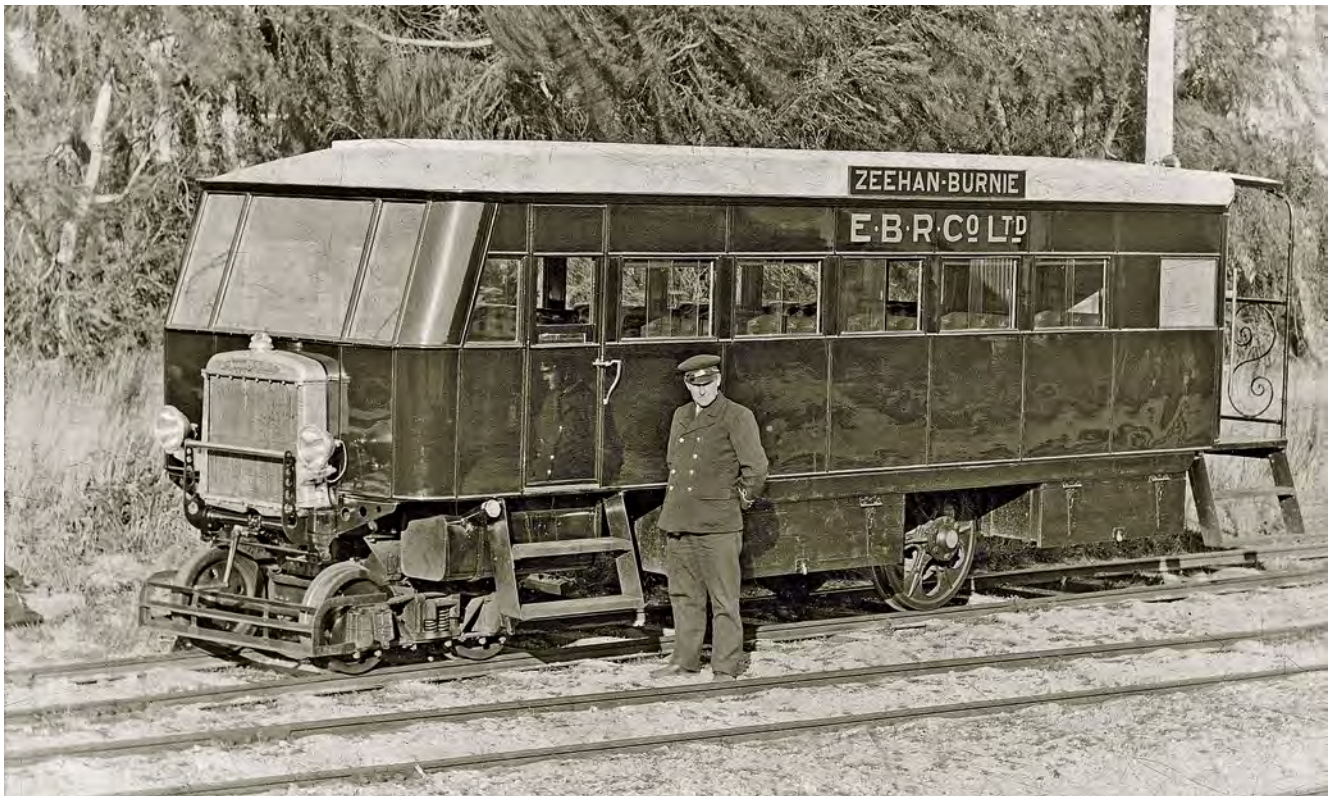
Above: *The EBR's initial foray into AEC-powered rail motors in 1925 was this neat four-wheeled vehicle, designed and built in their Burnie workshops as witnessed by the builders plate. Seen here, still devoid of its number, No.1 [previous rail motors did not have numbers], sits on the rail-motor turntable at Burnie. The AEC bus chassis is evident and the distinctive radiator grill and bonnet covers the 30hp 4-cylinder petrol engine. At this time EBR railwaymen interacting with the public were provided with company uniforms on a regular basis and were expected to maintain a neat and smart appearance at all times. Photo: Ted Lidster colln. courtesy Trainiac, Flickr*

Below: *EBR No.2 at Waratah. This photo appeared in the* Weekly Courier *of 20 May 1926, and shows the EBR's second AEC-engined rail motor on what is surely its trial run to the "Tin City" – the presence of EBR manager James Stirling (far left) makes this a near certainty. Unlike the trial run of No.1 the previous year, this run included a number of ladies. Externally No.2 was virtually identical to No.1, the main differences being the paintwork and the cowcatcher. Both had the overhanging roof shading the windscreen though whether that was much assistance in a snowstorm is debatable. Photo: E.A. Winter*



Above: *Following the success of the first two AEC rail motors, No.3 was built. Notable differences include a roof rack for large items, and the front roof overhang being cut back to the windscreen. By the mid-1930s, with the increasing demands of West Coast tourism, this vehicle often roamed far beyond its stated headboard. When numbers exceeded the capacity of No.4, No.3 would also be enlisted and trips to Zeehan and Strahan were run. Some well-known photos show Nos. 3 and 4 stopped for photos on the Henty Bridge and at Strahan harbour. Photo: Ted Lidster colln. courtesy Trainiac, Flickr*

Below: *No.4 The first of a pair of steel-bodied rail motors that benefited from the visit of the EBR's CME A.B. Richardson to Queensland in 1932. Richardson was impressed with the QR's rail motors which featured a bogie at the front, considerably improving riding and passenger comfort. The front bogies were made by the QR especially and were fitted in the EBR's South Burnie workshops who made the body. The chassis and engine were imported from AEC in England. Seating was by the well-regarded Burnie upholsterers Bird and Hopkins and toilet facilities were included. Sliding windows, to eliminate rattling, were a feature. Photo: E A Winter,* Weekly Courier *30 Mch 1933, Libraries Tasmania ref NS3245-1-252*



Above: *The fifth and last AEC-engined vehicle. No.5 at Farrell Junction, seen with trailer MT 1 (later PT2). The many windows in these vehicles sometimes saw them called 'observation' rail motors. Indeed, EBR advertisements extolled "Full view of scenery available". And if one wanted panoramic views and fresh air, there was always the observation platform. Again, the upholstery was done by Bird and Hopkins. The trailer entered service in July 1935 and had seating for 12 in the main compartment and room for 1½ tons of luggage at the rear. In times of high demand, the luggage section could be fitted with seating for ten persons. Photo: J L N Southern colln*

Below: *The EBR's Walker rail motor, WG1, incorporated a 153hp Gardner diesel engine. The riding qualities were said to be the best of all the Emu Bay's rail motors, though that could be partly the result of better track standards by the time it was in service. With the more powerful motor, it had no difficulty in hauling the light trailer PT2 but not a heavier trailer with which it was originally tried. Included 2+3 seating at the front and 2+2 seating in the rear section. Intended for the growing West Coast tourist traffic of the late 1930s, its arrival at Burnie was delayed due to the outbreak of war in 1939. Photo: Ted Lidster colln, courtesy Trainiac, Flickr*

Over the next couple of years No.4 ran many trips to Queenstown but unfortunately for West Coast residents and tourists it never became the regular through service for which many hoped – maybe the difficulty of getting three railway entities to agree proved insurmountable. All-inclusive three-day tourist excursions from Burnie were run, visiting Queenstown and the Mount Lyell's works, Strahan and a river trip on the Gordon, and back to Burnie.[7]

With the success of No.4 the company purchased a fifth AEC bus chassis and built another rail motor, this one was tested in 1936.[8] The company also built a trailer that could run behind either motor and provide additional capacity.[9] Rail motor No.4 was scrapped in 1964 and its body ended its days as a beach shack. No.5 was scrapped in 1959; parts from both were later used as spares.

A Walker and three ex-TGR rail motors

In 1938, with tourist numbers still increasing, the company purchased a new rail motor from Walker Bros (Wigan) Ltd, England, which was completely different to the others; it was powered by a 153 hp Gardner diesel engine.[10] It arrived in 1940 and became WG1 – the WG for Walker-Gardner. This rail motor, introduced to the Zeehan-bound public on 13 May, remained on the daily, except Sunday, West Coast run until the 1960s when the EBR discontinued regular passenger services. In the meantime, Nos.4 and 5 were re-engined with Cadillac V8 petrol motors, whilst AEC No.3 was re-engined by a Ford V8 motor and fitted with a 1937 Ford V8 truck grille.

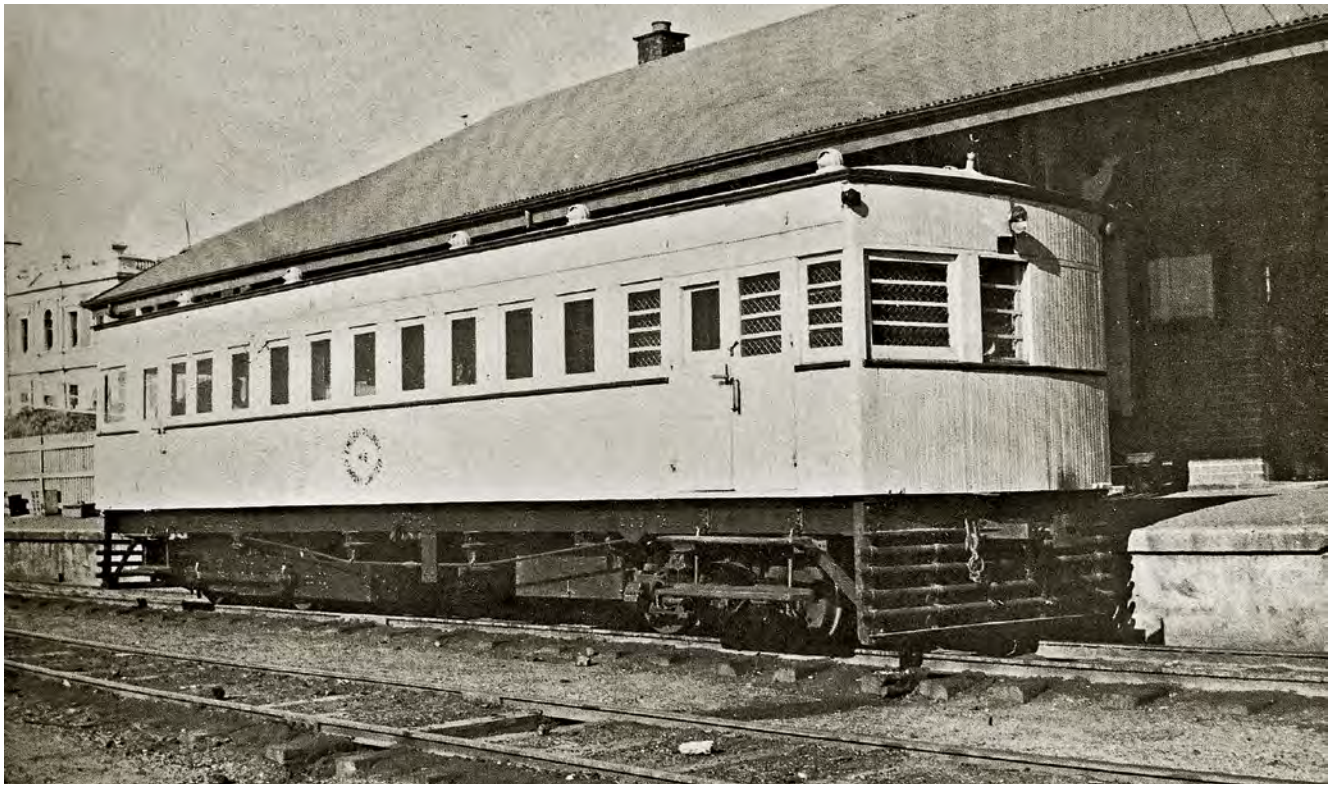
Meanwhile, the Tasmanian Government Railways, had been building rail motors since 1923. The TGR's third rail motor, DP1, was twenty feet in length and could seat 17 passengers; it ran on the Railton to Roland line. Rail motor DP2 was twenty-five feet long, could seat 10 passengers and worked on the Nietta line. The seating capacity was later changed to 30 passengers after the TGR removed the freight compartment.

In 1925-26 the TGR built six rail motors that varied in size, including DP3 and 4, followed by three larger rail motors: DP5, 6 and 7 which were 38-feet long and had both first- and second-class. The first class had room for 12 passengers and the second had room for 24 passengers and luggage. These were all wooden construction, the same as all previous rail motors, and entered service in 1926. They all had Leyland six-cylinder petrol engines with Drewry running gear fitted under them. In 1954 the EBR purchased DP5 from the TGR, followed by DP7 in 1956 – both these rail motors were wooden bodied.

In 1957 another TGR rail motor was purchased – DP9, a steel-bodied rail motor. DP9 has an interesting history being built by the Victorian Railways' workshops at Newport in 1925. It was powered by a Leyland six-cylinder petrol motor. Two of these rail motors were built and shipped to Tasmania, classified LPl and LP2 and entered service in 1926 with LPl working on the North-East line between Scottsdale and Launceston whilst LP2 was used on the Derwent Valley line from Hobart to Fitzgerald. Later they were transferred to run on other TGR lines and also re-powered with Gardner diesel motors as the TGR had taken the course to fit all rail motors with Gardner diesels.

In 1938 LPl and LP2 were re-bodied at the Launceston workshops where they removed the old wooden bodies, reconditioned the underframes and bogies by fitting roller bearings. They fitted a new Gardner diesel motor along with two streamlined bodies built by the well known engineering firm of Waddingtons of Granville, Sydney. The pair were reclassified by the TGR as DP9 (ex-LPl) and DPl0 (ex-LP2).

In 1926 the TGR built a wooden trailer at its workshops to use behind LPl and 2. This was numbered LPTl, was 30 feet in length and could carry 30 passengers. It had two compartments; first class could carry 20, while the second class



Rail motor M6 at Burnie (EBR) station. This vehicle originated in 1926 from the Drewry Car Co (b/no.1498/1926) who supplied the chassis, engine and wheels to the Tasmanian Govt Railways. It was fitted with a 75hp Baguley petrol engine. The TGR workshops built the bodywork and internal fittings. In 1937 it was re-engined with a 102hp Gardner diesel and renumbered DP5. It was sold to the EBR in January 1954. A sister rail motor, DP7, was purchased in 1955 for £600, becoming Emu Bay's M7. Photo: W J Webster

The EBR's final rail motor, M8, had an interesting career. It originated in 1926 as one of a pair of rail motors built by the Victorian Railways at Newport Workshops for the TGR costing £7250 each. Numbered LP1 and LP2, they had 100hp Leyland petrol engines, being virtual copies of similar rail motors on the VR. In 1938 the TGR rebuilt both with new 9ft-wide bodies from Waddingtons Ltd, Granville, NSW and 102hp Gardner diesel engines – new numbers DP9 and DP10. In October 1956, DP9 was sold, minus the engine, to the EBR for £800. The EBR fitted it with a 102hp Gardner diesel. It was partially scrapped in 1964, with the body surviving for at least another dozen years as a shed. Photo: The Advocate*, Burnie*

could accommodate 10 passengers, luggage and freight. It was re-classified as PT 1 in 1931 and its trailer was later sold to the Emu Bay Railway in about 1954. The trailer was attached to the Walker-Gardner but proved too heavy when fully loaded, and was later reconditioned and fitted as a carriage then ran on the steam-hauled *West Coaster* train that the Emu Bay Railway introduced in 1960.

These ex-TGR rail motors, DP5, DP7 and DP9 became EBR rail motors 6, 7 and 8. All were used between Burnie and Rosebery and on occasion to Zeehan until the EBR introduced the *West Coaster* steam-hauled train. They were initially stored and then scrapped; No.6 in 1960, No.7 in 1961 and No.8 in 1964. WG1 was the last survivor, being scrapped in 1968.

Other West Coast rail motors and rail cars

There were a number of other rail motors used on the West Coast lines – the TGR brought its 1908-built Alldays and Onions' 4-wheel, former inspection car, to the West Coast at the end of May 1912 following persistent (and justifiable) complaints about the Strahan – Zeehan service.[11] The Mount Lyell, on its 3 ft 6 in gauge lines had several small rail motors – three or four Riley-engined (some fairly basic, such as the Pay car – now preserved at Don River), plus one prestige vehicle with a Daimler-engine. In 1960 the Mount Lyell purchased ex-TGR rail motor DP19, and re-numbered it DP1, for its mainline use. On its 2 ft gauge Lake Margaret tramway, in 1913 a rail motor with a Riley engine was built at Queenstown. Also used on the latter line, from possibly 1938, was a Vauxhall-engined rail bus, until closure in 1964.

Elsewhere, the Montagu Medical Union had vehicles on both 3 ft 6 in gauge and 2 ft gauge. On the 'wide gauge' it initially had a 1926 Chevrolet ambulance, converted to rail use in 1928, that ran from Farrell Junction and Rosebery to Zeehan Hospital (under indemnity to the EBR). Later it purchased a 1936 Dodge ambulance, similarly converted to rail use. On the 2 ft-gauge North Mount Farrell tramway at Tullah the Union started with a horse-hauled 'ambulance' in 1936. In 1942 it was followed by an 'updated' motorised vehicle,[12] that fortunately is now preserved at Zeehan Pioneers Museum. It is believed that the EBR's South Burnie workshops did the conversion work on most of these vehicles.

The Emu Bay Railway itself had a number of converted motor vehicles including a 1929 Chevrolet car, a 1938 Chevrolet car along with a 1948-49 Morris 8 van; later it had an International station wagon converted to run on rails. On the smaller 2 ft-gauge lines there was a Model-T Ford on the Magnet tramway. This vehicle was later used on the North Farrell tramway. The Magnet is also believed to have had a couple of earlier rail cars from around 1920.

As you can see, we had plenty of rail motors on the West Coast but I am sure there were others. The early years of the EBR would seem to be fertile territory – a 1917 newspaper report mentions a Darracq-engined vehicle[13] that preceded the Riley-engine rail motor. For someone with a good internet connection, Trove newspapers await the researcher with time on their hands. [and your Editor looks forward to the results of such researches!]

