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LIGHT RALWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



Light Railway Research Society of Australia Inc.



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Imperial to metric conversions:

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



Australia's Magazine of Industrial & Narrow Gauge Railways

No 278 April 2021

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Editorial

As part of the Australia Day Honours' list, long-time LRRSA member and former Editor of *Light Railways*, Norman Houghton received an Order of Australia Medal for services to community history. A full report of the award is included in this edition. We congratulate Norman on his well-deserved Award and for all the work he has done in the researching, investigating and recording of light railway history over many years.

This edition includes a wide variety of articles including part 1 of an overview of the many and varied industrial locomotives manufactured by both the Caldwell-Vale Motor and Tractor Construction Company and the Purcell Engineering Company based in Sydney. The article shows some weird and wonderful locomotives that were used in a wide variety of locations across Australia. Also included is a description of a short light railway used in the construction of a breakwater on the Crookhaven River near Nowra in NSW. And finally, from Queensland we present a short article on the locomotives at the Plane Creek and Eton mills, together with another "Looking Back" photographic feature from the Arnold Lockyer collection.

I am fortunate to keep receiving well researched and well written articles for publication in the magazine. Some recent examples include articles on the Magnet Tramway in Tasmania, an incline tramway at Laurieton in NSW, the sugar cane tramways at Stotts Creek in northern NSW and many more – these will all be published as space permits. I am also aware that several other significant articles are currently being prepared.

I trust that you enjoy this edition of the magazine. Rie

Richard Warwick

Front Cover: Mossman Mill Com-Eng 0-6-0DH multi-unit locos Cook (AL3372 of 1964) and Ivy (AL4181 of 1965) bring a rake of full 10 tonne bins across the creek into the mill yard on 4 July. Photo: Gregorio Bortolussi



Light Railway Research Society of Australia Inc. A14384U PO Box 21 Surrey Hills Vic 3127 www.Irrsa.org.au The Light Railway Research Society of Australia Inc. was formed in 1961 and caters for those interested in all facets of industrial, private, tourist and narrow gauge railways in this country and its offshore territories, past and present.

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

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Caldwell-Vale and Purcell Engineering industrial locomotives – an overview – Part 1

by Jim Longworth

Introduction

This article provides an introduction to Felix Caldwell and an overview of the pioneering internal-combustion locomotives manufactured by both the Caldwell-Vale Motor and Tractor Construction Company Limited and by their successors T Purcell and Company and Purcell Engineering Company Limited. Part 2 will appear at a later date.

Felix Caldwell

Felix Caldwell was born on 10 April 1879 at Woodside, in the Adelaide Hills, in South Australia. Whilst Felix did not do well at school, he got a job in 1897 as an apprentice fitter and erector working for James Martin Company Limited at its engineering and iron foundry at Gawler, about 40km north of Adelaide. Felix's workmanship was excellent, and he carried out instructions with care, being regarded as trustworthy and courteous to the other workmen. During this time, he studied mechanical engineering at the Gawler School of Mines and sat for the examinations administered through the Adelaide School of Mines and Industries. Together with his brother Norman, they developed a 4-wheel drive agricultural tractor, from which they developed a range of 4-wheel drive road trucks. Moving to NSW, Felix found work as a mechanical engineer at the Great Cobar mines during 1904 and 1905, finishing in December of that year. He returned to SA and gained employment with J H Horwood & Company, engineers, machinery merchants, well borers and irrigation experts, of Adelaide. As a fitter, turner, and draftsman he proved himself as an intelligent and conscientious workman of more than average ability.

The firm was later merged to become the well-known agricultural machinery manufacturers Horwood Bagshaw. Felix left of his own accord in July 1907 to establish his own business.

In 1910 Felix and his brother Norman relocated their own workshop onto the premises of Henry Vale & Sons at Auburn in Sydney with a view to manufacturing 4-wheel drive road tractors. In partnership with the Vale brothers, they established the Caldwell-Vale Motor & Tractor Construction Company Limited in December 1910. Norman left the enterprise soon afterwards, while Felix became the company's manager and designing engineer.

Unfortunately, the Caldwell brothers were plagued with litigation by customers dissatisfied with their products and this theme persisted during the Caldwell-Vale enterprise. In a 1913 court case brought by the United Silver Mines NL of Lawn Hill, near Burketown, North Queensland, the Caldwell-Vale company was ordered to pay £3884 in damages. Following loss of the court case the Caldwell-Vale company was wound up in February 1915.

As Felix gradually recovered (financially), he was able to secure a position, as Workshop Manager, on the Sydney City Railway construction. He was described as capable, energetic, trustworthy, and sober, who handled men well. Felix worked there for about 14 months, leaving in June 1918.



Caldwell-Vale's second rail-tractor photographed at the Auburn works in June 1913. A distinctive feature was the location of the starting crank handle running past the right hand side of the radiator. Photo: Author's collection



Felix Caldwell photograph taken for his application for an Australian passport, probably around World War II, Photo: Pedr Davis collection

Vale & Lacy and Henry Vale & Sons

The Caldwell-Vale Motor & Tractor Construction Company grew out of two of the companies that had been pioneers in the building of steam locomotives in New South Wales, namely Vale & Lacy, and Henry Vale & Sons. Both of these companies had built for, and I suspect targeted, the industrial railway locomotive market, as well as the larger government railway locomotive market. Later on, Caldwell-Vale likewise targeted the industrial railway locomotive market. Also, some of the locomotives built by Vale & Lacy and Henry Vale & Sons for the government railways were subsequently sold second hand into industrial railway service. Further details can be found in an article titled "Henry Vales' industrial locomotives: an overview" in *Light Railways* No. 273 (June 2020).

The partnership of Vale & Lacy built the first locomotive to be commercially manufactured in New South Wales in 1866. The locomotive was built for the railway contractors Larkin and Wakeford, who required it to assist with track laying for the extension of the Great Western Railway over the Blue Mountains. It was an industrial railway locomotive.

William Lacy retired from the business and the partnership was dissolved in 1876 in favour of the trading name Henry Vale & Sons. New works were established across the bay in Pyrmont and the firm looked to further locomotive building contracts from the NSW government and industrial railway operators.

Early internal-combustion Rail Tractors

During the latter half of nineteenth century, the steam-powered railway reigned supreme as the most efficient form of land transport in Australia. Initially the locomotives that provided the motive power for the nation's railways were imported from Great Britain; but by the 1870s the New South Wales Railways had ordered locomotives from local manufacturers, albeit to the designs of British locomotive builders. One of these local locomotive builders was Vale and Lacy, which also built small locomotives for industrial railways, while its successor Henry Vale & Sons also built steam locomotives for the government railway system.

The application of internal combustion motive power to railway locomotives lagged considerably behind its use in road and off-road motor vehicles. Overseas, development of the oil engine and the high-speed petrol engine in the latter part of the nineteenth century inevitably led to experiments to use them for railway traction. An unsuccessful petrol locomotive was built by Daimler in Germany in 1890. Priestman built a heavy fuel oil-engine locomotive in 1894 in England. Richard Hornsby built the first commercially successful oil-engine locomotives from 1896 in Grantham, England. By 1905, British petrol-engine locomotives were being marketed by companies such as Wolseley; Kerr Stuart; and McEwan, Pratt.¹

It is not surprising that innovative Australian engineers soon started experimenting in the same field. The earliest known to the author was on 20 May 1885, when J Danks and B Barnes tested a gas-powered tramcar on the Clifton Hill to Alphington line in North Fitzroy, in Melbourne.² The next local application emerged nearly two decades later when in 1903, a 2ft gauge kerosene-powered locomotive was built in Brisbane by James Wilson and used by Moreton Sugar Mill in Queensland for the construction of its Dulong tramway. It weighed just three tons and was powered by a Tangye 8 hp engine. It was probably a 4-4-0 wheel arrangement with the driving wheels coupled by rods.³

In 1904, the Tarrant Motor Company of Melbourne supplied a 'steam outline' internal combustion locomotive for use on the amusement line at the Melbourne Zoo.⁴ As the Tarrant Motor Company built the first motor car in Australia in 1901, it is likely that the locomotive was fitted with a car engine and so it was probably a very early example of a purpose-built locomotive fitted with an engine designed for traction purposes—albeit for running amusement rides.⁵

Apparently, the Victorian Railways' Newport Workshops built a rail tractor, coded RT, in 1906 and another in 1907. Other early internal-combustion locomotives built in Australia for industrial railways included a 2ft gauge oil-engine machine used by contractors Vidulich & Co at Finch Hatton near Mackay for hauling sugar cane in 1907.⁶ Two early locomotives were fitted with Union Engine Company oil engines, one 4 hp and one 8 hp, were in use by Innes Brothers on a 2ft gauge line in the Plane Creek sugar mill area at Sarina in 1909.⁷ It is likely that all these locomotives utilised engines designed for stationary use mounted on a rail chassis.

A little-known machine was one used at the Gladstone meat works in Queensland in 1910. It was described as a Mercedes-engine 45 hp petrol-electric.⁸ It is not clear if this was constructed locally or imported but it appears to have been of a sophisticated design. In 1911, A H McDonald & Company, proprietors of the Imperial Engine Works at Burnley in Victoria, built a 3ft gauge 20 hp petrol/kerosene locomotive fitted with an engine of his own construction for timber haulage work at Warburton, Victoria.⁹ A summary of all known early Australian internal-combustion locomotives may be found in *Light Railways* No.272, April 2020, written by John Browning.

In later years, farm tractors and road motor trucks were adapted to run on rails through the expedient of exchanging a set of flanged steel railway wheels for the normal rubber-tyred road wheels. More recently former underground mining, construction, and mainline diesel locomotives have been converted by sugar mills for running on 2ft gauge cane field lines. Caldwell-Vale built its first truly commercial internalcombustion locomotive in 1912, as opposed to motorised track inspection trolleys or one-off or home-made makeshift trolleys such as those mentioned above. Felix Caldwell would go on to design and build many other small internal combustion locomotives through Caldwell-Vale and other firms.

Caldwell-Vale Motor & Tractor Construction Company Limited

Counterpoising Henry Vale & Sons only building steam locomotives; the Caldwell brothers only built internal combustion locomotives. In a very real sense, the brothers were looking to explore the possibilities of new technology rather than relying on technology from the past. Felix Caldwell was not the first person to apply internal combustion motive power to an Australian locomotive. Nevertheless, probably his greatest claim to railway history fame was his vision that the internal-combustion form of motive power could have potential for wide-spread commercial application on light industrial railways.

Many of the railway locomotives manufactured by the Caldwell companies were based on a key patent: Patent No. 4958/12 of 1912, which was received at the Commonwealth of Australia's Department of Patents on 15 May 1912. It was described as being for 'Improvements in the construction of self-propelled vehicles running on rails'. The complete specification was lodged on 14 February 1913.



Perspective view of a six wheel locomotive underframe with friction wheels and adjustment gears as per Patient Application No 4958/12. The wheels are shown in the raised or un-engaged position. In practice the operating lever was usually replaced with a pair of hand wheels and threaded rods. Commonwealth of Australia Patent application No. 4958/12. In effect the wheels on the middle axle formed a split and sprung flat-bottomed 'V' which was forced down onto the rail and in so doing would grip both side faces of the head of the rail so increasing frictional grip of the wheel on the rail. Photo: Author's collection

Locomotives thought to have been constructed by the Caldwell-Vale company are described hereunder, in approximate date order. Naming the different classes of units by the company may have followed some as yet unidentified works' system, or more probably was just a casual practice in the drawing office.



Close up view of the driving wheels of the locomotive at the West Ryde Water Pumping Station showing the centre friction wheels in the raised up unengaged position, which could be lowered down onto the head of the rails using the two vertical hand wheels in the cabin. Photo: Author's collection

Millaquin Sugar Company Limited, Qld

The first Caldwell-Vale internal combustion-engine locomotive was delivered to this company at Bundaberg in Queensland on 28 September 1912 for use at the Qunaba sugar mill, located between Bundaberg and the coast at Mon Repos. It effectively established a precedent for application of this then new form of motive power to rail. The significance of this achievement was, however, not recognised until much later.

The Qunaba sugar mill had been established as the Mon Repos juice mill in 1887 but ran into financial difficulties and was taken over by the Queensland National Bank in 1897, which renamed it using the first two letters of each word of its name. Qu-Na-Ba became Qunaba. Given its financial difficulties, the operation used a lot of second-hand plant and machinery. All cane haulage was by horse power. When the Millaquin Sugar Company Limited was floated in 1911 to take over the Qunaba and Millaquin sugar mills, it looked at ways of improving the efficiency of cane haulage at the former site. The antiquated cane haulage system required upgrading, but the light rail in use posed challenges for the design of a locomotive that could operate over the track.¹⁰

The Millaquin Sugar Company approached Caldwell-Vale in 1912 to supply a locomotive, weighing not more than three tons, capable of hauling a load of fifteen tons up a 1 in 20 grade. Felix Caldwell found it mechanically impossible to fulfil the order with existing steam technology; but could supply one powered by motor spirit. The special feature enabling that machine to meet the specification was its double-flanged friction wheels. The two feet gauge locomotive weighed just 2½ tons and was powered by a 30 horsepower engine. It was designed to haul loads of 15 to 20 tons on grades up to 1 in 20 or even 1 in 15 if required. A test of the machine took place on Wednesday 25 September 1912 at the Caldwell-Vale works, Auburn, when the representative of the sugar company was present. The locomotive easily hauled three trucks, with spragged wheels, loaded with bricks, which represented hauling about 10 tons. The machine did its work most effectively.11 The locomotive was trialled on the sugar mill lines during October 1912 and despite some initial teething problems the principle was pronounced as a success.



The Caldwell-Vale rail tractor equipped with friction-wheels for the Qunaba sugar mill being tested at the Auburn works in late 1912. The radiator was located at the rear of the locomotive behind the fuel tank behind the driver's seat, requiring two pipes to run along the full length of the left hand side frame to circulate the water between the radiator and water pump mounted on the front of the engine. Photo: Author's collection



Undated view of the 3½ ton benzene fuelled locomotive at work hauling 20 tons of sugar cane,

Photo: Author's collection

Nevertheless, Joseph Johnston, the company's general manager, advised Caldwell-Vale that the sugar company considered the locomotive too light to carry out the work over all of its heavily graded tracks due to the very light rail that was in use. Therefore, the locomotive was returned to the maker. He was, however, impressed with the design of the unit and felt that the principle was good, so the company ordered a second heavier locomotive capable of working on rails of 14 lb/yd.12 The Australian Sugar Journal described the locomotive as: 'An entirely new invention deeply interesting to sugar growers', indicating the relatively innovative step forward from horse or light steam locomotive.¹³ This second rail-tractor weighed 3¹/₂ tons, alternately quoted as at 4 tons, and was also fitted with friction wheels, while full speed was 10 miles per hour. It was easy to handle and ran on either benzene or kerosene. Following delivery to the mill on 3 July 1913, the locomotive hauled loads of 18 tons up a grade of 1 in 20, with the aid of its friction wheels. To do so with an ordinary steam locomotive would have required a weight of 10 tons. By 9 August the rail tractor was hauling an average of 150 tons of sugar cane over a six mile run each day, at a cost of about 5d per ton. This cost included wages, lubricating oil, kerosene and 30 per cent depreciation. Success of the locomotive prompted the Caldwell-Vale company to place photographic advertisements in the Australian Sugar Journal.¹⁴

North Head Quarantine Station, Sydney

Following the transfer of colonial quarantine stations to the Commonwealth Government in 1909, moves were made to upgrade the facilities at the important quarantine station at the North Head entrance to Port Jackson. While the use of light railway technology had been recommended in 1883 to improve internal transport around the site at North Head, it was not until 1914–15 that the railway was added to other



Builder's photograph of the Caldwell-Vale 0-4-0 oil locomotive supplied to the North Head Quarantine Station in 1913. Some years later, Purcell Engineering scratched out the image of the Caldwell-Vale builder's plate across the back of the rear tank and reused the image in its own company promotional material

improvements that were being undertaken at the station. The narrow gauge 'standard' adopted by the Commonwealth Government for Australian quarantine stations was 2 ft 4 in gauge, although on site measurements at North Head indicate that the track there was laid to 2 ft 3 in gauge.¹⁵

The railway transported detainees' luggage from quayside (following unloading from ships) to the luggage sheds, and to the 'infected' end of the disinfection block where luggage was disinfected in autoclaves. The line ran inside the building where passengers' luggage was transferred to wheeled carriers for transfer via a traverser into the autoclaves for disinfection.



Undated view of the locomotive outside the back of the drive-through locomotive shed, on the top level, getting into position to winch a wagon load of detainees' luggage up the incline. Photo: Author's collection

A separate branch ran from the 'disinfected' end of the autoclaves via another traverser out of the disinfection block. A branch line behind the wharf ran to the bath houses and laundry, with a third branch running in underneath an elevated timber coal-storage bin. As well as storing coal to fuel boilers in the power house, coal could be railed from the bulk storage bin to the wharf for refuelling steam powered support vessels. Rail wagons seem to have been pushed around by hand.

The mainline ascended to the upper accommodation level utilising a cable operated single-track railed incline. After rising up the slope to the higher level of the administration area, the line passed by the end of a large hardware and linen store, to which access was organised via a doorway at rolling stock level. At the accommodation level the line passed through the first- and second-class accommodation and ran further on to terminate at the third-class accommodation.

The Caldwell-Vale locomotive was supplied in 1913 for haulage on the top level of the tramway network. The 2½ ton locomotive was powered by a 10 hp engine and was fitted with a winch at the rear which held 1000 feet of ½in diameter steel wire rope. Publicity stated that locomotive could haul 25 hundredweight up a grade of 1 in 3, presumably by using its winch. A removable canopy was fitted with dropdown canvas sides and ends to provide the driver with protection from the severe coastal weather. Following extensive trials, the funicular railway and locomotive were handed over to the Officer in Charge at the quarantine station on 13 May 1914.

Based on site inspections, to operate the incline the locomotive is believed to have been reversed through the locomotive shed and anchored to the track by some means. The wire rope would have been unwound off the winch drum and run around a low-lying horizontal pulley, and attached to a four-wheel flat-top wagon, which was allowed to descend the incline under its own weight, thus un-spooling the wire rope off the winch drum as it descended. The band brake on the winch could have been used to control the descent of the wagon as desired. At the base of the incline, the wagon would be uncoupled from the haulage rope and pushed by hand around the wharf precinct to wherever it was required.

On the lower, wharf level, loaded wagons would have been pushed by hand to the base of the incline and attached to the loose end of the haul rope and winched up the hill. If the wagon was carrying stores for the top hardware and linen store, located part way up the incline, the winch could place the wagon opposite the loading bay for the store. For safety the wagon wheels would probably have been spragged or chocked, as there is no evidence that the wagons had brakes. Other wagons were winched to the turntable at the top of the incline. These wagons were then rotated through 90 degrees on a turntable. Once the wagon, or several of them, had been hauled up and parked on the mainline, the locomotive could be un-coupled from its anchor, run through its shed, reversed back to couple onto the wagons for haulage to their desired destinations along the upper level line.¹⁶

Metropolitan Board of Water Supply & Sewage, Broughton's Pass, NSW

Despite completion of the Upper Nepean water supply scheme which diverted water from the Cataract, Cordeaux, Avon, and Nepean Rivers into Prospect Reservoir in western Sydney via 40 miles of tunnels, canals and aqueducts, the severe drought of 1901-1902 brought the city perilously close to a complete water famine. Following two Royal Commission hearings, it was agreed to build a dam on the Cataract River together with a tunnel piercing the intervening ridge between



Builder's photo of the locomotive built for the Metropolitan Board of Water Supply & Sewage works in the Broughton's Pass water supply channel in 1917, taken at the Auburn works.

the Nepean and Cataract rivers. However, the unstable geological conditions resulted in large quantities of shale falling from the roof, obstructing the tunnel and posing a danger to workmen. As a result, it was decided to line the tunnel with concrete.

New two-foot gauge tracks were laid in the 4½-mile-long tunnel with the pre-existing tracks at the Broughton's Pass portal requiring modifications to grade and curvature. An internal combustion locomotive was ordered during 1916 from Caldwell-Vale Motor and Tractor Construction Co to convey workmen and materials for the relining work. Due to delays to the project as a result of World War I, the company displayed the locomotive at the 1917 Royal Easter Show in Sydney and then held it in store until required by the Board. It was finally delivered and placed onto the rails during January 1921, by which time the manufacturer had changed names to T Purcell & Company.