Acknowledgements

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Additional research and captions, Phil Rickard

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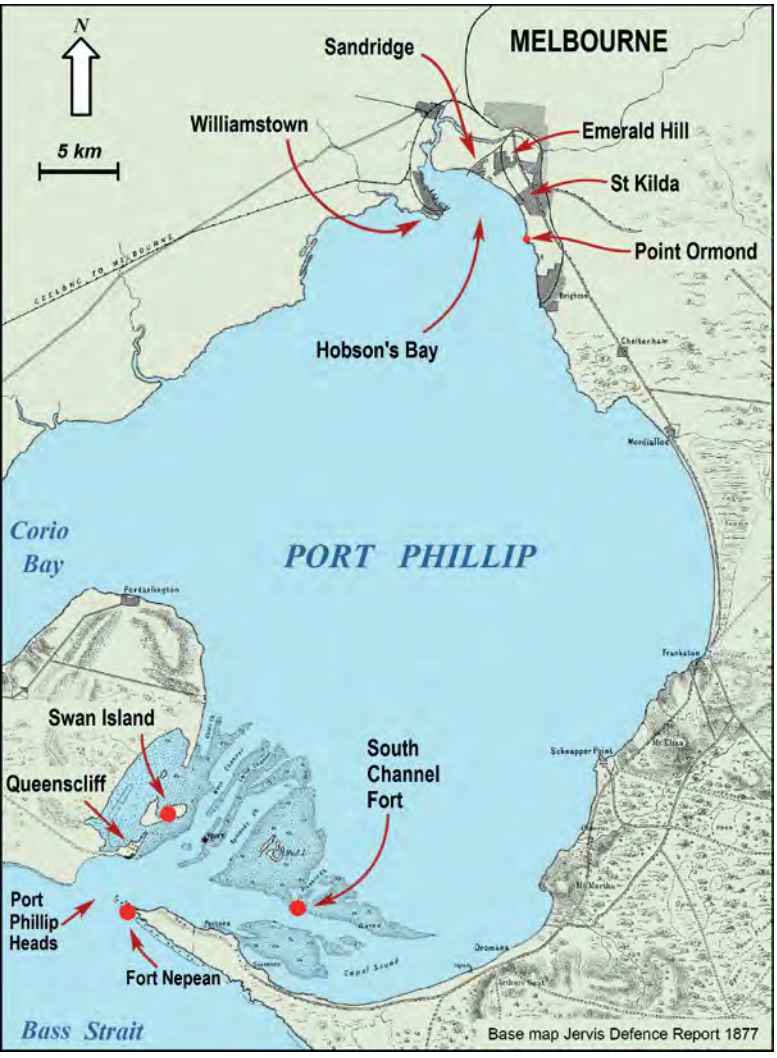
Soldiers, Swamps and Sand

Land Reclamation and the Military Road along Hobson's Bay – 1876 to 1892

by Colin Harvey

This article covers a number of minor horse-powered tramways, located around the north-eastern shores of Hobson's Bay in the late 19th century. All were engaged in land reclamation with a view to urban development and the filling of 'waste' lands which could be financially beneficial to the colonial or municipal authorities during the Land Boom of the 1870s and '80s. Connecting them all geographically is the Military Road (now known as Beaconsfield Parade) – never used by the military – constructed with the aid of a tramway, which also facilitated the removal of the earthworks of the first railway in Melbourne to be closed. Readers wishing to know more of reclamation tramways, south of the Yarra River are referred to *Light Railways* 156, wherein Peter Evans wrote about three small steam locomotives used on Fishermans Bend between 1906 and 1909. Nonetheless, there are still many lines in this area waiting to be researched.



The Defence of Melbourne

Until the creation of the Colony of Victoria in 1851, little effort had been made to create defences against attack on Port Phillip from foreign forces. The gold rushes of the 1850s resulted in a rapid increase in population and wealth, and hence value to the British Empire—and its potential enemies. The Crimean War (1853–1856) highlighted Russia, in particular, as a supposed threat. From 1854 the headquarters of the British Army in Australia was located in Melbourne with a permanent garrison of troops from Britain supplemented by a locally recruited volunteer force; but how were they to be used?[1]

Two contending schemes for the defence of Melbourne, which was thought to be the likely target, were the fortification of the Port Phillip Heads or the construction of shore batteries around Hobson's Bay close to the city. Little was done until 24-year-old Captain Peter Scratchley arrived with a detachment of Royal Engineers in June 1860. Scratchley had served in the Crimean War and the Indian Mutiny and had worked on the construction of batteries at Portsmouth in England. In Victoria he was to supervise the construction of some works recommended by the Commission on the Defences while advising on a complete system of defence for the colony.[2]

Scratchley's proposals for defending Port Phillip included forts at the Heads and in the South Channel, and a series of 11 batteries ranged around the shore of Hobson's Bay from Williamstown to Point Ormond: some of the batteries were already under construction. As the total cost of the proposals was £81,000, not including any guns, and needed 820 regular troops and a large number of volunteers, it is not surprising that Parliament did not rush to approve the scheme.[3] Among other works actually done over the next few years, four permanent batteries (and some lesser emplacements), armed with 68- and 32-pounder guns, were erected on the eastern side of Hobson's Bay between Sandridge (Port Melbourne) and St Kilda.

An important part of the defence scheme was the ability to move guns and land forces quickly around the coast to the point of any attack. To this end a military road or tramway was recommended. Scratchley was of the opinion that a tramway could be constructed inexpensively as it would carry very little traffic, using stone or iron sleepers and old rails; the latter of which he thought 'there must be a large stock in the colony'.[4] Some work on constructing a coast road was done at Williamstown leading to the steam ferry across the lower Yarra that was operational from 1873. The idea of a coast road connecting Sandridge with St Kilda was embraced enthusiastically by the municipalities through which it would pass—especially if they did not have to pay for it!

At that time the roughly triangular area between the port at Sandridge, Emerald Hill (South Melbourne), and the higher ground of St Kilda, consisted of a 'barren sandy waste', cleared of its formerly dense scrub, interspersed with swamps, and traversed by the Melbourne to St Kilda railway. On the area west of the railway were sited the main rifle ranges for the Melbourne area and it was also a location for military exercises and friendly societies' sporting events.[5]

By the mid-1870s, advancements in artillery technology had swung defence planning towards long-range batteries near the Heads, submarine mining of the channels and naval firepower (principally the steam monitor HMVS *Cerberus*) to prevent invaders from penetrating Port Phillip, and getting within range of Melbourne. There was no longer a need for batteries along Hobson's Bay, but the swamps and sand hills along the Bay were then beginning to be seen as residential development opportunities if they could be levelled and access provided.[6]

Sandridge viewed across the lagoon from the Orphan Asylum in Dorcas Street, Emerald Hill about 1875. Source: Annotated detail from State Library of Victoria photograph H835

Sandridge Lagoon

The first area to be filled for future sale was the northern part of the Sandridge Lagoon. The lagoon, located on the east side of Sandridge town, was an occasional outlet to Hobson's Bay for flood waters from the Yarra River but, as the receptacle of municipal drainage, had been transformed from a pleasant backwater into a 'filthy and pestiferous swamp'. The implementation of one of the various proposals for widening and straightening the Yarra was expected to remove the flood risk.

Some filling of the lagoon, probably the small portion north of Raglan Street, had been undertaken by the Sandridge Borough Council during 1872 using sand removed from the lagoon mouth. Work on filling in the part of the lagoon between Raglan Street and Bridge Street was started, at the direction of the Premier, James McCulloch, in October 1876 using a gang of prisoners housed at the Sandridge Lagoon Battery. Filling material was obtained from the sand hummocks around the battery and was transported by a tramway laid along Pickles Street, Liardet Street and Esplanade East. Iron rails, of 30 to 35 lb/yd weight, were reused from the Belfast (Port Fairy) jetty and harbour works: 2640 yards of single rail, and three sets of points, were obtained in October and a further 1320 yards of rail the following April. Some existing trucks were altered to suit the job by the Atlas Company of Engineers, Melbourne. The same company later supplied wheels and axles for new trucks, the bodies being constructed by the prisoners. Horses and drivers were hired from local contractors.[7]

With only about 20 prisoners employed initially, filling proceeded slowly. In 1878 the redundant footbridge in line with Bridge Street was sold, being replaced by a stone-flagged embankment.[8]

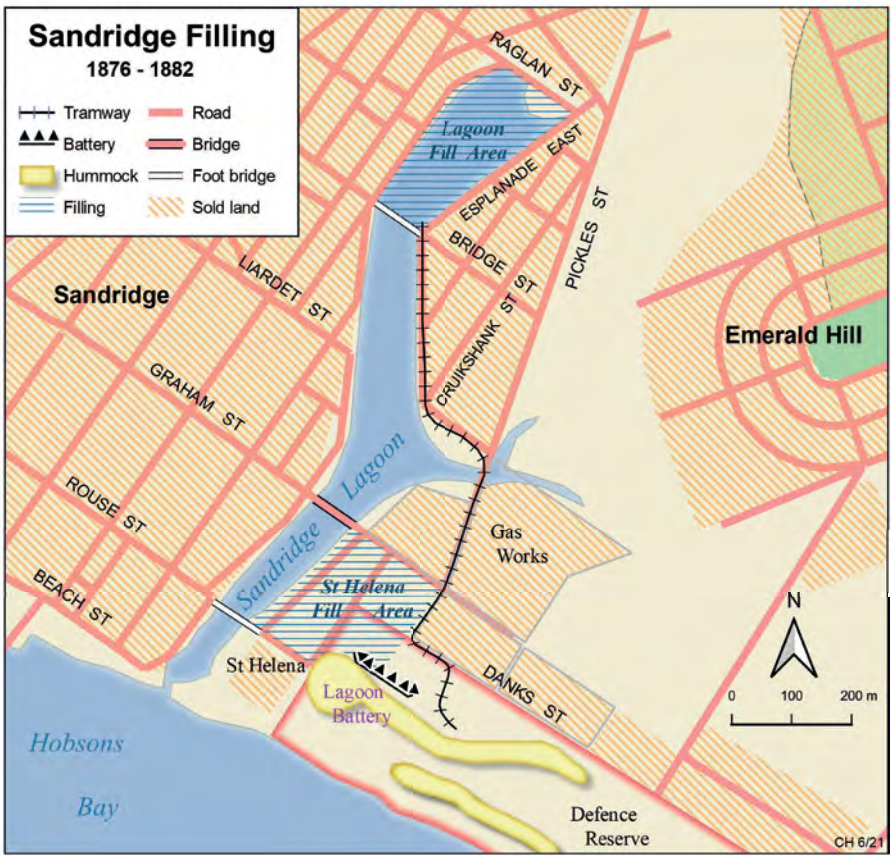
Filling of the north end of the lagoon was finally completed at the end of August 1879 (although not quite to the standard levels for building lots subsequently set by the Sandridge Borough Council, the effect of which can still be seen in Bridge St). The tramway was then loaned by the Public Works Department (PWD) to the Council for filling streets east of the lagoon for which it was diverted into Cruikshank Street. The tramway material was returned to the PWD the following May.[9]

The first of the land reclaimed by the prisoners was eventually sold as town lots at an auction held on 11 December 1883. The remainder of the lagoon was later filled by projects that did not involve the use of tramways so that by the end of the 1920s it was possible to connect Beaconsfield Parade directly with Beach Street.

Emerald Hill Rifle Ranges

Even though the reliance on defensive batteries along Hobson's Bay had been officially abandoned, the coastal municipalities continued to argue the case for constructing the military road and draining and filling the West Beach Swamp (an area north-west of St Kilda railway station). The military road was by then seen mainly as a means of increasing property prices in the area and providing work to the unemployed, but still having some military value. The Government agreed, and sums were placed on the 1878–79 Estimates to start construction of the road (£2000), for drainage of West Beach Swamp (£2000), and for filling and drainage of the swamps between Emerald Hill and St Kilda (£5000). One of the few residents of West Beach at this time, and thus a beneficiary of any increase in the area's amenity, was Francis Longmore, Minister of Lands.

In October 1875 Lands Department surveyor Nathaniel Munro had prepared a plan for the subdivision of all the land between present-day Kerferd Road and Fraser Street, thus creating the future pattern of streets, although many years of work would be required before all sections would be suitable for erecting buildings.[10]



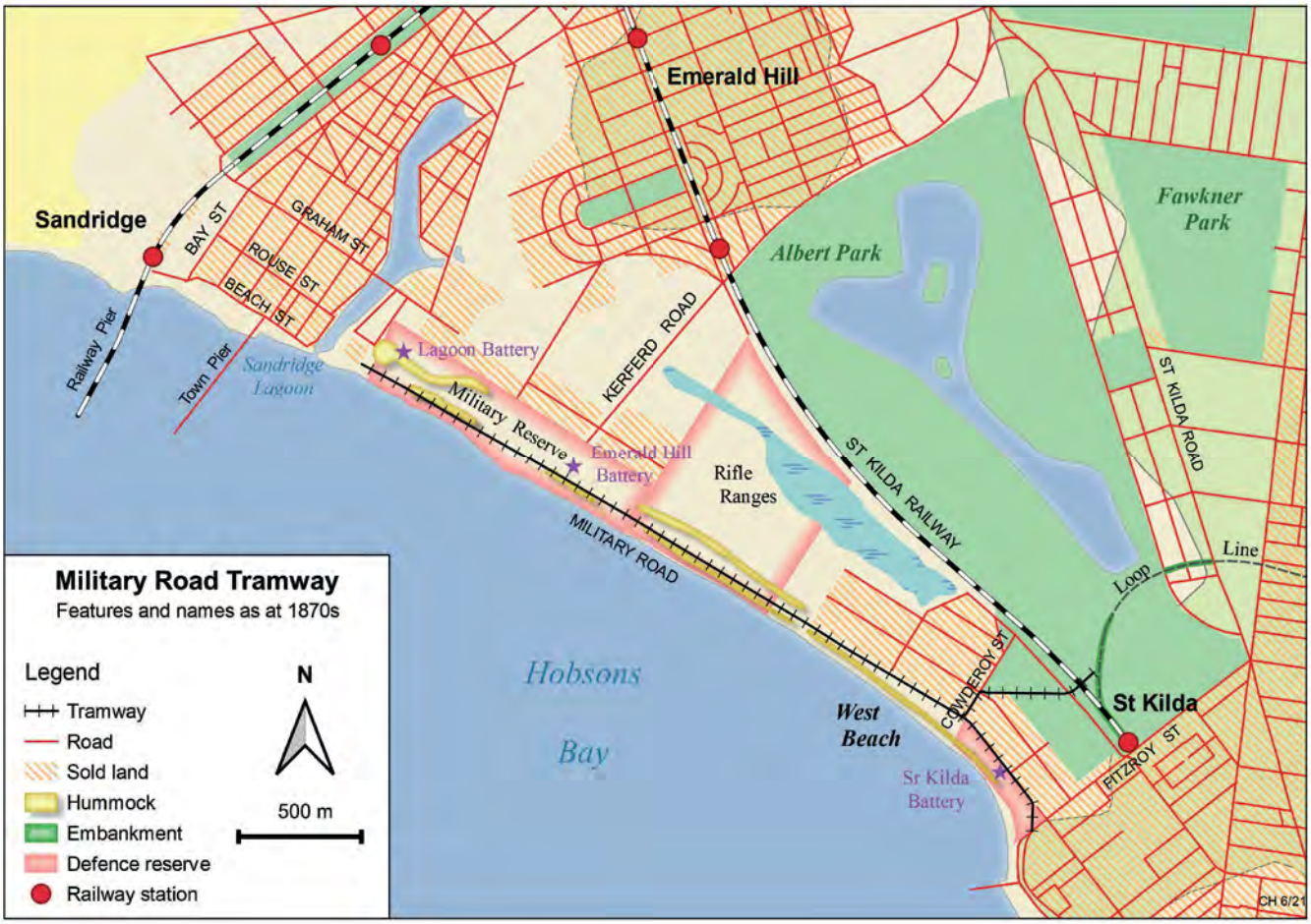
Significant steps to reclaim and sell Crown land between Emerald Hill and St Kilda began in January 1878 when Longmore directed that the 135-acre reservation for the rifle ranges be revoked; to the inconvenience of the defence volunteers (who had to move to Williamstown) but the enhanced safety of beach goers. It was generally agreed that the sale value of most of this land would be very much higher if it was first drained, filled and levelled. Much of the work could also be done using unskilled labour as unemployment relief.

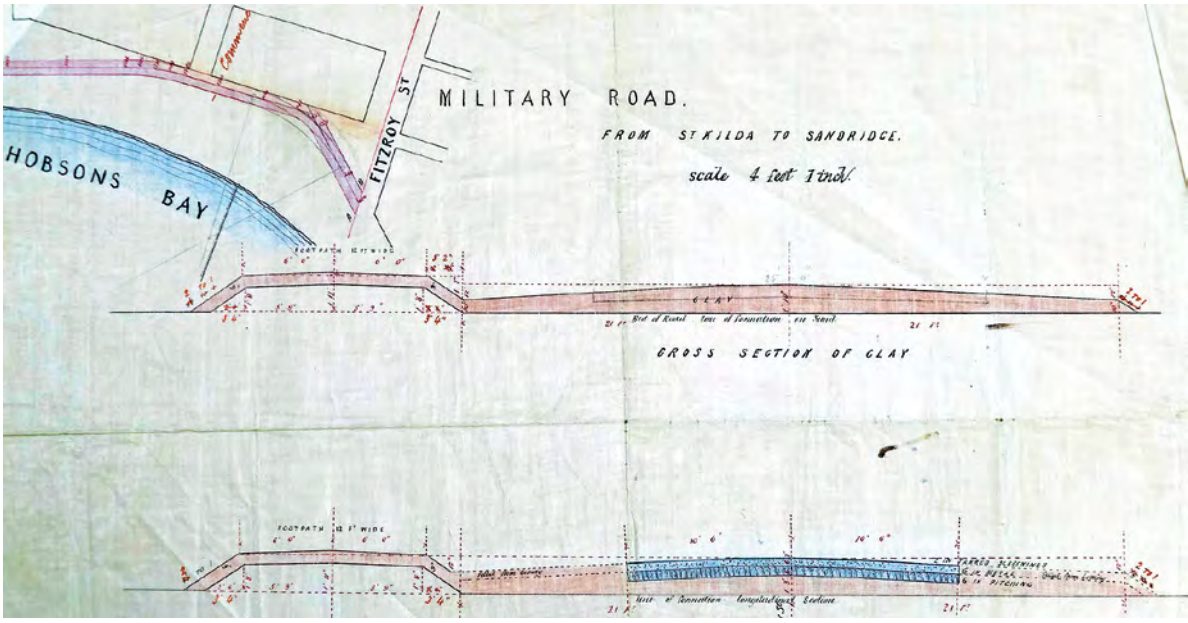
Work on cutting down the sand hills, constructing drains and filling the swamp at the rifle ranges commenced under the management of the PWD, using casual labour, on 25 May. One hundred and thirteen men, and 13 horses and drays, were taken on for the first week from the over 300 men who turned up for work; preference being given to those who had their own tools. It was immediately found that tramways would be necessary as 'the wheels of the drays and the horses' feet sink into the loose sand to such an extent that cartage is rendered almost impossible'. Rails were promptly borrowed from the Water Supply Department (where they had been used for the Yan Yean pipeline works) and six earth wagons where purchased from James Leggat, contractor for building the Oakleigh to Bunyip railway. Tramways were in use by the first week of June, the first being along the line of a drain being constructed to the sea. It appears that this, and most subsequent filling tramways in the area, were 5 ft 3 in gauge. All remaining military structures at the rifle ranges were sold by auction in July allowing filling and levelling to continue, with fresh gangs of men engaged each week under the supervision of former railway contractor Thomas Doran. The work was completed in September and attention turned to the Military Road.[11]

The Military Road

Detailed surveys for the Military Road between St Kilda and Sandridge Lagoon had been undertaken by Nathaniel Munro during 1878. The road was to be 183 chains long, 42 feet wide plus a 12 feet-wide footpath on the seaward side. Although sand filling was available from the ridges and beach, this material was unsuitable as the surface so a layer of clay, up to 20 inches thick, was to be applied. The centre 23-feet-width of the road was to be later pitched, metalled and tarred. Even then it was imagined as a grand sea-side boulevard lined with trees and Munro recognised that it should be designed to have a sea view and harmonise with the contour of the beach.[12]

Munro calculated that 13,640 cubic yards of clay would be required to surface each mile of road. Fortunately, a suitable source was close at hand in the former St Kilda–Brighton Railway 'loop line' embankments through Albert Park. These embankments, built in 1859, had been unused since 1862 when the railway company had rerouted its trains to run from Princes Bridge to Chapel Street (Windsor) over the Melbourne Railway Company's tracks.[13] The embankments could also provide material for covering sand used in filling the West Beach Swamp. Clearly, the only practical means of moving the earth to where it was required was by tramway. As the embankments to be removed were on the opposite side of the Melbourne–St Kilda railway from where the material was to be used, it was arranged that the government-owned Melbourne and Hobson's Bay United Railway Company would install a timber 'culvert' in the railway embankment near St Kilda station. The bridge, provided at a cost of £163 1d, was of made of timber with a 15 ft-wide opening, and it was designed to allow future conversion to a permanent brick structure for pedestrians.[14]





Nathaniel Munro's cross sections for the Military Road, February 1879. Source: VPRS 3686/ P5, Unit 281, Plan R TR 180

As had been done at the Emerald Hill works, casual labour for road construction was obtained from unemployed men as required, horses (and some drays) were hired from local sources, and Thomas Doran continued as the overseer and Edward Turner was the supervising engineer. Some tramway plant was available from the recently completed work at Emerald Hill, but for the first mile to the Military Road further rails (in 20ft lengths) and sleepers were borrowed by the PWD from the Water Supply Department at Preston. These were delivered progressively from January 1879.[15]

Formation of the road progressed from the St Kilda end. By May the work had reached the stage where a further mile and a half of tramway was required. Second-hand rails (probably double-headed) for this extension were obtained from the Victorian Railways at Echuca over the next few months.[16] In August four earth wagons were obtained from J S White at Oakleigh, and possibly some from the Water Supply Department the following month in conjunction with West Beach filling then getting started.[17]

By the end of 1879 the old railway embankment nearest

Former St Kilda and Brighton loop-line railway embankment and bridge near St Kilda station. For a line that was only used for three years an enormous amount of effort was put into building the extensive embankments and bridges. Source: Haig Collection, Newport Railway Museum. N0116a

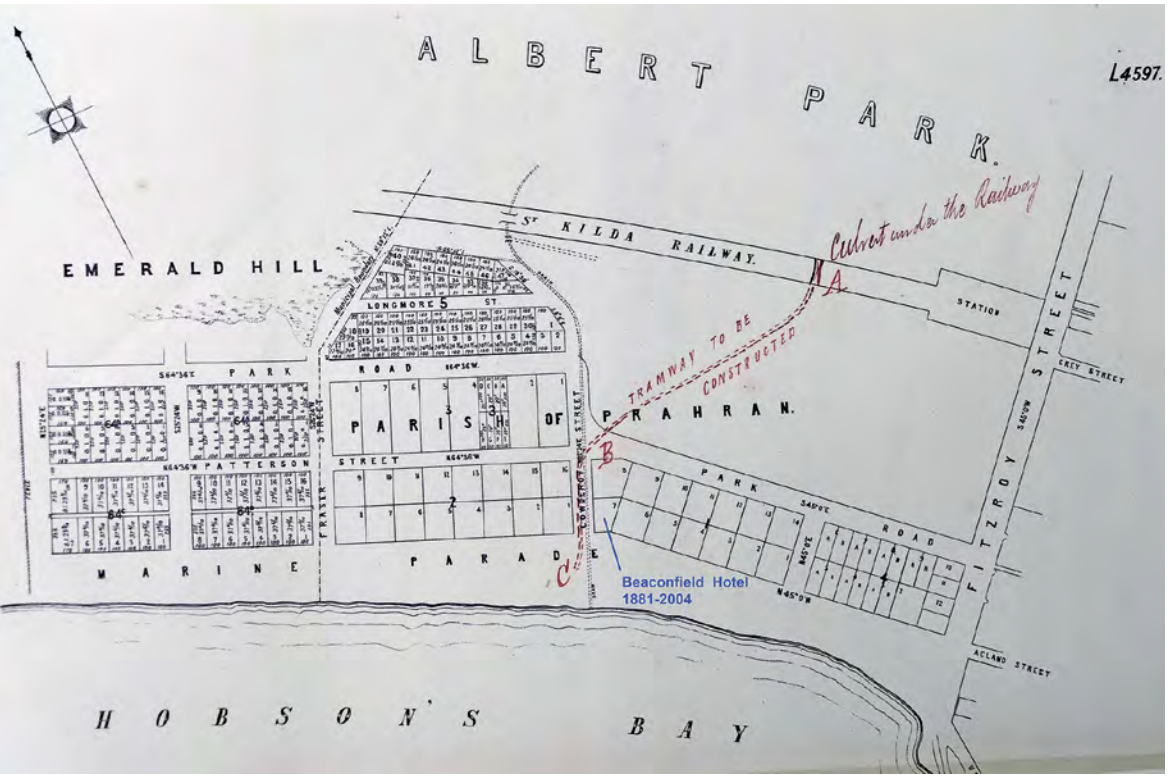
Part of Map of the lagoon in Albert Park. Note the curving formation and embankments of the St Kilda to Windsor (Brighton) loop line, used from 1859 to 1862 prior to a direct route being opened. H E Ward, Department of Lands and Survey, 1871. State Library of Victoria collection

St Kilda had been removed. Permission was then granted for the removal of soil from the similar embankment east of Albert Park Lake near St Kilda Road. Further rails were obtained from the Water Supply Department at this time, probably for the extension of the tramway across the park that was undertaken in February 1880.[18]

Whilst road construction proceeded, a comprehensive plan for planting trees and shrubs was prepared by the Government Botanist, Baron Ferdinand von Mueller. Although funds were not immediately available to carry out all the work, an area at the St Kilda end of the road was fenced and planted. At the suggestion of the Emerald Hill Council, it was decided that the future name of the road would be Beaconsfield Parade in honour of the British Prime Minister, Benjamin Disraeli, Earl of Beaconsfield. The new name was used interchangeably with Military Road for some years.[19]

Metalling of the road began in April 1880, from the St Kilda end, using unemployed-relief workers to break and lay the stone. Some stone was available from the abandoned batteries, but most was supplied as bluestone rubble by contractors using barges. Damage to the St Kilda pier, due to the landing of stone brought by barge from quarries at Williamstown, resulted in an unsuccessful call for the addition of a tramway to that structure. [20]

Some lucky men, in addition to gaining employment on the road works, found fortune in the sand. Over the course of construction, a large number of gold and silver coins were excavated. These had apparently been deliberately buried along the shoreline by unknown parties and thus were technically the property of the Crown, but, despite the efforts of the constabulary, the finders 'invariably disappeared after this unlooked for accession of riches'.[21]



Route of the tramway from Albert Park to the Military Road as proposed Nathaniel Munro in December 1878. Source VPRS 242/P0, Unit128, File G8564

In mid-1880 formation of the road was approaching the Sandridge Lagoon. It had been intended that a timber bridge would be constructed across the mouth of the lagoon, but the Sandridge Borough Council was advocating the formation of a boat harbour and so agreed to contribute £100 for the connection of the road to the existing Graham Street bridge.[22]

As the formation work came to end, rails used at the Sandridge end of the road were transferred to Swan Island to assist with constructing fortifications to control the entrance to Port Phillip. Metalling the road surface continued into 1881 after which maintenance became the responsibility of the municipalities. As a development project the road proved highly successful with most properties along its route sold even before its completion. Subsequent construction of sea walls and widening works have created a major five-lane highway and promenade along one of Melbourne's most popular beaches.

West Beach

The key to reclaiming and sale of the land between the railway and the beach was the provision of adequate drainage of the low-lying area. The most important drain was in the West Beach area of St Kilda as it also provided an outlet to the Bay for drainage from the streets of Prahran and was an overflow from Albert Park Lake. This drain was constructed through Albert Park and along Cowderoy Street in 1869–70 at the joint cost of the Victorian Government and the Boroughs of St Kilda and Prahran.[23]

Increasing the capacity and depth of the original West Beach drain was a prerequisite to the reclamation and sale of the West Beach swamp area that was being considered in the 1870s. Contractors Monie and Mattinson enlarged the drain in 1880 with the assistance of a tramway which they later tried to sell to the Council. The permanent stone culvert, arched over between the railway and the Bay, was completed by Willis Brothers in 1884.[24]

Postcard of West Beach, St Kilda in the early 1900s showing abandoned tramway track. Maybe the reclining couple have an interest in light railways! Source: Author's collection

The St Kilda Borough Surveyor calculated that the 26½ acres of Crown land bounded by Canterbury Road, Park Street, Fitzroy Street and Cowderoy Street would require 88,000 cubic yards of filling to raise the area an average of two feet and make it saleable. This would cost about £6700 but return £19,405 instead of nothing. The Government was convinced and, also with an eye to more unemployment relief, made funds available allowing work to start in August 1879. The process adopted was to remove the surface soil, add a couple of feet of sand (initially sourced from drift sand in Patterson Street), and replace the soil.[25] Not surprisingly, since the Military Road tramway ran diagonally through the area, tramways were used to move the material.

Additional trucks were acquired for the project (some were purchased from Fishburn & Morton, builder of the Springhurst to Wahgunyah railway) and extra rails were obtained from the Water Supply Department.[26] Horses and drays were hired as necessary.

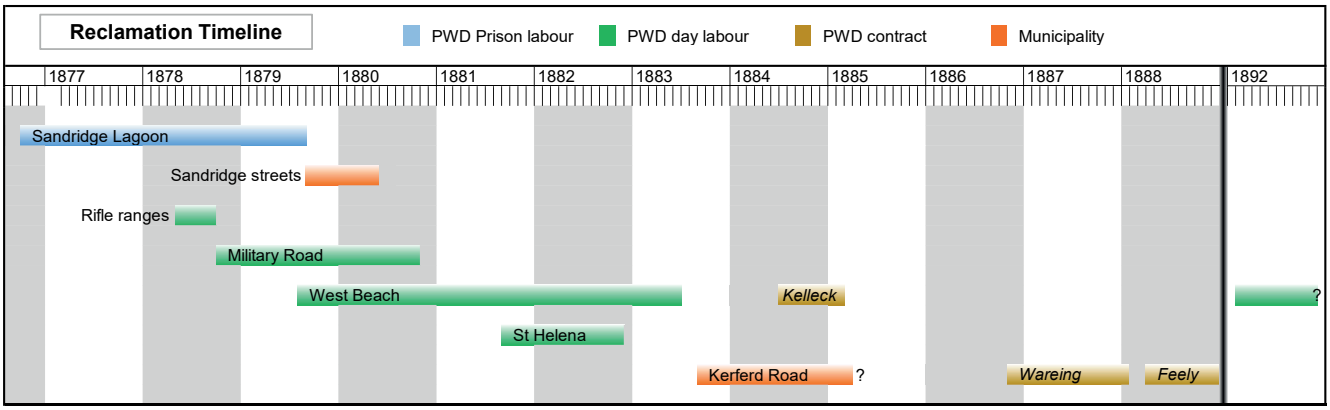
Swamp Works, as they were officially described, continued progressively north from St Kilda until funds were exhausted at the end of June 1883. By this time sufficient land had been sold and developed in the area to justify the opening of the aptly named Middle Park railway station on 1 July. Most of the West Beach tramway plant then lay out of use in Cowderoy Street until August 1884 when filling of the remaining portion of the swamp south of that street was resumed by contractor A H Kelleck. This was in accordance with the then government's policy of contracting works instead of directly employing workers. Kelleck's contract was completed at the end of January 1885, and it seems the tramway was removed in the middle of that year.[27]

An area of about six acres between Canterbury Road and Loch and Deakin Streets remained insufficiently filled until 1892. In February of that year a 'light tramway' (possibly 2 ft gauge, instead of the broad-gauge tramways previously used) was constructed by the PWD from the beach near the Beaconsfield Hotel, along Cowderoy Street. Over the tramway about 22,000 cubic yards of sand were transported, and deposited using day labour. The reclaimed land was sold in 1893 but the tramway was not entirely removed. Rails were still visible on the beach as late as 1928.[28]

St Helena

On the eastern side of the mouth of the Sandridge Lagoon stood an isolated block of houses known as St Helena; the name perhaps a humorous reference to the remote South Atlantic island of that name. To the north of the houses was low-lying Crown land bounded by Rouse Street, Graham Street, Esplanade East and Pickles Street. In August 1881 the Sandridge Borough Council prevailed upon the Minister of Works and Railways, Thomas Bent, to have this area reclaimed for sale in a similar way to the contemporary West Beach works. A gang of 60 men was promptly employed on this work with horses and drivers provided by contractors as usual. It seems that tramways of double-headed rails in chairs were used as Blackwood keys were required. These rails were probably recovered from the Military Road tramway.[29]

Work on the St Helena project was suspended about the end of 1882 with only the area south of Danks Street able to be sold the following March. Some soil used for covering the filling had been obtained by excavating a large hole in Rouse Street into which James Hitchins, a local attorney, fell some four years later causing fatal injuries. A subsequent series of precedent-setting court cases brought by his widow, determined that there was no obligation on the local council nor the Board of Land and Works to fill or fence the hole![30]



Kerferd Road

Although the Public Works Department undertook filling of much Crown land prior to sale, it had no responsibility to do the same for any proclaimed roads and, as at St Helena, it sometimes saw the latter as a source of filling material. Emerald Hill was surrounded by flood plain and expansion of development in any direction required many streets to be filled.

In late 1882 the Town Council's attention turned to filling Kerferd Road, and the adjacent streets in the vicinity of Albert Park railway station, using sand brought from the beach by tramway. The Council asked the Victorian Railways to lend it rails and sleepers for a mile of tramway, and four trucks.

Unfortunately, the assumption that the Railways would readily provide the plant requested proved erroneous. After some pressure was applied via the Minister, Thomas Bent, the Railways agreed to loan 3531 lineal yards of old T-rails that were lying at Batmans Hill and, eventually, some trucks. Four '5 ft 3 in side delivery trucks' 'built on an improved principle' were also rented from the PWD's suspended West Beach operation. The rails were laid in Kerferd Road by the Council and the tramway was operational at far as Montague Street from 7 September 1883. The first of a series of contracts was let to fill Faussett, Finlay, Merton and O'Grady Streets, using the tramway, in January 1884.[31]

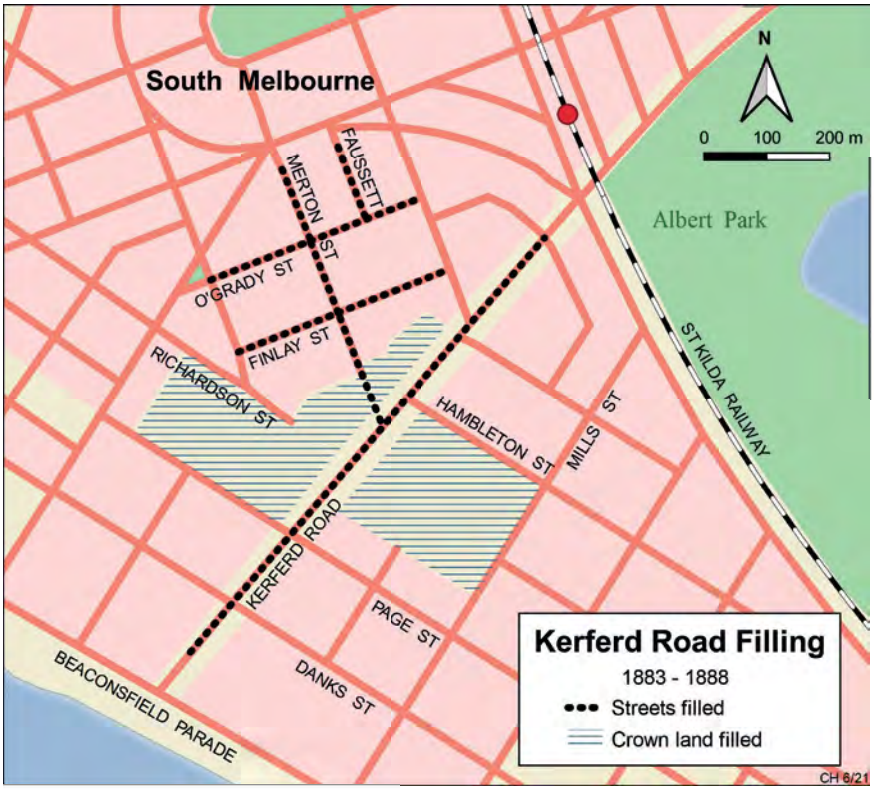
In July 1884 PWD reclaimed the trucks it had allowed the Council to use, as they were needed as part of the contract with Kelleck at West Beach. This caused an urgent search for replacements by the now South Melbourne City Council; six were purchased from a Mr Harding for £11 to £12 each.[32]

The convenience of the tramway had not escaped the notice of the Lands Department which still had unfilled land to sell abutting both sides of Kerferd Road. The Council was agreeable to arranging contracts to fill and cover some of this land in conjunction with the adjacent streets. Between November 1884 and mid-1885, contractor Pat Donovan applied 15,615 cubic yards of filling to the block between Montague and Richardson Streets[33] allowing it to realise an estimated 50 per cent higher sale price.

It seems the Kerferd Road tramway went out of use during 1885 as it was not mentioned the following year when the Council urged the Minister for Public Works to fill the block bounded by Kerferd Road, Hambleton Street, Mills Street and Richardson Street. A contract for raising this land was undertaken by William Wareing between November 1886 and January 1888. Under the contract the PWD was required to provide rails but the contractor was to find their own trucks. In September, Wareing had unsuccessfully attempted to borrow 20 trucks from the Department for this job. These may have been 3 ft 6 in-gauge vehicles then being used for silt distribution on the south bank of the Yarra.[34]

Meanwhile in Kerferd Road, the trucks, and presumably the rails, borrowed by the Council were 'half-buried in the sand, the council having been engaged for some time in the consideration of the problem how to get them out and restore them to their proper owners'. The Council made the creative proposal of auctioning the Victorian Railways' plant 'as is' and paying the proceeds to the Department. The Railway Commissioners tersely responded that they expected the rails, et cetera, to be returned and if any portion should be missing, the Council should pay accordingly. It took another six months to extricate the equipment from the 'maze of sand hills, and deep, unformed, evil smelling drains'.[35]

A further area between Richardson Street and Page Street on the north side of Kerferd Road was filled under PWD contracts during 1888. No evidence has been found of use of tramways here, but it is likely that they were utilised.[36]



Present day

Levelling of the lands between the St Kilda railway and the beach was immediately successful from a point of view of Government finances as land-boom speculators snapped up the lots as fast as they could be brought on the market. The area was, and is, one of the most desirable residential suburbs in Melbourne with accessible parks, beaches and excellent transport facilities.