The locomotive was of two feet gauge with a four feet wheelbase and weighed $2\frac{1}{4}$ tons. It was equipped with a 15 hp kerosene engine and hauled two tons at $3\frac{3}{4}$ mph. The locomotive functioned quite satisfactorily after a few modifications. A canopy was fitted to protect the driver's head from coming into contact with the tunnel roof, while boards over the coupling rods provided protection for workers. The locomotive cost £510, while the later fitting of a dynamo and two headlights by Purcell & Company cost £68-12-0.¹⁷



Undated view, but probably January 1921, showing the locomotive being unloaded outside the entrance to the tunnel, by winching it backwards off the back of a solid-tyred flat-bed truck. Photo: Author's collection



This is probably a Purcell company redraw of a design first developed by Caldwell-Vale, possibly for the Broughton's Pass tunnel locomotive, 7 July 1916. Photo: Author's collection

Northern Agency Limited, Darwin

During the early 1900s, the large British conglomerate Vestey Brothers proposed setting up a meat processing plant in Darwin to support large-scale cattle-rearing in the Northern Territory. Construction of the plant commenced in 1914 on a site at Bullocky Point near Darwin.

A small 8–15 hp, 2ft gauge, 4-wheel internal combustion locomotive powered by kerosene was ordered from Caldwell-Vale for use on the construction phase. Evidently the locomotive was a success as the manufacturer claimed to have received four repeat orders from the Northern Agency Limited for use at the meat works.¹⁸ The meat works was completed in 1917, and another order for a locomotive was placed with the supplier, this time it was for a 25 hp, 3ft 6in gauge, four-ton, locomotive fitted with the patented traction wheels and full-length canopy. It was intended for use shunting and hauling government railway rolling stock, which required it to be fitted with standard North Australian Railway centre buffers and couplings.



Builder's photo of the first locomotive constructed for Northern Agencies Limited taken at the Auburn Works. Display of the No. 3 suggests that there were at least two other locomotives in the company's fleet.



The No.3 locomotive engaged on construction work at Bullocky Point, A copy of the image appeared in the Darwin newspaper Northern Territory News on 2 December 2003. The apparently improvised hood over the motor may have been a local modification to increase air flow, hence cooling of the engine compartment. Photo: Richard Horne collection

A feature was the fitting of an extension shaft and pulley for driving concrete mixers, rock breakers, and other stationary machinery located around the yards.¹⁹ While such power take-offs (PTO) were common for farm and industrial tractors, this application is to the author's knowledge unique among Australian railway locomotives.

By 1920 Northern Agency Limited decided that the meat works could not become financially viable and it was closed.



The 3ft 6in gauge locomotive built for the Northern Agency's (Vestey's) meatworks at Darwin photographed at the Auburn works. The friction wheels are in the raised position. Photo: Author's collection

The 3ft 6in gauge locomotive was reputedly acquired by Kurt Johanson some years later and he used the motor to power the plant at a gold mine he operated not far from Darwin. When Kurt subsequently relocated to Alice Springs, he left the motor, which was scrapped.²⁰

The site of the meatworks site at Bullocky Point is now occupied by the Darwin High School. A large concrete water reservoir is one of the few visible vestiges left of the original meatworks.

T Purcell & Company / Purcell Engineering Company Limited

Thomas Purcell was born in Coolkell, Co. Tipperary, Ireland in the late 1840s, and accompanied his parents to Australia during the early-1850s. By the early 1880s he had settled as a grazier in outback Queensland and developed an interest in long distance road transport.

As mentioned at the start of this narrative, the Caldwell-Vale company was wound up in 1915 following a protracted lawsuit involving claims and counter-claims that saw it having to pay over $\pounds 3800$ to a disgruntled purchaser in the Gulf Country of Queensland. A year later, in July 1916 an unexpected suitor emerged to take over the defunct Caldwell-Vale Engineering Works, together with a portion of the Henry Vale and Sons works at Auburn. That person was the wealthy Queensland pastoralist Thomas Purcell, who was then 72 years old. While the new company, the Purcell Engineering Company Limited carried its benefactor's name, there was clearly another player driving the enterprise – that man was Daniel James Malone.

The Purcell Engineering Co continued the manufacture of internal-combustion engine locomotives for industrial

railways using very similar designs to those developed by Felix Caldwell. Purcell's locomotives were often confused with earlier Caldwell-Vale products. Indeed, when the new company advertised its products it often included those that had been made by the previous entity. Motorised flat-top trucks and inspection vehicles were added to the company's range of railway vehicles. The new company gained a far wider market for its locomotive products. Nevertheless, as a general engineering firm the manufacture of locomotives was but one of Purcell's many product lines. As a consequence, the number stamped on an individual unit builder's plate was probably allocated according to the factory order sequence, irrespective of the type of item being manufactured. The company seems to have only numbered the engine on its builder's plates. As there are no known surviving order books there is no way to quantify the company's locomotive output.

There are two surviving locomotive catalogues, but neither is dated. Accordingly, they are of limited value in precisely dating the production of individual rail tractors or locomotives. Thus, the locomotives described herein are only in an approximate date order. It also manufactured a wide range of workshop tools for other engineering firms, together with oil and diesel motors, air compressors, deep well pumps, portable mechanical saws, motor mowers, and petrol pumps. From the mid-1920s the Purcell Engineering Co was also associated with prospective joint ventures for the proposed manufacture of motor cars and aeroplanes in Australia.

Port Pirie Flux Company, South Australia

Wardang Island located just off the eastern coast of Spencer Gulf in South Australia became a source of lime sand for use as a flux at the Port Pirie lead smelters from 1910. In 1911 Broken Hill Associated Smelters (BHAS) commenced development of new quarries on the island, together with a jetty and a horse-worked light railway system. Operated by the BHAS subsidiary, the Port Pirie Flux Company, the mainline ran from the sand quarries to storage bins located



Moreton Mill locomotive 'Vanguard'. The cylindrical sand boxes were distinguishing features. Photo: EA Downes, ARHSnsw RRC 22957A

about 1000 yards inland from the jetty, allowing the lime sand to be tipped from the V-skips into the bins.

By 1919 Purcell & Company had plotted longitudinal sections along the tram lines for the purpose of designing a locomotive to operate the tramway. It was to weigh 4½ tons and had been allocated Order No.383.²¹ No further details of this locomotive have been located. Motor trucks replaced the tramway in about 1939.

Moreton Central Sugar Mill, Nambour

The Moreton Central Sugar Mill Company had been established in December 1894 and its central mill opened three years later. Initially its 2 ft gauge tramlines were worked by horses, with the first steam locomotive being introduced in 1904. In 1913, however, a number of the lines were still laid with light 20 lb/yd rails that could not be worked by steam locomotives.



A thus far unidentified Purcell 4 ton, 25 hp, 2ft gauge, oil engined locomotive hauling sugar cane at Nambour. This locomotive is known to have hauled passenger trains at Coolum Beach. Photo: Author's collection

To haul cane over these tracks, the mill company placed an order with Caldwell-Vale in 1913 for a kerosene-powered locomotive fitted with the company's patent friction wheels.

The locomotive was based at the River Depot on the north side of the Maroochy River in order to work the light 'horse lines' in that locality. Following construction of a bridge over the river in 1921, it also worked the so-called Horse Line on the south side. The locomotive, colloquially known as *Vanguard* had its kerosene motor replaced by a Leyland petrol engine taken from a road motor vehicle after several years' service. The name was probably taken literally from VANGUARD embossed onto the builder's plate attached to the front engine cover, as shown on the Purcell drawing.

When the tramway system was extended to connect with an isolated line built in 1922 between Coolum Creek and Coolum Beach the locomotive also operated passenger trains on that line. The mill had fitted out some wagons with back-to-back seats and timed the movement of trams to fit in with government railway train timetables. This service was very popular and played an important role in the development of Coolum as a seaside resort. On Easter Monday 1928 large numbers of passengers travelled from Nambour to Deepwater, from where they travelled to Maroochydore by launch. Having returned half the passengers to Nambour, the locomotive broke a coupling rod some one-and-a-half miles out of Nambour, leaving the waiting passengers stranded at Deepwater until replacement buses could be arranged to pick them up.²²

As heavier rails were installed on the northern tramway system, steam locomotives took over their operation and *Vanguard* was relocated to work the isolated Reserve Line hauling cane to the tram ferry over the Maroochy River. She was still working on this isolated line in 1956, after which the locomotive was used on permanent-way maintenance duties until it was withdrawn and left to decay. In the early 1970s it was transferred to Buderim Zoo and Koala Park for 'preservation'. In 1991 it was obtained by Brisbane collector Graeme Chapman, and, more recently by the Kerosene Creek Tramway, near Lithgow, as noted and pictured on page 43 of this issue.²³

Metropolitan Board of Water Supply & Sewerage, West Ryde, Sydney

In September 1921, a new water pumping station located adjacent to the 1891 water pumping station at West Ryde was commissioned. The old station continued to operate until around 1930, while the capacity of the No. 2 station was expanded over the years to pump increasing quantities of water from the Prospect Reservoir to distribution reservoirs at Chatswood, Pymble, Wahroonga, Hermitage, Mobbs Hill and Beecroft.