There are no tangible remnants of any of the reclamation tramways, however the influence of the Military Road tramway continues in the form of the street layout at West Beach (Deakin Street) and the tramway subway under the St Kilda light-rail line. The subway was, as originally intended, rebuilt with brick abutments and a rail deck in 1906.[37] It continues to provide pedestrian and bicyclist access to Albert Park and determines the location of the traffic signals in Canterbury Road—so the 1879 tramway continues to affect twenty-first century traffic.

Acknowledgements

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Reconstructed Military Road tramway culvert in Albert Park, April 2019. The St Kilda railway was converted to standard gauge in 1987 and is now part of Melbourne's tramway network. Photo: Colin Harvey

Moreton Mill lift span bridge

Recent floods have claimed another piece of our history

by Clive Plater

The former Moreton Sugar Mill's lift span tramline bridge across the Maroochy River has been substantially washed away. The bridge's future has been in limbo since it was 'heritage listed' after the mill closed in 2003 and various jurisdictions deliberated on who would actually take ownership and accept responsibility for it.

In 2020, by which time the Queensland Government seemed to have accepted ownership and responsibility, the lift span section had become so dangerous that it was removed. The removed components were saved and are now securely stored at a government storage facility.

The bridge was constructed in 1921 to connect the cane growing areas north of the Maroochy River to the mill's tramway system. The construction of the bridge saw the tramline extend to Coolum and the mill operated a passenger service between Nambour and Coolum on weekends.

This is not the first time the bridge has been damaged during a flood, about half was totally washed away in 1947 and substantial damage occurred during floods in the 1950s. This was of course when the bridge was in good condition and well maintained unlike the past 20 years when no maintenance has occurred.

Let's hope something can be preserved. It has always been a popular fishing spot so a couple of the remaining spans on the Coolum side could be made into a jetty and the previously removed lift section could be re-erected on dry land adjacent to the jetty along with relevant interpretive signage telling the history of the bridge.

Above: *Damage caused to the bridge in 1947. Note that the lift span survived but the rest of the structure has been washed away and the rail tracks holding the sleepers together are spread along the opposite bank. Photo: Clive Plater collection*

Below: *Remains of the bridge after the 2022 floods. Photo: Clive Plater*

A selection of photos of the Moreton Mill lift span bridge when it was in full operation

Com-Eng locomotive Kalbo *eases across the lift span with a maintenance train as the bridge crew watches on 11 December 1979. Photo: John Browning*

The lift section has been partially raised as locomotive Moreton *looks on from the far bank on 15 August 2001. Photo: Brian Webber*

Locomotive Moreton *hauls a rake of empty wagons across the Maroochy River bridge on 17 September 2002. Photo: Brian Webber*

Rubicon From the camera of Lindsay G Cumming

In 2011, a large number of photographs taken by Alexandra (Victoria) identity Lindsay Gordon Cumming (1894 - 1979) were donated to the State Library of Victoria. The photos, taken between c1912 and c1950 mainly depict life, family and events in the Alexandra area. Local industry, including the recently established sawmilling operations in the nearby Rubicon Forest, often feature. At various times Cumming had a photographic studio, bicycle shop, was a bee-keeper, and from 1918 the Ford motor-car dealership. Some of his photographs appear in the society's book *Rails to Rubicon* by Peter Evans (recently reprinted) and in *Light Railways* No.270 'Rubicon Pioneers' Picnic'. A further selection are included here.

The 1909 arrival of a Victorian Railways' branch line at Alexandra, in North-Eastern Victoria, enabled sawmilling in the Rubicon Forest to be put on a commercial footing. In anticipation of the railway's arrival, a group of local men formed a company, known as Clark & Kidd, to build a tramway high into the Rubicon valley to exploit the towering eucalypts. Their tramway, of 3ft 4½in-gauge, initially ran from the Rubicon/Royston rivers' junction (later extended to The Depot), on the closest "road", to their water-powered sawmill some 3½ miles distant, high in the mountains. The following year, another company entered the forest, the Rubicon Lumber & Tramway Company. Locally known as the 'Lumber Company', they built a mill some two miles further south from Clark & Kidd's mill. Initially there was a degree of animosity between the two entities but in the end, they had to co-operate in order to get their respective timber to Alexandra station.

Phil Rickard

Left: *Prior to the building of the Lumber Company's 2ft-gauge steel tramway from Alexandra to the forest's edge, where Clark & Kidd's wooden-railed tramway ended, the partners were using a 'light' Fowler traction engine for timber haulage to the railway station. Initially that was to Alexandra Road station, some 17 miles from their timber depot, but in 1909 the Victorian Railways extended the railway by 4½ miles, into Alexandra town where this photo was taken. Photo: State Library of Victoria H2005.88/23*

Below: *Rubicon Lumber & Tramway Co's No.1 locomotive, Krauss 0-4-0WT b/n 2459/1891 getting ready to depart Alexandra with an assorted load, destined for various customers in the bush. No.1 was the only locomotive for seven years before another Krauss loco arrived. A feature of the steel tramway was the use of sprung steel bogies with railway-profile wheels. These were manufactured by Bochumer Verein (Bochum Union). Photo: State Library of Victoria H2011.136/12*

Above and below: *The Depot, so-called as it was where timber from the sawmills of both Clark & Kidd and the Rubicon Lumber & Tramway Co was transferred from Clark & Kidd's 3ft 4½in-gauge wooden-railed tramway to the Lumber Company's 2ft-gauge steel-railed tramway for the remaining 12½ miles to Alexandra railway station. On a fine warm summer's day, our photographer, Lin Cumming, records the Lumber Co's No.1 locomotive, a Krauss (b/n 2459/1891) resting at its usual ashpan-raking spot while its train is prepared. Photo: SLV H2011.136/11*

Above: *Possibly near Tin Hut, at the foot of the range, this is one of a pair of photos, taken on some patriotic occasion – maybe the start of the Great War in August 1914 or possibly the visit of the Governor, Sir Thomas Gibson-Carmichael on 25 April 1911 when His Excellency had the pleasure of riding Clark & Kidd's tram to view Rubicon Falls. A truck load of timber has arrived from the mill, to be met by four Model T Ford motor cars. Arthur Kidd, one of the principals of Clark & Kidd, is standing at the right in the dark suit. Photo: SLV H2005.88/295*

Right: *A sunny day finds friends (or family?) of Lin Cumming, somewhere in the Rubicon valley, making use of Clark & Kidd's tramway to bridge a fast-flowing stream. Three posed photographs were taken at this location. The car, believed to be a 1913 Overland (Model 69 Touring), looks quite new so the date may well be 1914. Lin Cumming would have been 20 years old at the time and using his Thornton-Pickard Special Ruby Altrincham glass half-plate camera. What a jarring, bumpy journey it must have been, along what was in effect a corduroy road. One wonders about tyre damage due to stray nails in the sleepers or packing. Definitely not a trip to be contemplated after a big night out, if one was feeling a bit 'dodgy' or head-achy! Photo: SLV ref: H2005.88/433*

Overleaf: *Looking south at the Eildon Bridge near Thornton. A warm summer's morning finds Bluey giving the leading wheels of a truck load of timber a close inspection. Will he bother to lift a leg or maybe scamper off to frolic in the chilly waters of a rain-swollen Goulburn River? Meanwhile, all the humans and equines are directing their attentions towards Lin Cumming's camera. Sizzling quietly in the middle of four truck loads of timber is Krauss loco No.1, the first of three 0-4-0WT locos from the same builder that found their way into the Lumber Company's fleet. Bringing up the rear of the train are a truck-load of palings and one of, possibly, potatoes. A number of Thornton locals seem to be getting a lift into Alexandra. It was upon the previous bridge at this spot that No.1 came to grief on 16 December 1911 when a span broke beneath it with spectacular results. Photo: State Library of Victoria. H2005.88/21*

A thorough reading of the various accounts of the opening of the tramway will quickly confirm that this is not the first train to Aramac on 2 July 1913, although it is often captioned as such. On opening day two trains were run; the first arrived at Aramac (temporary siding) around 11am carrying crowds of Barcaldinites. The second (carrying the Minister for Railways and the official party) arrived around 5pm as the gloom set in. The tramway's sole carriage was assisted by three carriages hired from the QGR. The track at Aramac was festooned with banners, flags and ribbons and the official train came in with the engine tender-first, none of which agrees with the photo. However it may be the first train to Aramac station, in late July following completion of bridge 8. The temporary terminus, on the island between Aramac Creek and the adjacent chain of billabongs, had a siding and the line was 'rocked in' on a causeway to protect it from floods and this photo, with No.31 in charge, seems to show both. Photo courtesy: State Library of Queensland, Negative number 6821

Aramac Tramway's locomotive problems, 1911-15

by Phil Rickard

One of the joys for those interested in steam locomotives is to sit late into the night, to ponder and dream upon what might have been . . .

Readers of the society's publication *The Aramac Tramway* (Peter Bell & John Kerr, 2002) would be aware that the 3ft 6in-gauge tramway, owned and operated by the Aramac Shire Council, faced considerable locomotive problems during its first few years.

The tramway, situated close to the geographical centre of Queensland, was constructed by the shire council as it was unable to secure a government railway to Aramac, from the nearest Queensland Railways' station at Barcaldine, about 41 miles distant. Aramac was one of the oldest towns in central Queensland and was the centre of many large pastoral properties yet it was bypassed when the Rockhampton to Longreach (Central Railway) came through the area to reach Barcaldine in 1886 and Longreach in 1892.

Somewhat aggrieved, the Aramac Shire Council, was determined to secure a railway. In the event it had to build the line itself due to government refusal, hoping ultimately that it would be taken over by the government and continued as an inland connecting line to the Northern Railway. Unfortunately for Aramac the government decided to build that connection further to the west (Longreach to Winton, though it did not happen until September 1928) and Aramac was again ignored. None-the-less, for the Aramac Tramway, the first years following full opening in 1913 were good years. Thousands of bales of wool plus vast numbers of sheep, and other goods that had previously hoofed or wheeled it from the Muttaburra and Aramac districts, to or from Barcaldine, headed for Aramac as it saved over forty dusty (or wet) miles of travel on rough tracks.

Good seasons and bad seasons, large flocks of sheep had to be moved to meatworks for processing or better pastures for agistment. Aramac, Nine Mile, Mildura (Bowyer) and other sidings along the line catered for this traffic together with smaller numbers of cattle and a myriad of other goods. The tramway actually made money for a few years! But there was a problem – its locomotive, an ancient ex-Queensland Govt Railways B12-class 2-6-0. Built in 1877 by Avonside Engine Co (b/n 1179), No.31 (it retained its old number, and was always referred to it as such by the council) was under-powered, even on the tramway's rather flat line of rails across the "black soil" plains of Mitchell grass. Being old, it was in near-constant need of repair.

Purchased by the Aramac Shire in December 1911, it was held at Emerald pending the QGR putting in the junction near Lagoon Creek, just west of Barcaldine in early February 1912.[1] It then hauled all the construction trains before also being pressed into occasional and day-to-day tramway service – firstly to the Sixteen-mile (near the later Ascot/Clemesha) in late June 1912; then Mildura in September 1912 (the half-way point, 21 mls 15 ch – later renamed Bowyer). Closer to Aramac, regular service opened to Nine Mile siding from February 1913; Aramac temporary siding (south side of the creek) from 2 July and finally to Aramac station a couple of weeks later, after the last bridge into town was finished. Realising No.31's shortcomings – old, under-powered plus occasional derailments being a few of them, the shire started looking for a new locomotive.

Locomotive hirings – 1913 and 1914

In early June 1913 the local paper (*The Western Champion and General Advertiser for the Central-Western Districts*, Barcaldine) reported that a "new and stronger engine has been procured".[2] What the paper's correspondent had seen was a B13 (4-6-0) on hire from the QGR. Whenever No.31 broke down or if extra trains were required for construction or goods movement a locomotive would be hired from the QGR. Hire charge sheets compiled by the Railways seem to indicate an engine was hired for a few days in May and all of either June or July, the latter costing council £54 3s 4d. By August the hiring charge for a B13 was set at £13 10s per week.[3]

Early the following year, the *Western Champion* of 7 February 1914 reprinted a fairly recent grumbling letter to the editor of the Emerald newspaper:

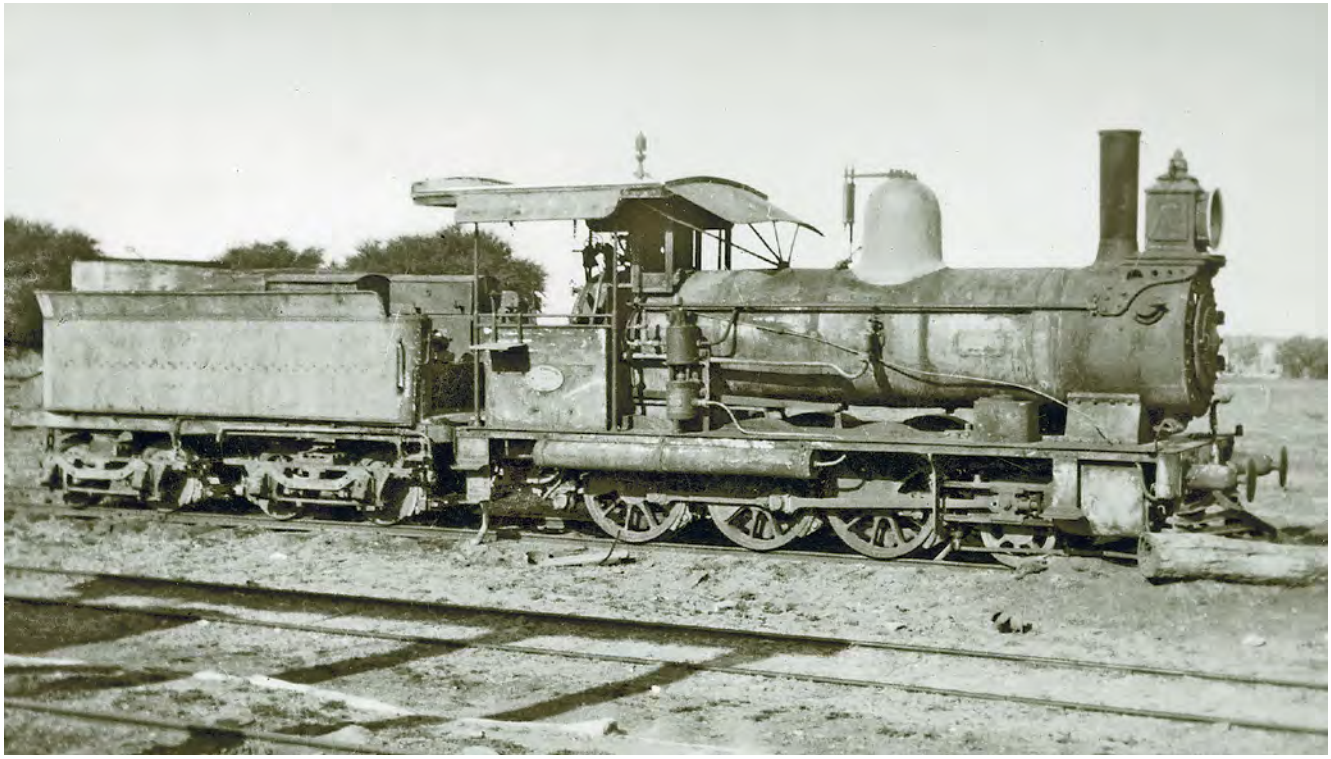
> "Yesterday [actual date not stated] our fast and furious tram engine had some of her tubes blown out. The train left at the usual time and had not gone more than two-and-a-half miles [from Aramac] when the accident occurred. The driver and fireman had a most narrow escape as the boiling water rushed out and emptied the boiler in a few moments. The engine was totally unfit to travel."[4]

In the event, the QGR's Traffic Manager of the Central line sent an engine from Longreach, found a carriage, collected the waiting passengers and mail from Barcaldine and conveyed them out to Aramac. One presumes it propelled the disabled train back into the station. Oddly, the *Western Champion* relates little more of the event, nor did the following editions when, if the report was incorrect, it would surely have been refuted by the Aramac council. However, the QGR hire charge sheets for the period tell us that a locomotive was hired to the Tramway from late January until late June at a cost of over £260 and it is very tempting to link the two events.[5]

There is no indication on the charge sheets that the Tramway incurred a fee for the rescue train and one wonders whether the local Traffic Manager considered it a repayment of a previous event. In early June 1913 the QGR's eastbound Mail train from Longreach suffered a derailment near Brixton, about 24 miles west of Barcaldine – the locomotive's tender being the culprit. As the Tramway's No.31 was at Barcaldine awaiting the Mail train's arrival, the shire allowed its loco to be sent to the rescue. In the event the Mail train's crew had managed to re-rail the errant tender and No.31 was placed in a siding at Saltern to allow the Mail to pass.[6] Such prompt assistance, even if not actually required, would be appreciated and remembered by any Traffic Manager.

In March 1914, just seven months after full opening, the council meeting moved that application be made to Treasury in Brisbane for a loan of £4000 with which to buy a new B13-class locomotive. B13s were 4-6-0 engines, somewhat larger than the ancient B12 in use.[7] Two months later, a council delegation heading to Brisbane on various matters was instructed to interview the QGR's Chief Engineer regarding buying a second-hand B13 as it was believed the railways was disposing of some at reasonable prices.[8] By July a special meeting of council reaffirmed the earlier resolution to borrow £4000 for a new engine – presumably no satisfaction had been obtained from the Brisbane enquiries.[9]

However, the above resolution seems a bit strange as in *The Aramac Tramway*, authors Kerr & Bell state that pre-1915 the council had hired a "long-wheelbase B13" (B13s came in normal and long-wheelbase models). No actual dates are



In October 1911, QGR B12-class, No.31, was sold to the Shire of Aramac for £1200. By early 1912 she was busy working construction trains between the stockpiles of sleepers, bridging timbers, rails and fastenings at Barcaldine and the advancing railhead. A trip on a construction train is described in the Western Champion 10 August 1912. The line was completed in July 1913, and henceforth No.31 had to operate all the tramway's trains, however its age and increasing unreliability led to the hiring of locos from the QGR on many occasions. The purchase of No.308 (a B15) in late December 1915, saw No.31 put on standby for the next 8½ years until April 1924 when A1 arrived. No.31 was promptly put up for sale, but there were no takers. In 1938 its boiler was sold for £20 to a Mr L Bray who removed the copper tubes for scrap. The rest slowly disappeared until the late 1990s when the rusted remains, plus the old Baldwin tender, became part of the Aramac Tramway Museum. Seen here is a derelict No.31 at Aramac. Photo courtesy: G.E. Bond, Ken Rogers Memorial Library, ARHS Qld Division

known though the locomotive was said to be not successful being "rough on the track". This hiring of a B13 could relate to either the June 1913 hiring or the January to June 1914 loco hiring – the council's tramway expenditure for June includes "Paid Railways Rent of locomotive £85 11s 8d".[10] If a B13 was no good in June, why try and buy one in July or did they want the normal wheel-base model?

By November 1914, matters do not seem to have advanced much – the outbreak of war in Europe seemed to be occupying many. The council meeting that month definitely decided they did not want a second-hand engine anymore, rather, they wanted a loan of £3500 for a new locomotive.[11] Four months later, the March 1915 council meeting finally passed a resolution regarding this and it was adopted.[12] Application was duly made to Brisbane and in late May the Governor-in-Council granted the shire council the desired loan.[13]

Locomotive hirings - 1915

While all this was going on, council had hired a PB15-class 4-6-0 from the railways to assist the ageing No.31. The actual date of hiring is not known but the shire presumably found the PB15 loco answered its current needs. PB15s had only been introduced in 1900 and over 200 were built up to 1912 – they were of a pleasing appearance and could be considered one of the most successful Queensland locomotive designs up to that time. With 4ft diameter drivers, 24 tons adhesive weight and a useful tractive effort it is no wonder the council was pleased with the hired locomotive. Thus, in June 1915 some concern was expressed at the council meeting when a telegram from the Locomotive Engineer at Rockhampton was read out, advising they were withdrawing the PB15 and would replace it with a B13. A year previously the council had aspired to a B13, but now they claimed that it was "quite unsuitable for our line" which recalls what the tramway staff had earlier said about it being "rough on the track".

As a result, the meeting resolved to have its railway engineer, the well-known George Phillips CE, urgently wait upon the Railway Commissioner, requesting the hire of a C13-class (2-8-0) with the option to purchase same. Maybe the council wanted to compare a small Consolidation with the PB15 or did Phillips advise them to think towards an eight-coupled engine? Additionally, Engineer Phillips was to institute enquiries with Walkers Limited; Evans, Anderson, Phelan & Co; Toowoomba Foundry Co; Brand & Dryborough; and the Queensland Machinery Company to see if a C13 could be constructed in the 'colony' or imported. Only the first three listed actually constructed locomotives, the others being agents.[14]

A month later Phillips reported on various hiring options and council duly accepted the Commissioner's offer of a three-month hire of a C13, with an option to purchase if found useful. One wonders if anyone in Brisbane railway HQ ever read the *Western Champion's* report of the July council meeting. Happy to accept the QGR's offer, one feels the council might have been pushing its luck with the following motion:

> "That the Railway Commissioner's offer to lease for three months, with the option of purchase, an engine of C13 class be accepted, but that before closing [the deal] Mr Phillips be requested to ascertain from the Commissioner if the engine would be delivered free of mileage at Barcaldine, and if the rent for the time it was used by the Tramway would be allowed in reduction of the purchase money if Council decided to buy." [15]

The Shire's second locomotive, A2, was this ex-QGR B15 308, built by Walkers Limited in 1897. B15s were originally built with driving wheels just three feet in diameter but were soon re-built with 3ft 9in drivers, which put them into a useful mixed traffic category. B15 308 was sold to the shire in December 1915 for £2002 and was 'converted' to the larger wheels just before sale, which reclassified her to a B15 Con. Number 308's arrival ended a long string of hired locomotives, none of which has been found successful bar one – a PB15. The second-hand B15, a predecessor of the PB15, was a useful stop-gap pending the purchase of a brand-new locomotive nine years later, at which time No.308 was renumbered A2. In 1943, needing a new boiler, it was taken out of service as soon as A1 received its new boiler. In August 1949 A2 was offered for sale. It is seen here at Aramac in January 1957 prior to being sold for scrap in 1958. Photo courtesy: late Ron Preston

The Shire of Aramac's third steam locomotive was specially built by the QGR at their Ipswich Workshops, being a PB15-class with some slight modifications – cost £7546 4s 9d. With driving wheels four feet in diameter, a 160 lb boiler pressure, and cylinders of 15in x 20in actuated by Stephenson's valve gear, a useful tractive effort of 12,000 lbs was reckoned upon at 80% pressure. A quintessentially Queensland design to comply with the very limiting axle load of eight tons, over 200 of these good-looking locomotives were built, commencing in 1900. Bearing brass number plate 'No.A1', it was handed over to shire officials at Barcaldine on 15 April 1924 and entered service the following week. The tramway crew kept the locomotive very clean and even added a distinctive white star and white rivets to the smokebox, plus white buffer faces, setting it apart from any QGR engines it might encounter in the Barcaldine yard where the late Ron Preston photographed it on 2 January 1957. In 1958, upon arrival of a 0-6-0DM from ComEng, A1 was offered to the QGR who, amazingly, bought it.

August 1915 witnessed very heavy traffic on the tramway – mainly sheep, similar to July when numbers of sheep were 42,613; cattle 43; horses 14; for revenue of £587 7s 10d. An intriguing category was "bikes and dogs £2 10s 3d" – presumably dogs were allowed to bring their bikes. Total revenue in July was almost £1272; expenditure about £577, of which £105 was the hire of a QGR locomotive, probably the PB15-class it had in May rather than the B13 that Rockhampton had tried to foist upon them.[16] Whatever the case, the C13 No.115 (Dübs & Co 1752/1883) arranged by Phillips, arrived in late August for its three-month stint, replacing the earlier hired engine.

The following month tenders were called for duplicating the existing engine shed using the same plans and specifications; it was finally finished in August 1917. In addition, the shire's own forty-year-old engine, No.31, underwent more repairs.[17]

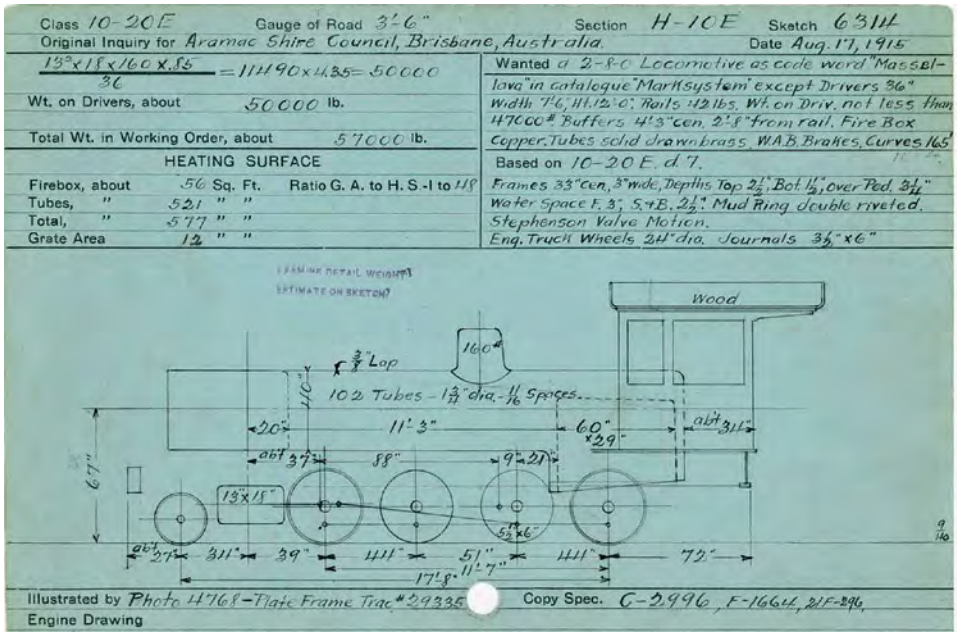
For reasons not stated, the C13 115 was also found unsatisfactory and the Tramway's traffic manager (Thomas Campbell) reported same to council in October and November. One reason was the inherent poor steaming of the C13s, a problem that was only somewhat rectified when they were reboilered in 1907-08. Additionally, the loco was under-powered for the task and the tiny 2ft 8in drivers made for very slow running and ruined the timetable.[18] The Shire gave notice to the QGR that it would not be purchasing the engine and would return it to Barcaldine at the expiry of the three months' option, viz., 25 November. Interestingly, the tramway expenditure for October states "Rent of engines £154 8s 4d" – the use of the plural raises another query. Was the rent for the C13 and some of the previous PB15 or was another engine briefly hired.[19]

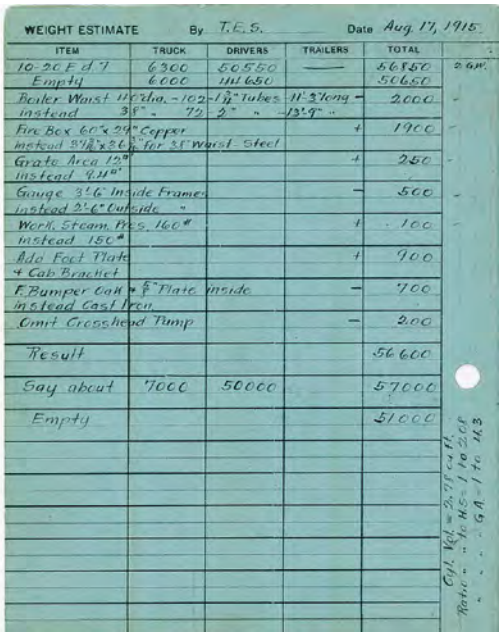
Locomotive purchases

With the Consolidation loco rejected, the tramway was back to having just one engine, the veteran No.31, and Council appointed a sub-committee to deal with all locomotive matters to do with the purchase of another engine. In an interesting aside, the November council meeting also instructed Engineer Phillips to contact the Chillagoe Railway & Mining Company to try and obtain a three-month lease of a couple of its locomotives with the option to purchase for £2000 each, council offering a deposit of £250.[20] Which of the Chillagoe Railway's nine engines was being considered is not known, but this avenue of enquiry clearly proved to be a dead-end.

A month later it was revealed that the council had completed arrangements to purchase a B15-class 4-6-0 locomotive from the QGR. The B15 was an antecedent to the PB15, originally having 3ft drivers but had been 'converted' to 3ft 9in drivers prior to sale to the Shire. Built by Walkers Limited (b/n 10/1897), engine B15 Con No. 308, was only 18 years old and was hoped to be at Aramac by the end of December.[21] It duly arrived and relieved the motive power situation for the next nine years prior to the arrival at Barcaldine on 15 April 1924 of a specially-built PB15 from Ipswich Workshops (b/n 103/1923).[22]

The arrival of the PB15 in 1924 saw a numbering of the tramway's locomotives – the B15 becoming 'A2' and the PB15 becoming 'A1'. Prior to A1's arrival, old No.31 had only been used when absolutely necessary; in June 1921 the council ordered it be repaired just sufficiently in order to meet any contingency if No.308 might suffer a failure.[23] With the arrival of A1 the council promptly advertised No.31 for sale "in fair order".[24] No one wanted it and its remains are still at Aramac. The remainder of the history of the ASC's locomotives are well-known; see Suggested Reading, below.





The loco that never was – a Baldwin

But what of council's earlier instructions of June 1915 to engineer George Phillips about making enquiries for buying a new C13 loco in Queensland or overseas? I was recently having a trawl through the Baldwin Locomotive Works' enquiry sketches that are held at the Southern Methodist University in Dallas, Texas, USA, and came upon an interesting card dated 17 August 1915. It was prepared for the Aramac Shire Council, almost certainly as a result of an enquiry by one of the agents that Phillips had been told to contact.

The card depicts a small 2-8-0 tender locomotive with 13in x 18in cylinders, 160 lbs boiler pressure, driving wheels of 3ft diameter and a grate area of 12 sq ft., for running on 42 lb rail – that being the weight per yard of the Aramac Tramway's line. Whoever had made the enquiry clearly had a BLW catalogue in front of them as they stipulated that the loco required was to be like "code word *Massellava* except drivers 36in etc.," as per the attached image. *Massellava*, in the BLW catalogue, was code for a basic model 3ft-gauge 2-8-0 Baldwin class 10-20-E with 37in drivers. This would form the basis onto which the client's wishes could be incorporated.

Thus we see on the Weight Estimate card, the enquiry clerk has added and subtracted from the weight of various known items to arrive at an estimated weight for the proposed locomotive. In this case, it seems the clerk has started with a known engine of a type favoured by Cuban sugar mills, a 2ft 6in-gauge version of class 10-20-E. By having inside frames on 3ft 6in gauge instead of outside frames on 2ft 6in gauge a saving of 500 lbs was reckoned upon, and so on. The stipulation of 3ft driving wheels is interesting, suggesting that the tiny drivers on the hired engine C13 115 had been noted and a decision made for something a bit larger.

Though Phillips had been instructed by council to look for a C13, the Baldwin sketch is clearly for something substantially larger and heavier, with a tractive effort about the same as a C15. Though the proposed loco has 13in cylinders, the stroke is longer and the boiler pressure higher. One assumes the proposal was relayed to the council who, cognisant of its Traffic Manager's poor report on the hired C13, rejected it and set their sights firmly on a B15 and a PB15.

Consequently, a purpose-built small-drivered Baldwin never trundled Aramac's black-soil plains but it is an interesting aside and a look into what was going on in Aramac in 1915 and the trials and tribulations of a rural shire trying to run its own railway. Maybe someone with a greater knowledge of the labyrinthine Baldwin classification scheme than I, can identify the original locomotive used as the base.

Acknowledgements; My grateful thanks to John Browning for his interest, sharing of items from the Queensland archives and helping to keep me from making too many faux pas! Thanks also to Dr Ruth Kerr for making freely available the John & Ruth Kerr database at the University of Queensland.

Notes re map: The spelling of the tramway stations shown are the correct names and thus some will differ from those shown in the QGR timetables and Govt maps, and in all railway histories consulted. CLEMESHA was named after Cr Sam Clemesha, a long-time Aramac councillor. That name also appears on tickets issued by the shire, and on the map of Queensland pastoral properties 1933 edition. AUTEUIL is the name of a nearby pastoral run but the tram station does not appear on the mentioned pastoral map; advert for property lease in 1931 states siding was 150 yards from their fence. NINE MILES was an early terminus pending completion of the tramway; it was sometimes referred to as 'Politic' in the local paper, after the adjacent property. Tickets state Nine Miles. The pastoral stations' map states '9 Mile Bore' so it may well have still been open into the 1930s. Not all sidings were open at any one time.

Suggested reading:

The Aramac Tramway, Peter Bell & John Kerr, LRRSA, Surrey Hills Vic 2002
Locomotives in the Tropics, Vol 1, Queensland Railways 1864-1910, John Armstrong, ARHS Qld Div 1985
Locomotives in the Tropics, Vol 2, Queensland Railways 1910-1958, John Armstrong, ARHS Qld Div 1994
The Aramac Tramway, Anne Smith, 1996 Lectures on Nth Qld history. No. 5 ch 5 pp 106-121 online at https://www.textqueensland.com.au/item/chapter/0c9d49ba435d38eddc05e217a3e44d45

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6. *Western Champion*, Barcaldine 7 June 1913
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8. *Western Champion*, Barcaldine 13 June 1914

9. *Western Champion*, Barcaldine 25 July 1914
10. *Western Champion*, Barcaldine 25 July 1914
11. *Western Champion*, Barcaldine 28 Nov 1914
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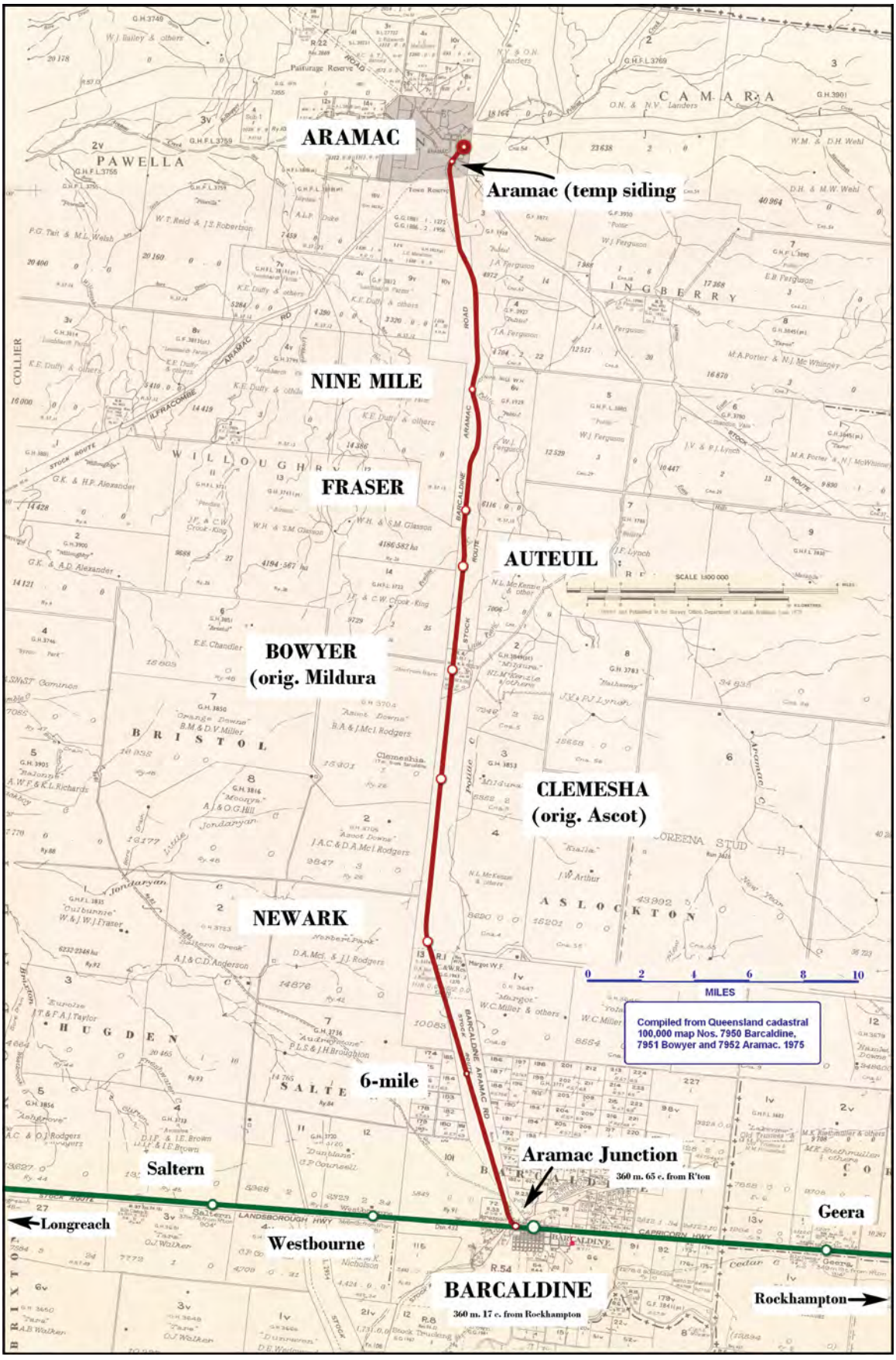
14. *Western Champion*, Barcaldine 26 June 1915
15. *Western Champion*, Barcaldine 31 July 1915
16. *Western Champion*, Barcaldine 14,28 Aug; 30 Oct 1915
17. *Western Champion*, Barcaldine 2 Oct 1915
18. John & Ruth Kerr Database Notes, UQFL574 Uni of Qld
19. *Western Champion*, Barcaldine 20 Nov 1915
20. ibid.
21. *Western Champion*, Barcaldine 18 Dec 1915
22. *The Longreach Leader* 25 April 1924
23. *Western Champion*, Barcaldine 2 July 1921
24. *Western Champion*, Barcaldine 31 May 1924