Both pumping stations utilised coal, which arrived at the site loaded in government railway open wagons. The No. 2 station included an internal network of standard gauge sidings worked by the MBWS&S fleet of small shunting locomotives. The first of these was a 10 ton, 60 hp, six-wheel locomotive fitted with friction wheels, built by Purcell Engineering Company in 1921. It was used to push loaded coal wagons from the reception siding up and over the bunkers in the boiler house.²⁴

The arrival of a second-hand industrial steam locomotive in 1923 relegated the Purcell locomotive to standby duties. By 1982 the pumping station had been converted to electric power, thereby eliminating the need for locomotive haulage of the coal wagons.²⁵

Ocean Salt Co Ltd, Port Augusta

The Crystal Salt Company installed a salt works in an isolated area on the western side of Spencer's Gulf, north of Port Augusta. During 1920 the works was connected to a railway siding on the eastern side of the gulf by a 2ft gauge tramway along which bagged salt was conveyed on bogie flat-top wagons. Two rail tractors were used to operate the tramway, one of which, known as the 'light' one, was a Purcell. The locomotive remained on site after closure of the works in 1935 gradually being cannibalised for reusable materials. In 1945 the remains were dismantled and shipped to another salt works at Lochiel.²⁶

At Lochiel various scattered parts of the Purcell were reassembled except there was no motor. Using a Dodge motor removed from the salt work's motor car was suggested but did not go ahead. The locomotive sat idle, sans motor, until July 1946 when it was sent to Geelong.²⁷



The Purcell locomotive pushing two government railway wagons of coal up the bank into the top of the boiler house at the West Ryde Water Pumping Station. Photo:Author's collection



Builder's photograph of the locomotive delivered to the Hick's Bay Farmers' Meat Company in New Zealand. Photographic evidence suggests it was operated in NZ without the canopy

Hick's Bay Farmers' Meat Company, New Zealand

Located in the north-east of the North Island, this local enterprise established an abattoir and freezing works in 1921. A mile of 3ft gauge track was laid to connect the works with the wharf. Initially the line was worked by horses, but in November 1922 the company approached the agents J Niven & Company of Gisborne to seek a suitable locomotive and an order was placed with Purcell Engineering. The 2½ ton, 8–12 hp locomotive arrived in mid-1923, having been exhibited at the Sydney Royal Easter Show prior to shipment. At Hick's Bay it hauled rakes of five loaded four-wheel wagons from the works to the wharf while coal was back-loaded from the wharf to power the works. Trips were run day or night to suit the vagaries of local shipping.

Following closure of the works in 1926, the locomotive, wagons, and line were taken over by the Hick's Bay Harbor Board. The locomotive was offered for sale several times; but records relating to it after 1929 have not been located.²⁸

Australian Portland Cement Company, Fyansford, Victoria

This company commenced cement production at Fyansford in 1890 using limestone quarried from a hillside at Batesford, some 3½ miles from the works. From 1912 limestone was transported from the quarry to the works by an aerial ropeway, which in turn was replaced by a 3ft 6in gauge railway in 1926. A large and deep open-cut quarry was opened, which required a 1300 yard railway tunnel to gain access, opened in 1931.²⁹ In 1924 the company placed an obscure little 3ft 6in gauge locomotive in service. Built by Purcell Engineering, it weighed two tons and was fitted with a Vanguard 25 hp oil engine. It was placed into service during 1924 and subsequently received an ugly home-made shed-like 'cab'. The locomotive was withdrawn from service during 1930 and it was put up for auction on 10 March 1936 together with other surplus machinery and plant.



Purcell locomotive at Fyansford with its ugly home-made shed-like replacement cab. Photo: Author's collection



Builder's photograph of the locomotive at the Auburn works before dispatch to Tonga, thought to be December 1915.

Public Works Department, Tonga

Around 1915 an unexpected order for a locomotive came from the government of the Kingdom of Tonga in the southern Pacific Ocean, to the east of Fiji. Built to 2ft gauge, the 0-4-0, 2¹/₂ ton locomotive was fitted with an 8–12 hp engine. It was used on harbour improvement works at the capital Nuku'alofa, which is located on Tongatapu, the largest island of the archipelago. In 1923 the locomotive was reported to be in use daily hauling 14 skips, each containing one cubic yard of sand, from the Central Lagoon to the harbour facilities with grades up to 1 in 30. The locomotive was driven by islanders who reportedly experienced no trouble whatsoever with the operation.³⁰ Today's Railway Parade in Nuku'alofa serves as a reminder of the former railway operation.

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The Crookhaven Breakwater tramway

by Peter Crabb

The coastal rivers of New South Wales

Driving over the bridges that today span most of the coastal rivers of New South Wales, the scene is generally one of tranquility. Bounded frequently by green fields, the rivers flow placidly to the sea. In times of flood, however, the picture can be very different, with water covering the flood plains. For example, storms in mid-1910 resulted in the Shoalhaven River being "fourteen miles in width".¹ Depending on the size of the flood, the waters may or may not cut through the sandbars that are present at the mouths of most of the rivers.

Throughout the nineteenth century and the early decades of the twentieth, however, they were regarded as ever-present dangers. Over those many years, coastal shipping was the lifeblood of New South Wales being the prime means of communication for the movement of people and goods. In spite of their inherent dangers, the coastal waters and rivers were the roads of the day. Crossing the sandbars to enter the rivers was extremely dangerous, one captain noting that "These obstructions are the terror of every shipmaster, and they are seldom crossed now without painful anxiety, and sometimes with the absolute loss of the vessel".² Many ships were wrecked, sailors and passengers drowned, and cargoes lost. Once ships had entered the rivers, they had to deal with the changing sandbanks, whilst their departures could be delayed for up to weeks at a time because of the shifting sandbars. As a writer in the Sydney Evening News observed in 1910,

The problem of dealing with the shifting sands which form bars to the entrance of our coastal harbors and rivers is one of the most difficult that the engineering skill of the Department of Public Works has to deal with.³

In a sense, the problems were not solved until the rivers were replaced by railways and adequate roads.⁴

The Shoalhaven and Crookhaven Rivers

The Shoalhaven and Crookhaven Rivers are no exceptions. The Shoalhaven is one of the major rivers in southern New South Wales, with a catchment of 9,260 sq.km. Its estuary is bounded to the north and south by long stretches of sandy beaches, with its mouth generally closed by sand deposits, being only open after large floods. In marked contrast, the catchment of the Crookhaven is very small, and its estuary is unusual in that its southern side is a rocky headland.

The first large European landowner on the lower Shoalhaven was Alexander Berry, who established the large *Coolangatta Estate*. He was also one of the first to describe the area, in a paper read to the Philosophical Society of Australia in Sydney in 1822.⁵ Earlier in the year, Berry was also perhaps the first to tragically experience the dangers of the entrance to the Shoalhaven River:

We intended to enter Shoalhaven, but found it opening into the sea through a sandy beach, with a chain of breakers across the entrance. Davis pleaded to go in the rowing boat, and I allowed him to do so, but said only volunteers must go with him. He took his life in his hand, I knew. I went to the mast-head of the cutter and waved my hat to them to return. They appeared to waver and dispute together. I recollect at this moment how my mouth became parched. I saw the boat enter the breakers. The passage seemed quite smooth, with a glazed appearance that was ominous. Suddenly a roller came and I lost the boat, then she was on top upside down, the five men clinging to her. It was Davis who had sacrificed himself in my service, but two lives were lost. The other three managed to get ashore. ⁶

It was this loss that led to the first measure to improve access for shipping to the Shoalhaven River.

The Junction (Berry's) Canal

Berry recognized that the Crookhaven had the potential to provide a much better entrance to the Shoalhaven than its own exit to the sea. The "narrow isthmus, not 250 yards broad", where Berry and his men had "hauled" their boat from the Crookhaven to the Shoalhaven,⁷ was where the first canal in Australia was cut, in 1823. About 210 yards



long and 18 feet wide, the mainly convict labour, overseen by Hamilton Hume, took only twelve days to undertake the work. It became known as the Junction Canal (or Berry's Canal), and in the process created Comerong Island. Over time, the canal has been cut wider and deeper by the waters of the Shoalhaven River, for which it is now the main exit to the sea.

Today, it is only in times of severe flooding that the Shoalhaven enters the sea through its own estuary, though the blocked estuary can also result in significant flooding of the river's floodplain.

Over time, the Junction Canal in effect became part of the Shoalhaven River and was afflicted by the same problems, namely silting of the channel and of the Crookhaven estuary. This became a serious issue as the area was a major source of food for Sydney, and ships were frequently delayed for extended periods, in spite of large sums of money being spent by the Colonial Government over many decades on "removing obstructions to navigation in the channel".⁸ Numerous petitions to the Colonial Government eventually resulted in an investigation by surveyor John Debenham of the New South Wales Department of Public Works. The conclusion of his comprehensive report was not very encouraging for the residents along the Shoalhaven:

nature... cannot be induced to remedy the evils she has created ... any works which might be projected for the improvement of ... the Shoalhaven would be of a costly and stupendous character, and would be constantly met with engineering difficulties.⁹

His one positive suggestion was dredging the river and the river mouth.

Dredging: a partial solution

Over many years, further deputations and petitions were submitted to the Colonial Government for dredging, "for the purpose of removing obstructions to the navigation in the channel of communication between Crookhaven and Shoalhaven Rivers".¹⁰ It was the subject of much debate in the Legislative Assembly and on-going cost to the Colonial Government. In the late 1800s, regular dredging was undertaken on the Shoalhaven and Crookhaven Rivers and the Junction Canal, using ladder dredges, first the Pluto, then the Phoenix,¹¹ and from 1899, the Archimedes. In 1862, after much investigation, a dredge was specially built for the Shoalhaven by P N Russell and Co. in Sydney, which was able "to raise 500 tons of mud or deposit daily".¹² Its value was soon evident, with the celebrated voyage of the first ocean-going vessel from Greenwell Point up the Shoalhaven River as far as Terara by the Illawarra Steam Navigation Company's steamer Mimosa, which made a return trip from Sydney in August 1863.¹³

Over many years, dredging was a very expensive activity.¹⁴ Yet in spite of this almost constant activity, reports of problems for shipping continued, with sand deposits "preventing the passage of even the small river steamer";¹⁵ "The mouth of the Shoalhaven River is completely blocked up with sand";¹⁶ "The steamer *Illawarra* touched the sand at the entrance to the Shoalhaven River on Wednesday last";¹⁷ and the *Buangla* had even worse problems.¹⁸ If a dredge was moved from the Shoalhaven, even for a short period, the news was received with "surprise and indignation" by the local councils and residents.¹⁹ And there were further questions in the Legislative Assembly.²⁰

There was little doubt that dredging was both "expensive [and] ineffective",²¹ certainly if it was not undertaken constantly. And with the opening of the railway to Nowra, the Department of Public Works was of the view that "the necessity for deepening the Shoalhaven is not as great as was formerly the case".²²

In October 1885, as part of his visit to New South Wales, the eminent English marine engineer, Sir John Coode, made a short visit to the Shoalhaven-Crookhaven estuary, travelling up-river as far as Terara. As well as his "careful observation", he was reported to have taken "copious notes of the information supplied by the local navigators ... [and] ... examined several charts showing the history and movements of local currents during a number of years".²³ He "reported that he could not recommend any definite remedy to be carried out, until he had received some statistics from other officers of the Department, as to the depth of water, etc.".²⁴ However, the information was not provided, as no funds were available to carry out the required investigations,²⁵ a situation that continued to displease the Shoalhaven community well after Coode's visit.²⁶ A series of questions asked in the Legislative Assembly in late 1886 brought little satisfaction.²⁷ It would appear that before he had completed his report on the Shoalhaven-Crookhaven estuary, Sir John Coode died in London on March 2, 1892.28