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QUEENSLAND

FAR NORTHERN MILLING PTY LTD, Mossman Mill

(see LR 284 p.40)
610 mm gauge
On 27 April, Com-Eng 0-6-0DH *Mossman* (B1719 of 1957) with the ballast train and the Plasser KMX-06 tamping machine (111 of 1976) were along Syndicate Road and Com-Eng 0-6-0DH *Faughy* (AL4190 of 1965) and the Gemco sleeper renewer (R854 of 1987) were near Miallo.
Mossman was seen at the mill with a tree trimming platform mounted behind the cab on 18 May and 5 June. Although serviceable, Clyde 0-6-0DH *Habana* (60-215 of 1960) is little used these days and its calf unit *Marian 11* (56-104 of 1956) is stored out of use. RMP Baguley 0-6-0DM *Mowbray* (3378 of 1954) was seen at the Bally Hooley Railway at Port Douglas on 15 May. This loco is said to be returning to Mossman Mill following closure of the tourist railway.
Carl Millington 4/22; Chris Stratton 5/22; Shane Bender 5/22; Steven Neil 6/22

MSF SUGAR LTD, Mulgrave Mill

(see LR 285 p.35)
610 mm gauge
Seen on the scrap line at the back of the mill on 1 May were Com-Eng 0-6-0DH 6 (A1006 of 1955), EM Baldwin 0-6-0DH 11 (4413.2 8.72 of 1972) and Clyde 0-6-0DH 14 (56-86 of 1956). 11's cab has been removed although it is still on site. The Plasser KMX-06 tamping machine (98 of 1975) was in the navvy yard. Clyde 0-6-0DH 25 *Cucania* (63-289 of 1963) and the Plasser KMX-12T tamping machine (432 of 1997) were seen near Deeral on 5 May. Com-Eng 0-6-0DH 26 *Meringa* (AK3675 of 1964) and the poison spraying wagon were on loan to South Johnstone Mill early in June and their return was expected on 10 June.
Carl Millington 5/22; Chris Stratton 5/22; Jamie Hitchings 6/22

Top: *Mossman Mill's Com-Eng 0-6-0DH* Mossman *(B1719 of 1957) with the ballast train at Scarcella's on the Syndicate line on 27 April. Photo: Carl Millington* ***Centre:*** *EM Baldwin 0-6-0DH 14 (6/2490.1 7.68 of 1968) departing the sugar line at Victoria Mill with a load of sugar for export from the port of Lucinda on 18 June. Photo: Luke Horniblow* ***Above:*** *Clyde 0-6-0DH* Centenary *(64-381 of 1964) on tree trimming duties along Victoria Mill's East Kandeer line on 23 May. Photo: Luke Horniblow*

MSF SUGAR LTD, South Johnstone Mill
(see LR 285 p.35)
610 mm gauge
Com-Eng 0-6-0DM 27 (AI57111 of 1975) was seen with the ballast train, stabled near the highway north of Innisfail on 1 and 5 May. As well, the Tamper SVT-JWL tamping machine (4375739 of 1979) was near here on 1 May and the Tamper STM-XLC tamping machine (94962 of 1995) was at the Silkwood Depot. Seen at the mill on 5 May were Com-Eng 0-6-0DH 7 (AD1239 of 1960), Com-Eng 0-6-0DH multi-unit locos 1 (A1821 of 1957) and 10 (A2027 of 1958), Clyde 0-6-0DH locos 11 (55-64 of 1955) and 14 (63-288 of 1963), Clyde 0-6-0DH multi-unit locos 2 (55-56 of 1955) and 3 (56-90 of 1956) and 16 (56-93 of 1956) and 17 (55-57 of 1955) and EM Baldwin B-B DH locos 25 (6470.1 1.76 of 1976) and 32 *Liverpool* (10385.1 8.82 of 1982). Mulgrave Mill's Com-Eng 0-6-0DH 26 *Meringa* (AK3675 of 1964) and poison spraying wagon were on loan early in June and were due to return on 10 June. Construction of the new $5.6 million bridge over the North Johnstone River was completed in June.
Carl Millington 5/22; Chris Stratton 5/22; Jamie Hitchings 6/22; 7NEWS Cairns 6/22

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills
(see LR 285 p.35)
610 mm gauge
Training of new drivers and RSU training took place at Victoria Mill during May and June, prior to commencement of crushing. Locos involved in this included EM Baldwin B-B DH locos *Homebush II* (6400.1 4.76 of 1976) and 19 (7070.3 4.77 of 1977). At Macknade Mill, driver training took place using locos which included Clyde 0-6-0DH 16 (DHI-1 of 1954) and EM Baldwin B-B DH *Selkirk* (6750.1 8.76 of 1976). Clyde 0-6-0DH *Perth* (69-682 of 1969) and EM Baldwin B-B DH *Townsville II* (6400.2 4.76 of 1976) were seen on navvy duties in May. Clyde 0-6-0DH *Centenary* (64-381 of 1964) was seen on tree trimming duties in East Kandeer, Abergowrie, on 23 May. A platform had been fitted on its hood for this job. EM Baldwin B-B DH *Selkirk* (6750.1 8.76 of 1976) and EM Baldwin 6 wheeled brake wagon MKD 2 (7065.5 6.77 of 1977) returned to Macknade Mill on 30 May. They had been in use on the Victoria Mill sugar train during the latter part of the 2021 crushing season. EM Baldwin 0-6-0DH 14 (6/2490.1 7.68 of 1968) and Clyde 6-wheeled brake wagon VRA 5 (CQ3477-1 of 1976) commenced the crushing season working the Victoria sugar train. Once the new Wilmar B-B DH loco *Brisbane* is in service, it is expected that another loco will cascade to the Victoria sugar train. Progress with the assembly of this loco at the Macknade Mill loco shed has been slow while waiting for parts to arrive. The district's brake wagons have been fitted with engraved plastic identity plaques with either VRA or MKD followed by the unit's number. A new bogie brake wagon for the Wilmar loco *Brisbane* has been delivered to Victoria Mill from the Pioneer Mill workshop. It was built using the frame of an ex QR wagon. The assembly of 150 x 11 tonne new bogie bins commenced at the Macknade Mill truck shop during June. Track laying on the new crossing loop in the 4 Mile had commenced by 1 May and by the start of crushing in mid-June, just some work remained to finish off the trailable points before the loop could be placed in service.
Wilmar media 4/22; Editor 5/22, 6/22; Luke Horniblow 5/22, 6/22; Kieran Koppen 6/22

WULGURU STEEL, South Yard Workshops, Townsville
(see LR 284 p.41)
1067 mm gauge
The Linmac ST150 road/rail shunting unit RRS 42 was busy shunting arriving and departing Aurizon locos on 6 June.
Luke Horniblow 6/22

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru
(see LR 285 p.35)
610 mm gauge
Com-Eng 0-6-0DH *Chiverton* (C1030 of 1958) with a ballast hopper and plough were parked at Majors Loop on 18 May. The Plasser KMX-08 tamping machine (415 of 1995) from Plane Creek Mill was at Upper Haughton 1 on 9 May and Upper Haughton 3 on 18 May.
Luke Horniblow 5/22

WILMAR SUGAR PTY LTD, Pioneer Mill, Brandon
(see LR 285 p.36)
1067 mm gauge
Following rebuild, Walkers B-B DH 14 (681 of 1972) left here for Proserpine Mill on 18 May. Two new bogie brake wagons have been built here,

Top: *Wulguru Steel's Linmac ST150 road/rail shunting unit RRS 42 assists with the arrival and departure of Aurizon locos at the Townsville workshop on 6 June. Photo: Luke Horniblow* ***Above:*** *Farleigh Mill's Walkers B-B DH* Tannalo *(705 of 1972) in its new Nordzucker livery on 16 June. Photo: Steven Jesser*

Farleigh Mill's Clyde 0-6-0DH Palms *(70-708 of 1970) with 55 fulls from Palmyra heading for the Pleystowe yard on 14 June. Photo: Steven Jesser*

one each for Victoria Mill and Proserpine Mill. They were built using ex QR wagons, probably from those in storage at Plane Creek Mill. Walkers B-B DH locos *Jardine* (592 of 1968) and *Jerona* (611 of 1969) were being used for RSU training at Pelican Road on 18 May.
Wilmar media 4/22; Luke Horniblow 5/22; Kieran Koppen 6/22

WILMAR SUGAR (KALAMIA) PTY LTD, Kalamia Mill
(see LR 285 p.36)
610 mm gauge
The Plasser KMX-08 tamping machine (415 of 1995) from Plane Creek Mill was at McDesme 4 on 1 May.
Luke Horniblow 5/22

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill
(see LR 285 p.36)
610 mm gauge
Walkers B-B DH 14 (681 of 1972) was delivered from rebuild at Pioneer Mill on 19 May. It was formerly the *Cairns* at Victoria Mill. The Walkers bogie brake wagon 1 (built in 1998) received an upgrade including smaller diameter wheels during the slack season. A new bogie brake wagon for 14 has also been delivered from the Pioneer Mill workshop. It was built using the frame of an ex QR wagon. EM Baldwin B-B DH 10 (9816.1 10.81 of 1981) was seen on a ballast train with ex Herbert area hoppers in mid-June.
Wilmar media 4/22; Luke Horniblow 5/22; Tom Badger 6/22; Tim Backhouse 6/22; Kieran Koppen 6/22

MACKAY SUGAR LTD, Mackay mills
(see LR 285 p.37)
610 mm gauge
Walkers B-B DH *Netherdale* (699 of 1972) was seen moving bins around on 19 May in conjunction with bin taring. Eimco B-B DH *Narpi* (L256 of 1990) was also doing this job around the same time. EM Baldwin B-B DH *Hampden* (6706.1 5.76 of 1976) was at Mia Mia with a ballast train on 21 May. Com-Eng 0-6-0DH *Eton* (FB3170 of 1963) was heading back to Farleigh Mill with the bridge gang train at Carlisle Loop on 7 June. Walkers B-B DH *Tannalo* (705 of 1972) returned to service after rebuild in *mid June.* It has also been repainted in the Nordzucker livery of white, green and blue.

Mackay Sugar's Walkers B-B DH Netherdale *(699 of 1972) on its way to Mainline 2 siding on 19 May with 108 bins which have just been tared at Marian Mill in preparation for the upcoming crushing season. Photo: Steven Jesser*

Millaquin Mill's EM Baldwin B-B DH Calavos *(4983.1 7.73 of 1973) with the bridge-testing train consisting of Com-Eng 0-6-0DH locos* Thistle *(A1207 of 1955) and* Sharon *(A1935 of 1959) and six bins at Heidke's bridge in Ashfield on the Red Soil line on 1 June. Photo: Mitch Zunker*

Millaquin Mill's EM Baldwin B-B DH locos Givelda *(5800.2 6.75 of 1975) and* Moorland *(5565.1 10.74 of 1974) test the Booyan Bridge over the Kolan River on the Fairymead system's North Coast line to Avondale on 13 June. Photo: Mitch Zunker*

Work on the Pioneer River bridge at Mirani involved the replacement of spans using a large all terrain crane late in May. Clyde 0-6-0DH locos *St.Helens* (61-234 of 1961) and *Palms* (70-708 of 1970) and EM Baldwin B-B DH *Inverness* (10123.1 5.82 of 1982) are based at the Farleigh Mill's Pleystowe Depot this crushing season. The last bin to be tipped at the closed North Eton Mill has been preserved and is on display somewhere locally.
Tom Badger 5/22; Crane Logistics 5/22; Sean Yasserie 6/22; Steven Jesser 5/22, 6/22; Karl Kruger 6/22

WILMAR SUGAR (PLANE CREEK) PTY LTD, Plane Creek Mill, Sarina
(see LR 285 p.37)
610 mm gauge
The Plasser KMX-08 tamping machine (415 of 1995) was still on loan to the Burdekin mills during May. Com-Eng 0-6-0DH 4 (FA1037 of 1960) brought the first rake of cane into the mill yard for this year's crushing season on 14 June.
Luke Horniblow 5/22; Stephen Wright 6/22

BUNDABERG SUGAR LTD, Millaquin Mill
(see LR 285 p.38)
610 mm gauge
Com-Eng 0-6-0DH locos *Thistle* (A1207 of 1955) and *Sharon* (A1935 of 1959) were moved to Millaquin Mill from Bingera on or about 27 May and were weighted up for bridge testing. They were towed around by either of EM Baldwin B-B DH locos *Calavos* (4983.1 7.73 of 1973) or *Barolin* (6456.1 11.75 of 1975) with a separation of six cane bins for the bridge testing. The *Sharon* is a runner but the *Thistle* had its torque converter removed for placement in another loco in 2020. Bridge testing on the north side of the Burnett River was done using EM Baldwin B-B DH locos *Moorland* (5565.1 10.74 of 1974) and *Givelda* (5800.2 6.75 of 1975). The latter was weighted up and separated from the *Moorland* by six cane bins for the testing. For the purposes of the testing, the test weight locos were not to be under power which required another loco to move them on and off the bridges with separation.
Mitch Zunker 6/22

ISIS CENTRAL SUGAR MILL CO LTD
(see LR 285 p.38)
610 mm gauge
As became the practice last year, road hauled cane from Maryborough is being transferred to rail bins at both the Childers transloader and the mill.
Brian Bouchardt 6/22

NEW SOUTH WALES

MANILDRA FLOUR MILLS PTY LTD, Manildra
(see LR 285 p.38)
1435 mm gauge
Goodwin/Alco Co-Co DE 44208 (G-6045-08 of 1971) was seen in a train enroute to Lithgow Railway Workshops on 27 February. It was going there for some much-needed repair work. Goninan Bo-Bo DE MM03 (4970 of 1961) was seen stored at the end of a head shunt on 27 April.
Pacific National loco Goodwin Co-Co DE 48103 (G-3420-18 of 1964) was shunting here on 28 April.
A -To- Z Photography 2/22; Barry Trudgett 4/22

MANILDRA FLOUR MILLS PTY LTD, Narrandera
(see LR 285 p.38)
1435 mm gauge
Walkers B-B DH 7340 (702 of 1972) was seen stored here on 14 May. Road haulage is used for everything in and out of the mill these days.
Jim Houghton 5/22; Bruce Wooten 5/22

UNITED GONINAN LTD, Broadmeadow
(see LR 255 p.28)
1435 mm gauge
A Trackmobile Hercules road/rail shunt loco was seen at work here on 9 May.
Sydney Electric Train Society Inc. 5/22

OVERSEAS

FIJI SUGAR CORPORATION
(see LR 284 p.42)
610 mm gauge
Labasa Mill started crushing on 8 June and a crop of 678,000 tonnes is expected. The mill started off the crushing season this year with 7 locos, 1,300 rail trucks and 11 bins in service. Also, there are 445 lorries (road trucks) and 135 tractor trailer units in use as well as 42 mechanical cane harvesters. Following cyclone damage in 2021, $600,000 was allocated for repair to damaged rail lines in Daku and Wainikoro by the Ministry of Sugar Industry. One of the EM Baldwin 4wDH yard locos 4 or 5 (3229.? 4.70 of 1970) can be seen in the background of a media photo taken on 8 June and appears to have been repainted in an all-over yellow livery. Lautoka Mill started crushing on 16 June. Two locos can be seen in the background of photos taken on the day. One is a Hunslet in all-over yellow livery and the other is possibly a Diema. Both whole stalk and chopped cane were being tipped on the first day. There will be fifty-seven mechanical cane harvesters in use at Lautoka and Rarawai mills this year. A photo of the Ba River bridge at Rarawai Mill taken in June shows that the washed-out spans have been replaced by what may be a pedestrian walkway.
Fiji Sun 30/5/2022, 17/6/2022; FBC News 8/6/2022, 9/6/2022, 16/6/2022; Fiji Government 6/22; Temarcie Taqumu 6/22

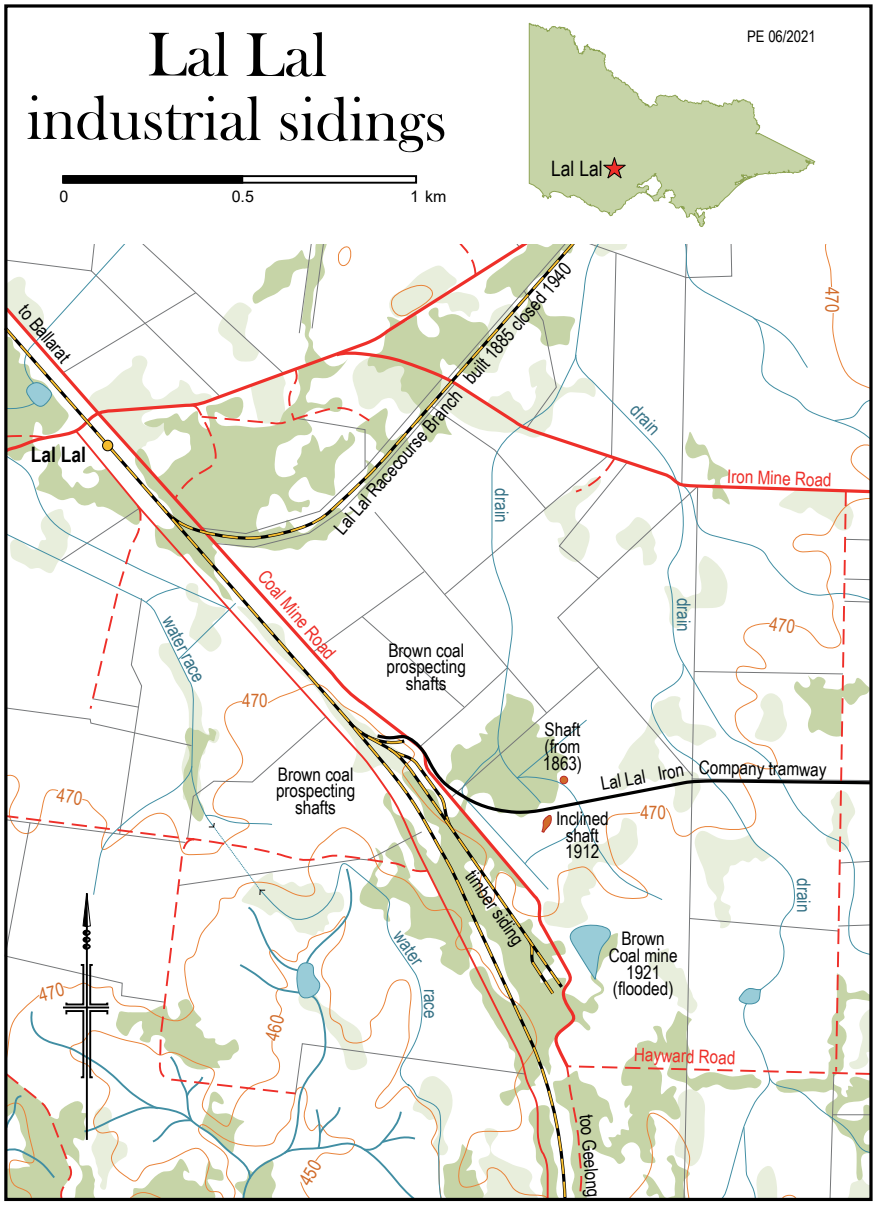
Field Reports

Please send any contributions, large or small, to fieldreports@lrrsa.org.au or to PO Box 21, Surrey Hills, Vic 3127.

Lal Lal industrial sidings, Victoria
Gauge 1600mm
Norman Houghton reports

On the Geelong side of the Lal Lal railway station, about one km distant, was the take-off point for a one km length siding running to the edge of the Mount Doran forest. The siding was installed in the early 1860s for the Ballarat timber trade to supply boiler wood and mine props. The cut timber was carted to the siding by road vehicles. The siding over most of its length was laid on a 4.3m wide formation slightly above the sodden ground that prevails in these parts. The track was built straight and level for one km before splitting into two parallel tracks of 130 metres length on a 6.4 m road bed. These tracks were the loading points for the timber. A site check shows a cartway coming into this point.

The siding ends on a 4.3 m formation dug into the slight slope, maybe indicating that there was a single line shunting neck here, although the neck would have only accommodated a locomotive as it is not very long. Andrew Waugh's researches on Lal Lal station and sidings do not show a



The end of the line at the shunting neck. Photo: Norman Houghton

Typical formation 750 metres along the timber siding showing the 4.3 m wide formation.
Photo: Norman Houghton

shunting neck, so such a feature might have been short lived and not used much at all. It is guessed that the empties were propelled along the siding and poked into the twin tracks at the end and, afterwards, retrieved for engine first running back to the main line.

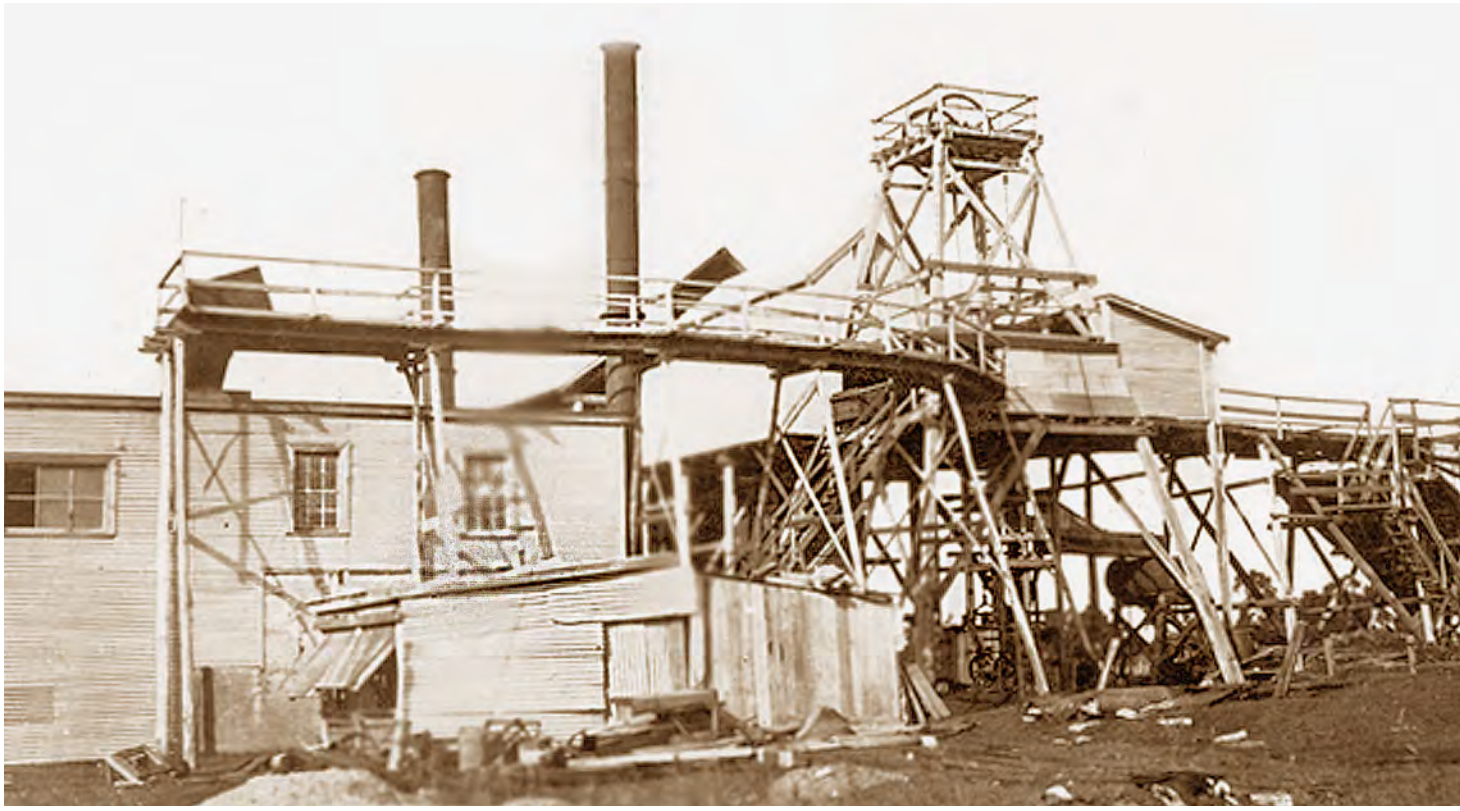
The Lal Lal wood trade was substantial, year-in and year-out, especially from the 1870s to 1900 at around 12,000 tonnes annually. The trade then lessened but, nevertheless, remained constant through to the 1920s. The siding was closed in 1934 when the double main line past here was singled, presumably indicating that it had not been used much in recent years and was not worth retaining.

A field survey of the site on 11 June 2021 showed that about half of the timber siding was visible at the far end, the rest is either bulldozed or hidden under vast swathes of blackberries and kangaroo-thorn bushes. The turn-out from the main line is not evident, having been cut away by VR and VicTrack track works over the years.

The Victorian Brown Coal Coy's lignite mine at Lal Lal circa 1882. A broad-gauge tramway has been laid from the VR boundary for nine chains [181.5 m] to the mine, with a horse leading a wooden-bodied I-class wagon loaded with timber, and what appears to be an H-class van trailing. The engine house is to the left, with an elevated tramway from the brace level of the poppet-head being used to dump lignite. This elevated tramway originally extended to the brick drying kiln in the distance (by this time disused). The large building between the engine house and the kiln is used to air-dry and store lignite undercover. Photo: Frederick Kruger, State Library of Victoria image H39614/31

The formation of the Lal Lal Iron Company's tramway (just to the left of the fence line stretching into the distance) with Mount Buninyong on the horizon to the right. Photo: Colin Harvey

The junction area was also used for sidings installed for the Lal Lal Ironworks (active 1875-1891 – see *Light Railways* 34, available as a free download from lrrsa.org.au) and a series of companies mining lignite (brown coal) from a deposit discovered in 1857 and intermittently worked from 1863 until 1924. These sidings came off the timber siding, but nothing obvious remains of these sidings and any indication that they were there is hard to discern. There is a formation of sorts, heavily compromised by a drain cut, heading towards the nearby road (proceeding north), which is away from the railway, and may be the beginning of the private tramway laid nine chains to the mine itself. This formation is mostly obliterated by bulldozer churn and an underground telecommunications cable installation through the site. The junction with the timber siding (if that is what this earthwork is) remains under blackberry and thorn, so could not be definitely confirmed.



The Victorian Central Coal & Iron Mining Company's mine at Lal Lal circa 1923 and only one year from abandonment. Image courtesy Norman Houghton

Book Reviews

TRAMWAYS, COCONUTS AND PHOSPHATE
A history of the tramways of Ocean Island and Nauru

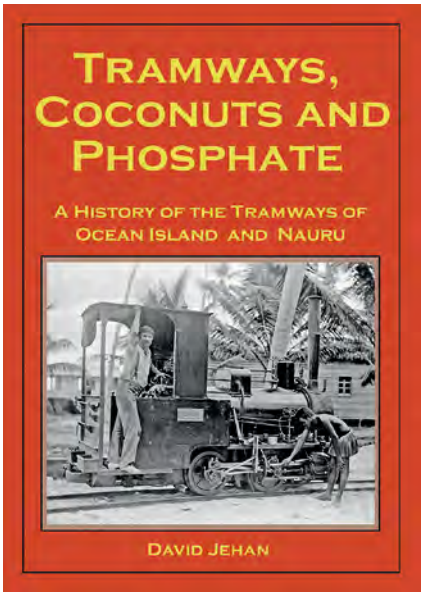
by David Jehan

Published by LRRSA, the book has 144 pages A4 format with a soft cover. Available from the LRRSA online bookshop - $33 plus postage of $14 ($24.75 for LRRSA members).

This is a welcome and long overdue sequel to David Jehan's book 'Shays, Crabs and Phosphate', the story of phosphate mining on Christmas Island. However, it concerns very different railway systems. Ocean Island and Nauru were entirely narrow gauge operations, whereas Christmas Island had a standard gauge mainline served by narrow gauge lines in the quarries. Ocean Island and Nauru lie just south of the Equator, 4900 km north east of Brisbane and 265 km apart. Ocean Island has an area of just 6 sq km, while Nauru, to its west, is larger with 21 sq km. From 1892, the former was part of the Gilbert & Ellis Islands British Protectorate and since independence in 1971 is now known as Banaba, part of Kiribati. From 1888, Nauru was part of the German Marshall Islands, taken over by the British in 1914. With independence in 1968 it became the World's smallest island nation and second only to the Vatican City as the smallest nation.

Both islands are surrounded by a coral reef and have a raised central plateau where phosphate mining was carried out.

The coconuts in the book's title refers to the presence of coconut trees on both islands, copra having originally been an important export, particularly from Nauru. John T Arundel, who worked for a London



shipping company with interests in the Pacific, was interested in the use of super phosphate as a fertiliser. He formed John T Arundel & Co. which, with the acquisition of additional interests, was reconstituted as the Pacific Islands Co. (PIC). Guano mining was carried out on a number of Pacific islands, including two off the Queensland coast, using a diminutive 2 ft. gauge Bagnall 0-4-0IT, built in 1881. PIC employee, Albert Ellis was responsible for realising that a rock sample from Nauru was not petrified wood, but high grade phosphate. This led to secret prospecting on the similar Ocean Island, with establishment of phosphate mining there in 1900. Contrary to German belief, Ellis proved that Nauru also held large phosphate deposits and the PIC merged with the German trading company Jaluit Gesellschaft to form the Pacific Phosphate Co. (PPC), to mine both islands, with that on Nauru commencing in 1907. Labour was provided by Chinese, Kanakas and Banabans.

Following this general introduction, the book treats each island in a similar manner: tramways, mining and shipping operations, locomotives and rolling stock, maintenance and closure. Entwined with this is much social and labour history relating to the European management and extensive facilities it enjoyed, as well as the conditions and working practices of the imported labour force.

On the outbreak of WWI, the British staff were deported from Nauru to Ocean Island, only for the Royal Australian Navy to take over the island days later, it thus becoming a British, later League of Nations Protectorate administered by Australia, with Great Britain and New Zealand as co-trustees. In 1920 the PPC was purchased by these three countries and administered by the British Phosphate Commissioners. In WWII, brutal occupation by the Japanese of both islands led to post-war war crimes trials.

On Ocean Island, ultimately mining was carried out by aerial cableways (between

moving towers some 600 to 1000 feet apart) carrying mined phosphate in skips, that could be raised and lowered, to trains of small 2ft gauge tipping trucks on temporary lines. These fed into more 'permanent' lines where steam locomotives were used. Numerous inclines led down to a coastal tramway, with the phosphate being screened, crushed and dried en route before being taken onto jetties for loading into ships. This was a hazardous operation as the jetties only reached to the reef, the phosphate being loaded into baskets for transport by rowing or motor boats to ships further out. Although attached to heavy mooring buoys, ships were kept under way lest a squall should threaten to drive them on the reef. Two ships were lost in this way. This loading problem was solved by using huge lattice steel cantilever loaders, that stretched out beyond the reef to safely discharge phosphate into the lighters serving the ships.

Due to the isolation of both islands, virtually self-sufficient workshop facilities were provided for the railways and mining plant. They were capable of most jobs, including foundry work, but locomotive boilers were either repaired abroad or new ones ordered from Germany. The railways were well managed and maintained.

Ocean Island, exclusively 2 ft gauge, used eleven Orenstein & Koppel 0-4-0WTs from 20 to 40 hp (3 or 5 transferred from Nauru in 1937-38), the original 1881 Bagnall which was joined by a modern 0-4-0ST sister in 1907, an Avonside 0-4-0PM, a Baguley 4wPM and a delightful small Hudswell Clarke 4wPM. This last was used on the passenger service between Ooma and Tabewa, a distance of only 1.7 km! At least one Montania 0-4-0PM was used in the mining areas, and a Baguley 4wPM completed the roster. Passenger accommodation included a covered carriage for Europeans and an open one for others. Velocipedes were also used and Europeans could ride in 2-seat cars poled (as on a gondola) by an islander.

Post WWII rehabilitation and modernisation led to replacement of the railway by motor trucks with closure in 1956. The locomotives were dumped in an old working and sent to Japan for scrap in 1963. Mining ceased in 1979 and the island has been left stripped and devastated.

As mentioned, mining on Nauru commenced later than on Ocean Island, but initially both were carried out in much the same way, including the use of aerial cableways. However, given the larger scale of operations, with an output many times greater than Ocean Island's, improved methods were introduced. These included electrification in 1912 of the lines connecting the two huge drying bins to the two jetties. Tramway style overhead was provided for the two electric locomotives, built by General Electric in the USA. With the introduction of cantilever loaders, the electric tramway was abandoned. The steam locomotive fleet consisted entirely of 2 ft gauge German 0-4-0WTs: a single Krauss and possibly eight from Orenstein & Koppel, mainly of 40 hp, built from 1908 to 1928. As on Ocean Island, there were excellent workshop facilities and the whole operation was well maintained.

Orenstein & Koppel 20hp 0-4-0WT b/n 10474 of 1923 on Ocean Island. c.1930 Photo: courtesy CLN Archdeacon A N Williamson collection, Special Collections, Auchmuty Library, University of Newcastle ref a5051006

From 1931 to 1942 the whole operation on Nauru was massively expanded and the railways converted to 3 ft gauge, which allowed much larger wagons of 6.7 tons capacity to be used. The new locomotive fleet consisted of five 0-4-0WTs, two of 140 and three of 50 hp, all built by O&K in 1937. These were supplemented in 1940 by a 0-4-0T built by Hudswell Clarke.

In December 1941, two German raiders sank six ships lying offshore and shelled the cantilever loader. Nonetheless, operations continued until most Europeans were evacuated prior to the Japanese occupation, which lasted from August 1942 to September 1945. No useful mining took place by the Japanese. In retaliation to the US bombing of the airstrip, the Japanese brutally murdered the five Europeans who had voluntarily remained on the island. Despite widespread destruction, the BPC had mining back in operation in 1946. As a stop gap, in 1945 two old steam locomotives were purchased from the Powelltown Tramway in Victoria, but only one, a Bagnall 0-6-0, actually made it to Nauru.

By 1956, with major expansion and a second cantilever loader, the entire railway was replaced by a new 3 ft gauge one using diesel traction. From 1956 to 1967, Clyde supplied five 0-6-0DHs of class DH1-71, similar to those used on many Queensland sugar cane lines.

Following Nauru's independence in 1968, the BPC sold its operation to the Nauru Phosphate Corporation in 1970, which purchased two 4wDH locomotives from Thomas Hill in 1976 and further wagons from Price of Thames in NZ.

With collapse of phosphate mining in 2002, due to exhaustion of financially viable reserves, repatriation of foreign workers and problems with leases, a managerial restructuring in 2005 led to the renaming of the NPC as the Republic of Nauru Phosphate Corporation (RONPhos). But the end was inevitable and the railway closed in 2008. Since then there has been spasmodic mining using road trucks. As at 2010 all that was left of the railways were the two derelict Thomas Hill locomotives, the remains of a 3 ft gauge O&K 0-4-0WT and a preserved 2 ft gauge O&K locomotive at Aiwo.

The book concludes with appendices covering the locomotive fleets, annual phosphate production, interviews with former staff, bibliography, end notes and an index. Notwithstanding the devastation mining has visited on these two islands and their people, the story of the mining railways is a fascinating one and the author has recorded it in a very readable style. The 15 maps and diagrams have been expertly drawn by Ian McNeil and nearly 200 photographs provide a fascinating insight into a colonial enterprise. Highly recommended.

Richard Horne

LETTERS

The sad saga of the Tomago coalfield (LR 285)

I found the article by John Shoebridge about the mining operations and the railway at Tomago very interesting. I grew up not far from the area where they were located.

When I was growing up in the sixties, the bush around Tomago was honeycombed with bush tracks. My father used to take us for walks along some of them. Most of these bush tracks were windy and they seemed to avoid everything that looked like an obstruction. However, there was one that was straight and it ran through a cutting. When I was growing up, the Courtalds textile factory was about a kilometre east of where we lived. The Courtalds factory was a big place and next to it was a chemical plant. The road into the chemical plant lined up with the bush track that seemed to go in the direction of the river. My father told us this was once a railway that went from a mine that would have been behind where Courtalds was at the time. As a frustrated rail fan who grew up hearing trains but not being able to see them, this was very interesting. After hearing this, my brother and I would often ride our bikes along this track to see what was there. We saw nothing to indicate any form of industrial or maritime activity. All traces of the wharf, staithes or buildings were gone.

In the early nineteen eighties my mother and father moved from Tomago and went to live at Mayfield when it was announced an aluminium smelter was to be built just down the road where Courtalds used to be. For that reason, I went to the railway formation and took some photos. It was obvious that no-one had used the track for a long time, and I have included these photos here.

Peter Sansom
Kahibah, NSW
via email

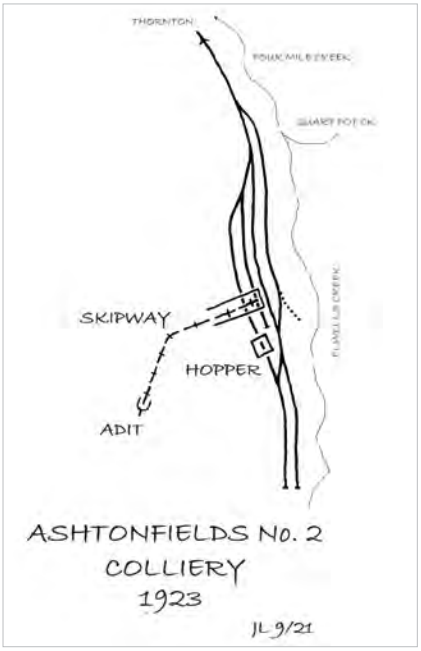
David Munro catalogue illustration (LR 285)

I noticed in John Browning's article on the David Munro catalogue illustration that he stated that "No Hughes locomotive is known of before 1865." Although essentially correct, given that the order for the Henry Hughes locomotive obtained in connection with the construction of the Gibraltar tunnel near Mittagong had been sent and that the engine was reportedly "on its way out" in late May 1864, (*Sydney Morning Herald* 21 May 1864, p8 - RAILWAYS) there appears a reasonable likelihood that the locomotive was completed that year. It would, however, be highly unlikely that an order from Australia triggered the construction of Henry Hughes and Co's first contractors' locomotive.