Training walls: another partial solution: 1902-1908

In the late nineteenth century, training walls were proposed for a number of locations along the lower Shoalhaven upstream as far as Numbaa Point. Their purpose was to improve the course of the river and protect the flood plain lands from erosion. However, due to a lack of funds, work did not begin until October 1902.²⁹ The Department of Public Works opened a quarry at 'The Grotto', on the northern bank of the river upstream from Nowra,³⁰ from where stone was punted twelve miles downstream and put in place by hand on the walls.³¹ Only the Numbaa Point and Apple Tree Island walls, some 1400 ft in length, had been built when work was suspended due to further cuts in 1903; even dredging was suspended.³² It was some years before work on the training walls resumed.³³

After reporting on the construction of further training walls along the Shoalhaven estuary, the 1907 Annual Report of the Department of Public Works commented with respect to the Crookhaven River:

The shoaling of the inner crossing, and the very awkward position of the channel, greatly hampers the regular service of the three boats, which call at this river weekly, and work of a permanent nature is required to confine and direct the river waters.³⁴

The 1908 Report contained a more detailed report of the situation. Training walls had been extended further upstream, other river bank repairs made, and the sand-pump dredge *Antleon* had worked on the entrance to the Crookhaven for two months. However, whilst the entrance was generally satisfactory, the channel inside had "given considerable trouble, owing to the southern point of Comerong Island having been washed away. In consequence the channel has been narrow, tortuous, and shallow".³⁵

There was clearly no doubt as to the validity of Debenham's comments quoted earlier, but if the regular shipping services using the river were to continue, more works were needed. The delays continued into the early part of the twentieth century,³⁶ and there were numerous public meetings and deputations to the Colonial Government for works to keep the entrance to the Shoalhaven River open, not least because of the flooding of adjoining areas of low-lying land.³⁷ But this was something the Under-Secretary for Public Works considered "useless and impracticable".³⁸



A Breakwater: 1909-1912

The continuing problem of the silting of the Crookhaven estuary was due to sand being washed down the coast from the beaches of Comerong Island and those further north.³⁹ Dredging was not effective.

A breakwater or retaining wall was wanted to join the Comerong Point up with the rocks again, so that the channel would be narrow and the tide would carry the sand away in its rush, as it used to do before Comerong Point was eroded as it is now. If this was done, and the training wall in the Canal completed, there would be a permanently navigable channel.⁴⁰

In 1901, after a deputation to the Minister of Public Works from the Nowra, South Shoalhaven, and Clyde Shire councils, money had been approved "for the improvement of and erection of a breakwater at Crookhaven Heads. ... The improvements proposed have been spoken of for several years past as absolutely necessary to save the waste of land by erosion at Comerong Point. A breakwater will effect this, and also deepen the channel".⁴¹ Some of the best land on Comerong Island "was being rapidly washed away".⁴² But whilst some work was done on training walls, there was no start to a breakwater.

The proposal for a 2,000 ft long breakwater from Comerong Point to rocks near the entrance was strongly supported by a yet another deputation from local councils and the business community.⁴³ However, it was not until 1909 that funds for a breakwater on the northern side of the Crookhaven estuary, the southern end of Comerong Island, were finally made available,⁴⁴ its express purpose being to prevent sand eroded from the coastline of Comerong Island and further north being deposited at the entry to the River.

To provide stone for the breakwater, a new government quarry was opened on the southern bank of the Shoalhaven River to the west of the bridge. The location is now known as Paringa Park and evidence of the quarry can still be seen. Two steam cranes were used to lift the stone on to punts, which were towed by the tug *Unara* to Coal Wharf at the southern end of Comerong Island.⁴⁵ Construction of the Breakwater began in early 1910, and by August, 800 ft "of the 1300 ft contemplated" had been built.⁴⁶



Quarry near Shoalhaven bridge, Nowra. Source: "Two Southern Rivers: science and the shifting sands. Building a breakwater at Crookhaven". Evening News, Sydney, February 19, 1910, page 3.

It was estimated that it would be completed by mid-1912.⁴⁷ However, work stopped in February 1912, the allocated money having run out. The breakwater had a total length of 1875 ft. From October 1902, through to June 30, 1912, the training walls and breakwater had cost $\pounds 25,076.7.8.^{48}$

Early in the construction, Blomfield noted that "the sand is following the work and banking up against the wall, which when completed will serve its purpose in confining the sand and keeping it clear of the channel. But for the work already done the channel would have long since been uncrossable at any tide".⁴⁹ In 1912, the annual *Report of the Department of Public Works* noted,

The structure has proved very useful, some acres of sand having been held back on the outer side, where there was 20 ft. of water, which otherwise would undoubtedly have entered the harbor and been deposited on the inner crossing.⁵⁰

However, in 1911, even before work was stopped, there were concerns that the Breakwater would not be completed "to the point originally planned"; in the view of the local Councils and businesses, "It would be a very grave mistake not to spend the few thousand pounds now required to complete the work, after £19,000 have been expended on it".⁵¹ From the beginning, completion of the work was frequently under threat. In spite of the early and subsequent evidence provided by his own Departmental staff, and the concerns of the district councils in the area, the Minister for Public Works, Arthur Griffith, was apparently not favourably disposed towards the construction of the breakwater.⁵² There were still occasions

when the channel silted up,⁵³ but then as was stated in 1914, "The breakwater was not finished" and for that, Griffith seems to have been primarily responsible.⁵⁴

The tramway

Once the stone had been brought to Coal Wharf, it was lifted from the punts by a mobile 10-ton steam derrick crane. The stone was placed in tipper trolleys that ran on rails and which were hauled by horses, to where the stone was tipped into position. A total of 96,900 tons of stone had been used.⁵⁵

Apart from these rather poor photographs, reproduced on the page opposite, very little seems to be known about the Crookhaven Breakwater tramway. The only other information comes from the construction of the breakwater at the Royal Australian Naval College on Jervis Bay, where the first rails laid for its tramway and the mobile steam crane were brought from Crookhaven.⁵⁶ The gauge of the tramway is not known, but it is likely to have been standard gauge, and judging from the current width of the Breakwater, there would have been little space to spare on either side of the track.

The Crookhaven Breakwater today

Along with other breakwaters and minor ports in New South Wales, the Crookhaven Breakwater is managed by the State's Crown Lands Coastal Infrastructure Group. It continues to be an important asset.

Its contribution to the restriction of sand erosion plays an important part in the continued survival of Comerong Island





Above: Mobile steam crane lifting stone from a punt to the trolleys on the breakwater. Source: "Two Southern Rivers: science and the shifting sands. Building a breakwater at Crookhaven". Evening News, February 19, 1910, page 3.

Below: Tipping stone from the horse-drawn trolleys. Source: "Two Southern Rivers: science and the shifting sands. Building a breakwater at Crookhaven". Evening News, February 19, 1910, page 3.



and the 660 ha Comerong Island Nature Reserve, which was established in August 1986.⁵⁷ With a variety of natural environments – mud flats, sand dunes, coastal forest, she-oak forest, saltmarsh, and mangrove swamps – the Reserve is an internationally-recognised habitat for a range of migratory shorebirds and waders, including threatened species. Over 160 species of birds have been recorded in the Reserve.⁵⁸ Fishing is an important part of the Island's and the Reserve's passive recreation activities, with the Breakwater a favoured location (though abandoned fishing lines, nets and hooks are not good for the birds).

As well as contributing to the survival of Comerong Island, the Breakwater plays a major role in preventing the deposition of sand in the Crookhaven River mouth and so maintaining a channel deep enough for the shipping that continues to use the river. Some 5 km upstream from the estuary is the small port of Greenwell Point. It is home to a small commercial fishing fleet, along with increasing numbers of recreational craft, despite a shortage of berthing spaces.⁵⁹

Over the years, wave action, especially storm events, have breached and undermined the Breakwater in a number of places. A 1998 reported stated that "Repairs are likely to be necessary in the near future", but it seems unlikely that any work was undertaken;⁶⁰ by 2016, the Breakwater was described as being in poor condition.⁶¹ In 2019, *NSW Maritime Infrastructure Plan 2019-2024* identified 'Jervis Bay/the Shoalhaven' as one of the State's fourteen locations for marine-based tourism and recreational boating, as well as commercial fishing in some of the locations. To support these activities based on the Crookhaven and Shoalhaven Rivers, the "breakwater that provides access to the Crookhaven River entrance" is one of the "priority infrastructure outcomes ... identified to inform future investment in the area".⁶² The deterioration has clearly continued, making investment in the Breakwater an increasing priority.

Nothing remains of the tramway, but – and in spite of its deteriorating condition – the Breakwater it helped to build continues to play important roles for the small community of Greenwell Point, its fishing fleet and recreational marine craft, for Comerong Island, and the home for large number of birds that is provided by the Nature Reserve.

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The Crookhaven Breakwater, looking across the estuary from Crookhaven Heads on 7 May 2019.

Photo: Rob Slater



Looking from the seaward end of the Crookhaven Breakwater taken on 3 May 2019.

Photo: Rob Slater

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LRRSA Facebook Group

Have you joined the LRRSA Facebook page, titled *Light Railways of Australia*, yet?

Lots of online discussions and photos of light railway interest



A scene at Plane Creek mill, said to date from 1910. The locomotive nearest the camera is Hudswell Clarke 0-4-2ST 478, known as John Bull. The second locomotive from the left is Krauss 0-4-0WT 3263, known as Bismarck. The other two locomotives (left and third from the left) are Krauss 0-4-2WT locomotives 4722 of 1902, known as Comet, and 5679 of 1907, known as Kaiser, although it is not clear which one is which. Photo: John Oxley Library, State Library of Queensland negative number 5302

Early locomotives at North Eton and Plane Creek sugar mills

by John Browning

The wonderful online source *Trove Newspapers* provides today's researchers with the opportunity to examine and sometimes correct long-held beliefs. Recent study reveals that deductions made by previous researchers about the early locomotives at North Eton and Plane Creek sugar mills in the Mackay district were mistaken.