Ron Madden
via email

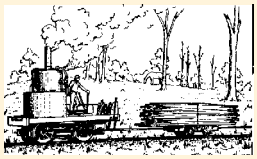
CORRECTION

In LR 285 in the article regarding Longworth's Ashtonfields colliery railways, the map on page 6 has been incorrectly repeated from the one shown on page 9. Our apologies to the authors Jim Longworth and Garry Allen and to our readers. The correct map is shown below:



Looking along the formation from Tomago Road towards the river. Photo: Peter Sansom

Looking along the formation towards Tomago Road. Photo: Peter Sansom



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.

August 2022 Members Zoom meeting
Date: Thursday 11 August 2022 at 8.00pm AEDT
Tony Weston will give a presentation on rail haulage in Australian underground metal mines. In the 1500s Engineers building and operating underground copper, silver, gold and lead mines in Europe came upon an alternative to leather sacks on men's backs for the transport of ore and waste rock. Small trollies running on wooden wheels worked by skilled men, carried ore on parallel wooden planks in small profile tunnels and greatly increased the productivity of metal mines.

October 2022 members Zoom meeting
Date: Thursday 13 October 2022 at 8.00pm AEDT
Peter Knife will present on BHP's operations in Whyalla and the Middleback Ranges that have involved a wide variety of interesting tramway and railway facilities over the years. Three gauges, steam, petrol, diesel and electric traction, self-acting inclines, hand-pushed skips and the most powerful locomotives in Australia at the time of their introduction have all been featured. Join Peter for an exploration of the many and varied activities of BHP and its successors in and around Whyalla. Thanks to David Griffiths we will be delving into early images from BHP's collection. We will also sample changes that have taken place in recent decades.

BRISBANE: "No Meeting"
It has been decided to postpone the Brisbane meetings until 21 October 2022. This decision will be reviewed in September 2022.e

SYDNEY: "Underground industrial railways of NSW"
Many years ago, a number of underground industrial railways were used in NSW. These were seldom photographed but a few LRRSA members were able to visit these undertakings and record for posterity the operations at hand. It will be a fascinating insight.
Location: Club Burwood RSL, 96 Shaftesbury Road, Burwood, in the 'Private Room', Brasserie Restaurant. Free parking in RSL car park. Only 10 minutes easy walk from Burwood railway station. Please contact Ross (0415995304) or David (0400347127) if you need to be signed in upon arrival. It is highly recommended to arrive early and enjoy dinner with other LRRSA members.
Date: Wednesday 24 August 2022 at 7:30pm

MELBOURNE: "No meeting"
Online 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 sa_group@lrrsa.org.au for details if you have not been to a meeting before.
Location: 1 Kindergarten Drive, Hawthorndene
Date: Thursday 4 August 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

ATHERTON-HERBERTON RAILWAY, Herberton

1067 mm gauge

Tim Backhouse reports that the railway is waiting on certification for its coach, then running can commence.

Light Railways of Australia Facebook page 7 June

NAMBOUR MUSEUM, Nambour

610 mm gauge

The Nambour Museum volunteers have recently completed two Moreton Sugar Mill related projects thanks to two heritage grants received from the Sunshine Coast Council.

A viewing platform has been erected beside the Shay loco so that visitors can more easily view the inside of the cab and its controls. An information board is displayed on the water tank top to explain the controls. The platform is placed on the non-geared side of the Shay so as not to obstruct the more photographed area.

The second project has been the cosmetic restoration of the Moreton Mill railcar *Flyer*. The *Flyer* was retired from active service circa 1960 and rested on the 'dead line' adjacent to the mill's sugar shed until it left the mill in the 1970s. It was purchased and returned to the district by the Plater family in 1987 in a decaying state. At that time the frame was rebuilt and the wheels received some welding repairs at the sugar mill. What existed was re-assembled in 1989 and stored until being donated to the Nambour Museum by the Plater family in 2019. Along with the usual cleaning and painting, the restoration required an all new timber body.

Clive Plater, President Nambour Museum, 8 May 2022

BALLY HOOLEY RAILWAY, Port Douglas

610 mm gauge

Chris Stratton reports from a visit to the site of the Bally Hooley Railway that in some spots on the line it is hard to see where the track was, as the grass growth has been so fast since the line was pulled up. His photographs on Facebook show a severely overgrown and dilapidated Oaks station.

Chris Stratton on the *Light Railways of Australia* Facebook page 22 May 2022

Above: *The viewing platform erected beside the Shay locomotive at the Nambour Museum. Visitors can view the inside of the cabin and its controls. Photo: Clive Plater* ***Below:*** Flyer *being lifted by a crane onto tracks at the Nambour Museum prior to its restoration. Photo: Clive Plater*

THE GULFLANDER, Normanton

1067 mm gauge

DL4 *Almaden* travelled from Normanton to Critters Camp on a test run after getting some work done and an attractive new paint job.

Friends of the Normanton Croydon Railway and Gulflander Facebook page 14 May

ARCHER PARK RAIL MUSEUM, Rockhampton

1067 mm gauge

There was a site visit by two mentors and staff from the Queensland Gallery and Museum Standards Review Program. This visit had a close look at the museum's operating systems. As part of the program, museum administrators had provided a lot of information and the report to APRM is that the staff at the Museum are doing a great job; the Museum in their words, "is the cleanest museum they had seen".

The railway group that operates the museum has had three different names since it started in 1992: Capricorn Historical Steam Train Association – 1992 to 1995, Capricorn Heritage Rail Association – 1995 to 2004 and then the Friends of Archer Park Station & Steam Tram Museum Inc. from 2004 to current times. Administrators want to reach out to all past members and interested parties to see if they will attend and participate in the celebration which will be held on Sunday 23 October 2022 – which is the Family Fun Day. The group will invite dignitaries and have presentations about the achievements over the years to celebrate this

Three views of Flyer *in the workshops showing the various stages of its restoration. All photos: Clive Plater*

30 year success. If any reader can tell the story of their membership of the group or have any old photographs, administrators would love to include them. Any such person could give the office a call to have a chat or email: archerpark@bigpond.com
Tram Tracks: Volume 16 Number 2 May 2022

DURUNDUR RAILWAY, Woodford
610 mm gauge
ANGRMS has been successful in being able to work with a training organisation which will be using the Museum's railway to train track workers for commercial railways like Queensland Rail, Aurizon Network, and the sugar industry. The fact that a small heritage organisation like ANGRMS can do its bit to help the "rail industry", is something special and something about which the organisation is very proud.
While it is a nice problem to have, these training sessions have meant a lot of extra work for some members, so management has had to change the plans for the ANGRMS 50th Anniversary celebrations later this year. It will now be holding an anniversary lunch plus an open day on site on Sunday 2 October.
To help with rollingstock asset management decision making, the Ruston (which was ANGRMS first operating loco) has been moved to the workshop. While the motor is operational, the gear box is in poor condition. Fortunately, there is another gear box on site and the two will be combined to make one good gear box.
In anticipation of work that will be achieved by the upcoming training courses, additional track materials have been required. An additional 150 pre-stressed concrete sleepers have been obtained from Isis Sugar Mill. Whilst it had good stocks of ex-CSR sleepers from Ingham, sourcing square-head bolts at a reasonable price was challenging so suitable fasteners have been fabricated from threaded rod with square nuts welded on one end. Whilst time consuming to fabricate, the material costs are about one third of the cost of new bolts, which is significant when you need 800 bolts. The current works exhausted stocks of weld-on lugs for use with Pandrol "e-clips" on steel sleepers and delivery of additional stock is awaited.
Durundur Railway Bulletin 43: 375 May/June 2022

NEW SOUTH WALES

ZIG ZAG RAILWAY, Clarence
1067 mm gauge
Regarding a re-opening date for the Railway, Terry Boardman advises that training of crews is well advanced as is validation of procedures and timetables. Contractors are working on post bush fire repairs to the workshop at Bottom Points and building replacement toilets at Clarence. The upgraded car park at Clarence is almost complete. The official Zig Zag Railway Facebook pages and web site contain more information regarding a definite commencement date'.
Zig Zag Railway Interest and Discussion Facebook Group, 20 May

ILLAWARRA LIGHT RAILWAY MUSEUM, Albion Park
610 mm gauge
A spokesman for the ILRMS commented on the move of locomotive *Wollondilly*, north to its new location in Timbertown at Wauchhope. Whilst the ILRMS was sad to see it go, 11 months of no income meant that something had to go and they thanked Timbertown for its future restoration efforts.
Timbertown has a ten-year plan for the Fowler and would like to think that after that it may again see a return to Albion Park.
Illawarra Light Railway Museum Facebook page 17 May

VICTORIA

DEANS MARSH TO BENWERRIN COAL TRAMWAY, Deans Marsh
1600 mm gauge and 610 mm gauge
This line from Deans Marsh to Benwerrin in the Otway Ranges is the subject of a recent book by Norm Houghton which has sparked a good deal of exploration and subsequent reporting on Facebook. The broad gauge tramway left the Forrest branch line just south of Deans Marsh station and proceeded uphill to Benwerrin on the top of the ridge. From here incline cable trolleys of two foot gauge went down to the coal mine just over the ridge.
Light Railways of Australia Facebook Group, June 2

Above: *0-4-0T locomotive* Germany *built by Orenstein and Koppel in 1914 undergoing restoration at the workshops at Bundaberg. Photo: "Queensland correspondent"* ***Below:*** *BFC No.3 (0-4-2T Bundaberg Fowler locomotive) built by the Bundaberg Foundry in 1952 in the workshops at Bundaberg. Photo: "Queensland correspondent"*

PUFFING BILLY RAILWAY, Belgrave
762 mm gauge
A restoration fund has been started by a member of the PBPS to raise funds for the restoration of the Alishan Shay which is currently housed in the Menzies Creek Museum. The fund was kick-started with money from the sale of the American book which covers all the Shay locomotives ever made, including the one in the museum. It is hoped that the locomotive can be moved from the museum to the small workshop on the southern side of the museum where restoration can be started. Before this can occur, a rail connection is needed from the museum to the workshop. There was a connecting line in the past but at present this line terminates about 20 metres from the workshop although the groundwork has been done to relay this line. In June a "Train of Lights", a new venture for Puffing Billy, but one that has been running at WGR for some time, will be operating at night from Lakeside to Gembrook and features a unique light show along the way. All seats on the inaugural trains have been sold.
Andrew Webster site visit 10 June 2022

WALHALLA GOLDFIELDS RAILWAY, Walhalla
762 mm gauge
A rockslide at Happy Creek which covered the track with large boulders, stopped all trains over the June long weekend, and affected revenue badly. Although the rockslide was cleared on the Saturday by the ever-reliable local contractor, it was found on the Sunday that some sleepers had been damaged and the track had gone out of gauge. As it was a long weekend and the normal working days for the track gang were Tuesday and Thursday, it was not possible to assemble a team with the required skills to fix the damage until normal working days. Scheduled train running resumed on the following Wednesday
Walhalla Goldfields Railway Facebook page 12 June

GOVERNMENT ASSISTANCE FOR TOURIST AND HERITAGE RAILWAYS.
The Victorian Government is offering further financial support for Victoria's tourist and heritage rail sector. A total of $400,000 in funding is being made available for eligible groups within the sector to continue carrying out projects to preserve or improve state-owned assets. This further funding will help 16 of these tourist and heritage railway organisations continue to do their important work, with projects including repairing, restoring, or refurbishing state owned assets, delivering approved projects on buildings or rolling stock, and works in the rail corridor such as weed control or vegetation management.
Ray Chan *Rail Express* on-line 25 May 2022

GISBORNE VINTAGE MACHINERY SOCIETY, Gisborne
610 mm gauge
Bundaberg's Millaquin Mill locomotive Perry number 9 was in operation on 15 May at Gisborne, Victoria. The Vintage Machinery Society operates at Steam Park, New Gisborne where there is also an operating miniature railway.
Narrow Gauge Enthusiasts Group Facebook page 15 May

LATROBE UNIVERSITY, Mont Park
610 mm gauge
A recent report in *Closed railway lines and stations of Australia* Facebook Group, 14 May, states that at the Mont Park campus there is an abandoned railway in front of (appropriately) the Department of Archaeology, which is not the former VR Mont Park railway branch. It is narrow gauge track, of 2 ft gauge, and was used by both the Mont Park hospital laundry trollies and the kitchen food trollies. Any suggestion that this connected with Macleod Station and other nearby facilities has, however, not been substantiated.

ALEXANDRA TIMBER TRAMWAY AND MUSEUM, Inc. Alexandra
610 mm gauge
On the running weekend in April, the museum's BEV battery-electric was reunited with its battery box. This locomotive was one of four ordered by the Commonwealth Department of Supply in 1941 from the British Electric Vehicles (BEV) division of Wingrove and Rogers Ltd. Liverpool, UK, and shipped to Adelaide in April 1942. They were still in use up to 1998. Of the four, one was cannibalised for parts in service, one is operational at Milang, one is operational on a private railway in Queensland, and the fourth

is at Alexandra where the museum's electrical expert is working on returning it to service. The battery box was donated by the light railway museum at Milang in South Australia.
Timberline 176 Winter 2022

TASMANIA

TASMANIAN TRANSPORT MUSEUM SOCIETY, Glenorchy

1067 and 610 mm gauge
The Society reaches its 60th anniversary of its formation in 1962. The TTMS was formed to take over the ownership of tram No. 141 from the interstate-based society, the AETA, and to build a collection of transport vehicles that were being taken out of service at the time. The committee has decided to mark the occasion with a special running weekend, albeit a few months after the actual anniversary. The Father's Day weekend of 3 and 4 September has been decided on for the event, with steam and diesel-hauled trains running over the weekend and the buses featuring prominently.
TTM Newsletter Autumn 2022

WESTERN AUSTRALIA

Margaret River

1067 mm gauge
A correspondent noted that *Kate*, on display at Margaret River, has not improved in appearance since it was put there in 2001. *Kate* is a 0-4-0WT locomotive constructed for a timber tramway by the Leeds company, Thomas Green & Son, as its builder's number 132 of 1889. It later worked at the Wyndham Meatworks and pier in the remote north-west of Western Australian. *Kate* has been displayed in a park at Margaret River for many years. It received a cosmetic restoration at Boyanup in 2001 which included removal of old asbestos boiler lagging and returned to Margaret River on 25 August 2001. A decorative weather shelter has been built to display the locomotive under cover.
It has been suggested that there is some local interest in looking after it properly, after some saw what Busselton had done for *Ballaarat*. A good start may be to reunite it with its boiler which is in the Shire depot.
Light Railways of Australia Facebook Group. 1 May

The Alexandra museum's BEV battery-electric locomotive reunited with its battery box. The locomotive arrived in Australia in 1942 and some of its class were still in use up to 1998. Photo: Peter Evans

BENNETT BROOK RAILWAY, Whiteman Park

610 mm gauge
Chairman Kim Parker reports that a lot has been going on the last few months. The locomotive department worked hard to get BT1 in service by what would have been the May Ashley Day (May 22). NG 15 123's boiler is getting very near its hydrostatic test. Planet 7 has had its drive plate repaired by Kentin Engineering, while the Fowler has had its gearbox function modified to better suit its application on the railway.
Rollingstock restoration is well advanced with the final ALV, with the work on general improvements and its door fittings progressing well. The work on ZB213 is also progressing well and the D van is having its sliding doors repaired.
Recent visitors will have seen *Rosalie*, Fowler number 2, in its attractive new blue and white colour scheme. When this Isis Central Sugar Mill locomotive arrived at Bennett Brook after its journey from north of Brisbane, it was painted yellow and cream which was the colour scheme of the Fowler fleet at the time. One of the agreed conditions of the sale was that workers at BBR would retain the Isis paint livery. This locomotive was in reasonable condition and workers were able to run it for some time. When the then locomotive manager started its overhaul, he carried out some work and repainted the locomotive the red it ran with for some time.
Reprinted from *The Bennett Brooklet* – June/July 2022

OVERSEAS

WELSHPOOL AND LLANFAIR LIGHT RAILWAY, Welshpool, Wales

762mm gauge
Joining in the celebrations for its "Beyer Bash" to celebrate the birthdays of their two oldest locomotives, *The Earl* and *Countess*, will be several other visiting locomotives on display including Tasmania's K1 Garratt. K1 will not be operating on the line as it is a different gauge.
Welshpool and Llanfair Light Railway Facebook page June 2

NEW ZEALAND

John Browning reported in the *Light Railways of Australia Facebook Group* about an interesting innovation from New Zealand that promises to banish the coal blues - Zeroloco. It is a reimagining of the steam locomotive incorporating advanced steam boiler technology burning renewable solid biofuel. The unit is being developed commercially but perhaps a replacement boiler of this type could be fitted to an existing narrow gauge locomotive that needs a new one.
There are some interesting videos on YouTube about this boiler and locomotive developments: https://youtube.com/c/MackwellLocomotiveCo and more in the advanced steam group; https://www.facebook.com/groups/245610952261178
Light Railways of Australia Facebook Group, 2 June

Remembering ‘The Beechie’ – closed sixty years ago, 30 June 1962

Above: To mark the impending closure of the Victorian Railways’ last narrow-gauge line, from Colac to Beech Forest, both the Puffing Billy Preservation Society and the ARHS (Victorian Division) organised a number of tours for rail enthusiasts during the first half of 1962. Here we see Garratt locomotive G42 as it heads a ‘Bye-Bye Beechie’ tour at Beech Forest on 3 March 1962. Prior to the last train on 30 June, the NBH excursion carriages seen in the picture were removed to Newport workshops in preparation for the re-opening of the Belgrave to Menzies Creek line at the end of July. This resulted in the final train being composed of open trucks fitted with tarpaulins. The famous loop (in lieu of a turntable) is at the extreme right background, circling the tennis courts. Photo: Peter Ralph, courtesy of Nick Anchen

Below: Four years before closure there was sufficient traffic to operate the line. Here we see G41 as it departs Beech Forest for Colac with a load of pulpwood on 28 May 1958. Indeed, for the last few years of the line’s existence, pulpwood (destined for the Maryvale paper mill in Gippsland), comprised the vast bulk of traffic. It was unfortunate that every piece of wood seen in the picture had to be manually transferred from 2 ft 6 in to 5 ft 3 in trucks at Colac and one wonders why some sort of piggy-back service could not have been utilised as done in Europe (*Rollböcke*). The line in the right foreground is the ‘branch’ to Weeaproinah, which at one time, extended to Crowes, the most southern railway station on the Australian mainland. Photo: Ray Bruce, courtesy of Nick Anchen