It had previously been believed that Hudswell Clarke 0-4-2ST 478 was the first locomotive for North Eton Mill's Double Peak tramway company, and that Krauss 0-4-0WT locomotives 3263 and 3266 were the first at Plane Creek Mill, Sarina.

The builder's list sources agree that Hudswell Clarke 478 was ex works in Leeds on 31 October 1896. It is recorded as ordered by Smellie & Co and consigned for "AM&S", Mackay per SS *Junina*¹ (note that this was a transcription error - it should be '*Jumna*'). It had been thought that it was for

the Double Peak tramway company and subsequently sold to Plane Creek Mill in about 1900.

The Mackay Mercury for 11 July 1896 says,

The tramway locomotive for the Double Peak Tramway Company arrived from the South by one of the late steamers and will be forwarded forthwith to its destination.

On 20 August 1896, the same newspaper, reporting on the half-yearly meeting of the company at North Eton stated,

After lunch the directors, shareholders and visitors, were treated to an enjoyable ride on the new tramline, Mr. W J Hartley first, by special request, christening the engine the "Industry", with the usual formula of breaking a bottle, and wishing success to its future work amid loud cheers.

This demonstrates that the first locomotive at North Eton could not have been Hudswell 478, as the events described took place before its ex-works date. Furthermore, we now have the following clear evidence that this locomotive went new to Plane Creek Mill.

The Mackay Mercury for 22 August 1896 stated

- An order has been placed with Messrs. Smellie & Co., Brisbane, for ... an additional locomotive ...
- The same newspaper on 2 January 1897 reported

The Jumna, which is due off this port (Mackay) to-day, from London brings we understand a consignment of tram rails for Farleigh and a locomotive for the Plane Creek C.M.

A further report, on 16 March 1897, stated

Tramway material ordered from Messrs. Smellie and Coy. to the value of £,4000 has arrived in Mackay and the bulk of it landed at Louisa Creek, consisting of first class Locomotive by Hudswell, Clark & Coy....

Known at Plane Creek Mill as John Bull, it was sold to Pleystowe Mill at the end of the 1911 crushing season.

So, what were the first locomotives at these two mills?

The Directors of the Plane Creek Central Mill Company met on 13 April 1895 to consider the tenders received for its mill machinery and tramway, to be financed by a government loan. On 16 April, the Mackay Mercury reported that it had been decided to submit for government approval the acceptance of the tender of "Messrs. Bloomfield Bros . . . for 15 miles of permanent 20lb steel lines, one 30 horse power locomotive, and wheels, axles and springs for 100 trucks." On 30 May, Bloomfield Brothers ordered a 30 hp locomotive from Lokomotivfabrik Krauss & Co. Builder's number 3263 left the Krauss factory at Munich for the port of Antwerp on 31 August 1895.2

Bloomfield Brothers ordered two further similar 30 hp Krauss locomotives in the following months. Builder's number 3266 was ordered on 11 July 1895 and 3267 was ordered on 17 August. They were despatched together on 18 October. Interestingly, while 3263 and 3267 cost \pounds 450 each, 3266 cost only \pounds 415.³ Could this indicate that it was ordered by Bloomfield Brothers for stock in the anticipation of further sales?

Given the circumstances, it seems reasonably certain that 3263 must have been the locomotive destined for Plane Creek Mill. On 20 August 1895 it was reported in the Mackay Mercury that the Directors "had arranged for a 30 hp locomotive, capable of hauling 150 tons to arrive early in October." In fact it arrived on 9 December 1895 on the Arawatta, was being assembled a week later, and had a trial run on 20 December.⁴ At Plane Creek Mill, it came to be known as Bismarck and it was sold to The Palms Mill before the start of the 1911 crushing season.5

Krauss builder's number 3267 was for the Mount Lyell copper mine in Tasmania. On 3 April 1896, the mine manager reported, "New 2-foot locomotive assembled and running".6 It ended up at Mourilyan sugar mill in about 1911. Builder's number 3266 arrived at Markwick & McDonald's Maria Creek Tramway, a line built primarily to haul bananas, and not far from Mourilyan, in about 1909. It now seems that it must have arrived there from North Eton Mill.

The Double Peak Central Sugar Co Ltd was registered in June 1895.⁷ Financed by a government loan, its purpose was to provide much-needed tramway facilities to North Eton Mill, which had first crushed in 1888. Rails were on hand by October 18958 but apparently nothing was done about obtaining a locomotive until March 1896, when the Secretary of the Double Peak Company advertised for one.9 Frank Rolleston in his book on the history of North Eton Mill stated

The directors had not ordered a locomotive early enough and when they tried to obtain one, the only locomotive available was smaller than they had planned.¹⁰

Given the tight timeframe involved, it seems that the only locomotive that could have been available for use at North Eton in time for the impending 1896 crushing season would be one already in Australia, and Krauss 3266 was the only such possibility.

Subsequent locomotives for North Eton Mill were Hudswell Clarkes, 0-6-0ST 496 in 1898 and 0-4-0ST 853 in 1908. In September 1910, there were reportedly two locomotives at the mill, so it seems that the Krauss had gone to the Maria Creek Tramway by then.¹¹ The earliest newspaper reference found to a second locomotive at Maria Creek, believed to be the Krauss, is dated 7 October 1910.12 It may have arrived a little earlier than that as there were plans to extend the tramway to Japoon at the end of 1909.13

So another small piece of the jigsaw puzzle of nineteenth century Australian sugar mill locomotives seems to have been found. There are many more missing pieces.

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Treasures from Trove: Yabbies stop Puffing Billy

Residents of south-eastern Australia, especially of the Dandenong Ranges near Melbourne, sometimes find round holes appearing on their lawns especially in wetter periods of weather. Sometimes, if left alone, little chimneys of muddy soil grow up around the holes. These structures are the work of land crayfish. Land crayfish (sometimes called "land yabbies" or "land crabs" although they are not crabs) are relatives of yabbies, Murray crayfish and, more distantly, marine scampi and are part of the group of Crustacea. The family Parastacidae, to which yabbies and land crayfish belong, is found only on southern continents but is most diverse in Australia. Land crayfish are one of 34 species in the genus Engaeus. Many of these species have a quite limited geographic range and some confined only to a single catchment. (info from https://museumsvictoria.com.au/article/who-s-digging-in-my-lawn/)

Puffing Billy was surely honoured to have been visited by one such family!

The Age, Melbourne. Monday 26 January 1931, p6

Extraordinary Circumstances, MENZIES CREEK, Saturday. - For two hours the afternoon train to Gembrook was held up to-day at the water tank, midway between Selby and Aura

tank, midway between Selby and Aura in extrordinary circumstances. The cistern from which the engine draws its water at this point is filled from a springfed creek. Land crabs had made a hole in the inlet channel to the cistern, and, thus diverted, the stream was flowing into this breach instead of the cistern. Passengers and train crew had to wait until sufficient water had flowed into the cistern to enable a sup-ply to be taken in. Meanwhile railway road coaches had been sent up, and attempted to reach the water tank, but found the road--a rough bush track--inaccessible for heavy motors. Some of the less-patient travel-lers set out on foot for their destina-tions.

tions.

Another Queensland miscellany

LR 277 featured five photos of sugar cane locomotives from Queensland – we present some more in this edition of Looking Back. The former convener of the SA Group of the LRRSA, the late Arnold Lockyer, had an extensive collection of photographs and records of light railways across Australia, which has now been digitised and is managed by the National Railway Museum (NRM) in Port Adelaide. The captions on the photos below have been prepared by John Browning and Chris Hart based on their extensive knowledge of sugar cane light railways used in Queensland. We gratefully acknowledge the NRM for the images. Any comments or further information from readers are welcome.



1. Gin Gin Co Op Sugar Milling Ltd at Wallaville

This photo taken in August 1963 shows a rather battered Krauss 0-6-0WT Stella (B/N 3423 of 1897), which operated at the impoverished Gin Gin Mill at Wallaville. It is running with a tender carrying an auxiliary water tank. It is not certain that it ever carried the name and the explanation for its alternative name of Koppel is that it had been supplied by the German firm Arthur Koppel and no doubt once carried Arthur Koppel plates. Photo taken from the NRM Arnold Lockyer collection. Photo: Dick Warren. Reference number 7-1001-034A-062

2. Mulgrave Mill at Gordonvale

The Mulgrave Mill at Gordonvale purchased two of these handsome Hudswell Clarke 0-6-0T locomotives as part of its post-war expansion. The design had first been used for two locomotives supplied to CSR in 1911 and had soon been superseded by the familiar tender version. The photo shows the locomotive Pyramid (B/N 1521 of 1924) at the Mulgrave Mill.

Photo taken from the NRM Arnold Lockyer collection. Photo: Lionel Kingsborough. Reference number 7-1001-034A-073





3. Farleigh Mill at Mackay

This is Farleigh Mill's Avonside 0-4-0T (B/N 1909 of 1922) heading back to the mill in 1948. The replacement boiler built by Perry Engineering in 1937 sits higher in the frames than the original, requiring the upper part of the cab to be raised a few inches. The timber buffer beam that looks like a recycled main line sleeper, fitted for shunting government railway stock, and the ungainly locally fitted sandboxes do not make a positive contribution to its aesthetic. Appearance is also not improved by the plate cut out of what was once the bunker but has become a storage space for odds and ends, and the ugly tender with a timber coal box in the front and a ship's tank in the rear. But just imagine the sound and spectacle as it slogs up the gradient to the mill hauling its rake of cane, and all is forgiven. Photo taken from the NRM Arnold Lockyer collection. Photo: Darcy Pforr. Reference number 7-1001-034A-074

4. Isis Central Mill at Bundaberg

Far from the west coast of Tasmania where it ran on the Zeehan and North East Dundas Tramway as G2, this locomotive and its sister were sold by Tasmanian Government Railways to the Isis Mill in 1936 through the agent A G Webster. They were shipped from Burnie

on 21 February 1936 on the SS Karoola. With 12in x 16in cylinders they were the most powerful 2 ft gauge steam locomotives to operate in sugar mill service in Queensland and in 1949-50, they were rebuilt by Walkers as tender engines with significantly larger boilers. Both survived into the 1980s but sadly it seems that both have now been scrapped.

This photo shows locomotive Tassie, a 0-4-2T on the 2 ft gauge at the mill in October 1944. It was built by Sharp Stewart as B/N 4432 of 1898 and was later reboilered, converted to a tender loco and numbered 9. Photo taken from the NRM Arnold Lockyer collection. Reference number 7-1001-034A-116



Pole Cups – which way is up?

by David Jehan

This short article has been sparked by the update that appeared in LR266 of April 2019, page 36, on the impressive static restoration project in Ravensbourne of the A&D Munro A-class Shay. The photos, taken by Chris Tait, showed the pole cups on the locomotive facing down. As I have had a fair bit to do with Shavs over the years, numerous emails then came my way asking if these items had been mounted correctly.

Before I address the rather detailed question of how a pole cup should be mounted, it occurred to me that many readers may never have heard of these things, so allow me to explain what they are and what they were used for.

Pole Shunting

Pole shunting or 'poling' as was known in America, is the practice of using a wooden pole to move wagons on adjacent tracks. A locomotive that was intended to be used for this purpose had pole cups or 'poling pockets' mounted on each headstock at each corner.

The locomotive would then stop diagonally across from the wagon to be shunted or 'spotted', a timber pole was then lifted up with one end placed in the pole cup of the locomotive and the other on the corner of the headstock of the wagon. Noting most wagons were not fitted with

pole cups due to the expense involved, but some were.

The locomotive would then slowly move forward until the pole was firmly compressed between the vehicles and then push the wagon along the adjacent track to the desired position. This was particularly useful when the siding upon which the wagon was located was laid with portable or questionable track that may not support the axle load of the locomotive.

Pole shunting was rarely, if ever, used in Australia. It was once common in America, but most railroads had forbidden the practice by the 1960s.

It was an extremely dangerous practice, as poles could snap under the load, presenting a potentially lethal hazard to any people or property nearby. Noting that if the pole was made of softwood rather than hardwood, which made it easier to lift, then the probability of breakage would be high !

adjacent siding. pointing down ?

Pole Cup Mounting

Munro being two of them.



of the pole could push as it propelled the wagon along the This of course begs the question of why did the two A&D Munro locomotives have the pole cups mounted incorrectly The answer, I believe, is twofold. Firstly, as described in LR 61 of July 1978 page 7 the

Pole cups were generally fitted to logging locomotives, particularly Shays, Climax and Heisler. However, in regard to

the Shays that came to Australia only a few of these were

so fitted, the two locomotives that were purchased by A&D

So how should they be mounted? The simple answer is

'outboard' pointing to the adjacent track so the cup holds

the end of the pole and provided a face upon which the end

locomotives arrived on site in Palm Tree in a number of pieces and in large crates and they were assembled by two men, the most qualified of whom was the local blacksmith. Ernie Shum, the smithy and Olaf Olsen.

The four pole cups would have been some of the last things to be fitted and so one could imagine that the conversation between the two men probably went something like this:

Olaf:"Where do these four funny-looking cast iron cup things fit?"

Ernie: "Hmmm, well I think they go on the ends of the headstocks, so put 'em there." Olaf: "Which way do they go?"

Ernie: "Hmmm, dunno, but they'd look

better pointing down." Olaf: "Ok, down it is !"

The second and more important point is that they were never going to be used in service anyway.

Conclusion

So, in regard to the restored A&D Munro Shay on static display at Ravensbourne, we see that the Munro Tramway Historical Group has mounted the four pole cups in an orientation that is technically wrong, but historically correct.

In the author's opinion, the group has done exactly the right thing, there is no point in trying to change history !

For those who wish to know more about pole shunting, please refer to the following site: http://industrialscenery. blogspot.com/2015/07/poling-railroad-cars.html





Please send contributions to: Industrial Railway News Editor, Christopher Hart 15 Dalrymple St, Ingham, QLD 4850 Phone: (07) 47766294 e-mail: industrial@Irrsa.org.au

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

QUEENSLAND

FAR NORTHERN MILLING PTY LTD, Mossman Mill

(see LR 277 p.30) 610 mm gauge Com-Eng 0-6-0DH *Cook* (AL3372 of 1964) was on navvy duties in the Whyanbeel area on 31 January. The single lane timber road rail Warners bridge in the Cassowary area is to be replaced as part of the Australian Government's Bridges Renewal Program with funding also coming from the Douglas Shire Council.

Gregorio Bortolussi 1/21; Douglas Shire Council website 12/20

MSF SUGAR LTD, South Johnstone Mill (see LR 277 p.30)

610 mm gauge

Bins are propelled into Sciacca's siding with the lead crossing a road with a very pronounced camber. The line follows the shape of this camber, which causes very pronounced height differences between the loco and the adjacent bin. To prevent buffer override, a short drawbar is used to couple the loco and bin. Clyde 0-6-0DH 12 (55-60 of 1955) was seen performing this operation on 28 November. Com-Eng 0-6-0DH multi-unit locos 1 (A1821 of 1957) and 10 (A2027 of 1958) and 6 (C2234 of 1959) and 7 (AD1239 of 1960) were seen working in the Silkwood-Japoon area towards the end of the 2020 crushing season. From 2021, cane growing along the Log Hill branch line near Japoon will cease. 4 tonne bins are now only used by four or so harvesting groups with all the others using 6 tonners. A catch blade is in use at the northern end of the mill area to prevent loose bins rolling out of the empty yard and into the main street of South Johnstone. The frame of Clvde 0-6-0DH 13 (59-203 of 1959) was still present near the "silver bridge" in December.

Gregorio Bortolussi 8/20; Ciel Harvey 1/21; Luke Horniblow 11/20, 12/20, 1/21

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills

(see LR 277 p.32) 610 mm gauge

Walkers B-B DH locos *Jourama* (680 of 1972 rebuilt Bundaberg Foundry 1996) and *Cairns* (681 of 1972 rebuilt Bundaberg Foundry 1997) were sent to Pioneer Mill for rebuilding on 14 December. The *Jourama* was seen later the same day, on a low loader, passing through Yabulu between Ingham and Townsville. This slack season, twenty-five sugar bins are to be fitted with new frames and bogies built at the Wilmar Ingham workshop. The assembly will take place at the Macknade Mill truck shop. Peter Phillips 12/20; Arthur Shale 12/20; Editor

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru

(see LR 277 p.32) 610 mm gauge

2/21

Invicta Mill bogie brake wagon *Strathalbyn* (built in 1991) has been renamed *Kilrie* at some stage to match its present day loco Walkers B-B DH *Kilrie* (632 of 1969 rebuilt Bundaberg Foundry 1992) since its former loco Westfalia B-B DH *Strathalbyn* (13863.1 8.91 of 1991) was transferred to Kalamia Mill. As part of cane transfer operations from Inkerman Mill to Invicta Mill when the former was having mechanical problems, Kalamia Mill's *Strathalbyn* was seen handing over a rake of Inkerman Mill fulls to Invicta Mill's *Kilrie* in Pioneer Mill's Airdale area on 18 October.



Com-Eng 0-6-0DH multi-unit locos 6 (C2234 of 1959) and 7 (AD1239 of 1960) at the bottom of Log Hill in the very scenic Japoon area of South Johnstone Mill on 5 December 2020. Photo: Luke Horniblow



Above: South Johnstone Mill EM Baldwin B-B DH 25 (6470.1 1.76 of 1976) has just crossed the Russell River and is heading back to the mill with a long rake of fulls alongside Bramston Beach Road on 25 October. Photo: Luke Horniblow *Below:* A busy scene in the full yard at Victoria Mill on 6 November with Walkers B-B DH locos Clem H.McComiskie (605 of 1969 rebuilt Walkers 1991) and Jourama (680 of 1972 rebuilt Bundaberg Foundry 1996) and EM Baldwin B-B DH Selkirk (6750.1 8.76 of 1976) waiting while yard loco Clyde 0-6-0DH Dalrymple (70-709 of 1970) passes by with a rake of fulls for the mill tipplers. Photo: Luke Horniblow





Above: On 23 November, Macknade Mill Clyde 0-6-0DH 16 (DHI-1 of 1954) heads out at the Triangle while 12 (65-434 of 1965) with fulls from Halifax, waits for it to clear. Photo: Luke Horniblow

Below: Tully Mill Walkers B-B DH 6 (653 of 1970 rebuilt Walkers 1993) crosses the Birkella line catch points with fulls from the end siding on 4 October. Photo: Luke Horniblow





Walkers B-B DH 5 (617 of 1969 rebuilt Isis Mill 1998) and Isis Mill bogie brake wagon 5 (built in 1999) in the Isis Mill yard area on 5 February. Some of their shed mates look on in the background. Photo: Brian Bouchardt

Plasser KMX-08 tamping machine (415 of 1995) on Ioan from Plane Creek Mill was seen at Clare on 28 January and beside McLain Road on 1 February. The Tamper STM-XLC tamping machine (built in 1993) had gone on Ioan to Proserpine Mill by 1 February.

Andrew Matt 1/21; Luke Horniblow 10/20, 2/21; Gary Vaughan 2/21

WILMAR SUGAR PTY LTD, Pioneer Mill, Brandon

(see LR 277 p.32) 1067 mm gauge The rebuild of Walkers B-B DH 709 of 1973 was well on the way to completion in mid December. It will become the new *Jourama* at Victoria Mill and was one of the ex government railway locomotives stored at this mill. Kieran Koppen 12/20

WILMAR SUGAR (KALAMIA) PTY LTD, Kalamia Mill

(see LR 277 p.34) 610 mm gauge Westfalia B-B DH *Strathalbyn* (13863.1 8.91 of 1991) was seen in Pioneer Mill's Airdale area on a transfer rake of Inkerman Mill fulls destined for Invicta Mill on 18 October. Luke Horniblow 10/20

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill

(see LR 277 p.34) 610 mm gauge

The Tamper VT-JWL tamping machine (553 of 1975), donated to the Wiscasset, Waterville and Farmington Railway Museum in Maine USA, was delivered to its Sheepscot depot on 26 January. Invicta Mill's Tamper STM-XLC tamping machine

(built in 1993) was on loan here by 1 February. In mid February, the Tamper TSR sleeper renewer (602 of 1989) was in use on the Up River line replacing wooden sleepers with new concrete sleepers. Wiscasset, Waterville and Farmington Railway Museum 1/21; James Bedford 2/21; Luke Horniblow 2/21

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

(see LR 277 p.34)

610 mm gauge The Plasser KMX-08 tamping machine (415 of 1995) had gone on loan to Invicta Mill by 28 January. Andrew Matt 1/21

ISIS CENTRAL SUGAR MILL CO LTD

(see LR 277 p.34)

610 mm gauge

By 5 February, earthworks for the new transloader on the southern edge of Childers were well underway and the section of the Doolbi line through the area had been lifted. Road hauled cane from the now closed Maryborough Mill will be transferred to rail here for crushing at Isis Mill. Walkers B-B DH 5 (617 of 1969 rebuilt Isis Mill 1998) and Isis Mill bogie brake wagon 5 (built in 1999) have been on driver training duties and were seen moving bins around the system in early February. This is expected to go on for most of the slack season. Brian Bouchardt 2/21; Mitch Zunker 2/21



Walkers B-B DH 5 (617 of 1969 rebuilt Isis Mill 1998), Isis Mill bogie brake wagon 5 (built in 1999), Walkers B-B DH 3 (600 of 1968 rebuilt Walkers 1994) and Walkers bogie brake wagon 3 (built in 1993) stowed on Adies line at Isis Mill on 6 February. Photo: Brian Bouchardt



Future shunting loco Walkers B-B DH 1104 (641 of 1970) at Downer EDI, Maryborough, on 5 January. Photo: Luke Horniblow

CAIRNS KURANDA RAIL SERVICES, Cairns

(see LR 260 p.24) 1067 mm gauge

Walkers B-B DH 1102 (639 of 1970), which has been at the Mackay Steam Railway, Mackay Harbour, since 2008 was loaded onto road transport on 14 December then spotted the next day at Bowen and Yabulu enroute to Cairns. It was sighted at the Cairns depot on 3 January. Mackay Steam Railway 12/20; Ivan Hartwig 12/20; Alan Dudson 12/20; Gregorio Bortolussi 1/21

DOWNER EDI, Maryborough

(see LR 268 p.37)

1067 mm gauge

By 17 December, Walkers B-B DH 1104 (641 of 1970) had been refurbished including a repaint in the Emu Bay Railway two tone blue and yellow livery. It was hoped to be in use as a shunt loco by the end of January. Walkers B-B DH DH73 *Hugh Boge* (718 of 1974) continues in use here and was seen at Maryborough West on 17 December. Paul Bailey 12/20; Neil Probert 12/20; Scott Ratcliffe 12/20; Luke Horniblow 1/21

NEW SOUTH WALES

BLUESCOPE STEEL LTD, Port Kembla Steelworks

(see LR 277 p.35) 1435 mm gauge Pacific National's General Electric Australia Bo-Bo DE D40 (A-241 of 1972) was sighted at Cringila on 15 January. Chris Stratton 1/21

SOUTH MAITLAND RAILWAY, East Greta

(see LR 276 p.32) 1435 mm gauge

The status of Orenstein & Koppel 4wDH (26266 Of 1964) was incorrectly reported in Light Railways 276. It has never been assigned an identity and is only a spare parts reservoir for Orenstein and Koppel 4wDH 32 (26263 of 1963). Robert Driver 12/20

OVERSEAS

FIJI SUGAR CORPORATION

(see LR 277 p.35) 610 mm gauge

Statistics gleaned from the FSC 2020 Annual Report reveal that a mere 213,000 tonnes of cane were rail hauled to the company's three mills during the 2019 crushing season. Total cane crushed was 1.8 million tonnes. FSC has advertised for sale several, mainly residential, properties associated with its milling operations with closure date of 22 February for submissions. FSC Annual Report 2020; FSC advertising 2/21



Pacific National's Bo-Bo DE D40 (A-241 of 1972) at Cringila on 15 January. Photo: Chris Stratton



Field Reports

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

James Mackintosh sawmill tramway 1873-1881

Echuca & Moama Red Gum Sawmill Company tramway 1881-1893 Fresh Food & Frozen Storage Company tramway 1898-1902

Milo Bacon Company tramway 1902-c1920 Echuca, Victoria. Gauge 1600mm

(See also *Light Railways* 49, page 24, and Light Railways 242, pages 32-33)

On a recent visit to Echuca your scribe was curious to know if there were any further remains of the tramway to East Echuca as written up in LR 242. A check of Google Earth prior to the trip showed that parts of the route remain in bushland on the flood prone parts of the river margins, so a search should turn up something. That proved to be the case.

Your scribe went to the corner of Pakenham Street and Goulburn Road where the bush starts and began a search. The formation of the tramway was immediately visible a little distance from the intersection. It is a wide formation of up to five metres so indicates a broad- gauge tramway. The formation is more or less intact for about 800 metres, although in parts has been mutilated by adjoining landowners and cut through by several bush tracks.

There is an intersecting side creek from the river about 700 metres along and this was crossed by what must have once been a substantial bridge.



Top: View along a typical section of the formation. It is about five metres wide and slightly raised above the natural surface. Photo: Norman Houghton

Above: There is one slight curve about 550 metres from the start at Packenham Street which takes the route around to point at the intersecting creek, 150 metres forward from here. Photo: Norman Houghton



Nothing remains of this bridge apart from the hint of one, maybe two, near rotted away support piers on the eastern bank. From this bridge the formation continues on for another 200 metres or so, partially on a well-defined raised formation until easing down to ground level and disappearing in a cleared paddock altogether just before the junction.

The rest of the tramway from here has been built over. The top branch ran north of the Pakenham Street alignment for another 250 metres to the river, while the south branch curved around on an elongated 'S' trajectory for 550 metres to the other site near the corner of Crescent Street and Goulburn Road at the current Riverside Meats business.

Norman Houghton, 12/2020

Right: Possibly one of the support piers for the bridge over the lagoon. Photo: Norman Houghton

Macquarie Harbour breakwater, Tasmania. Gauge 1067 mm.

A breakwater at the treacherous 'Hells Gates' entrance to Macquarie Harbour on Tasmania's west coast was proposed in 1895. The sand bar at the entrance to the harbour was a definite obstacle to shipping on the harbour (which included the copper shipments of the Mount Lyell Mining & Railway Company). The Strahan Marine Board raised the sum of £60,000 and called for tenders for the work in 1899.1 A start was made on construction in 1900 and, by the beginning of 1901, a length of 11 chains 43 ft of breakwater had been completed by contractor Langtree. Stone was obtained from a quarry at Round Head (and later from other locations), and initially transported into position by barge, bringing about an immediate deepening of the channel at the entrance. By February 1901 a tramway had been laid and one locomotive was handling an average of 250 tons of stone from the quarries per day. A second locomotive was in course of erection.² By June 1901, 28 chains of the breakwater were visible above the surface and growing steadily, but storms in August undid much of the good work achieved.3

In March 1902 the Strahan Marine Board took





over the breakwater construction from contractor Langtree, but further gales in the winter did extensive damage.⁴ By August 1902 the Marine Board had abandoned further extension and was concentrating on trimming up the work already completed.⁵ The western breakwater was completed on 20 September 1903 and, in its final form, was 3,800 ft long at a total cost of £16 10s per lineal foot. Its effect was to deepen the bar from 8 ft 16 inches to 16 ft at low water. A proposed breakwater from the eastern side of the entrance was never constructed. 6

Today, sections of lightweight rail remain strewn along the western breakwater and can readily be seen from one of the several cruises that operate from the Port of Strahan. Given that very little seems to have been published on these works, some additional fieldwork in the various quarries would be welcomed. Murray Felstedt and Adrian Price 01/2021.

Research by Peter Evans.

References

- 1. *The Mercury* (Hobart), Thursday 15 August 1895, page 4; Friday 14 July 1899, page 4.
- The Banner (Strahan), Wednesday 16 January 1901, page 2; Zeehan & Dundas Herald, Tuesday 12 February 1901, page 4.
- Examiner (Launceston), Saturday 22 June 1901, page 10; The Clipper (Hobart), Saturday 3 August 1901, page 6.
- Examiner (Launceston), Fri 21 March 1902, page 7; The Mount Lyell Standard & Strahan Gazette (Queenstown), Tuesday 25 March 1902, page 2; Thursday 19 June 1902, page 2.
- The Mercury (Hobart), Tuesday 12 August 1902, page 3.
 The Mercury (Hobart), Monday 22 September 1902, page 5.



The Macquarie Harbour breakwater in late 2019. Photo: Peter Evans



Chart of the entrance to Macquarie Harbour prepared by the Hydrographic Office, Great Britain, and dated 1905. The completed western breakwater can be seen along with an extension (highlighted in red). The proposed eastern breakwater is also shown, but was never constructed (highlighted in yellow). State Library of Victoria collection



The start of the infamous 'Hells Gates' passage from inside Macquarie Harbour. The lighthouse on Bonnet Island is visible on the right, while the breakwater is out of sight beyond the headland on the left. Photo: Peter Evans



Members of the Strahan Marine Board inspecting progress on the Macquarie Harbour breakwater. The locomotive pictured is an ex-Queensland Railways 2-4-2T built by Dübs & Coy, builder's number 1415 of 1880. The second locomotive was John Fowler 0-6-0T, builder's number 5265 of 1886. Both are now preserved at the Don River Railway. Image from the ARHS collection courtesy of the University of Newcastle Library's Cultural Collections



Builder's photo of John Fowler 5265 of 1886. Photo: Rural History Centre, University of Reading

Michaelis, Hallenstein & Coy, Footscray, Victoria.

Gauge 876? mm

The accompanying images were taken in Neilson Place Footscray (formerly Ryan Street East) in 1975, and show an abandoned section of tramway associated with the Michaelis Hallenstein tannery that operated there for more than a century. The rails appear to be a mix of ordinary rail and possibly ex cable tram rail from the 1920s, and the tramway may have been used to move products between buildings. The remains show that a turntable was installed in the street outside the premises to direct the rails in two directions. The gauge on the curve was measured at 34.5 inches [876 mm].

Isaac Hallenstein was a storekeeper carting goods to the diggings at Daylesford when, in 1864, his waggon broke down opposite Arthur Cleghorn's small Footscray tannery. Hallenstein had trained in the tanner's craft, and desired to re-enter the trade. Hallenstein and Cleghorn negotiated a purchase agreement, with Cleghorn to stay on as manager. Isaac's brother, Michaelis Hallenstein soon joined the business as did Moritz Michaelis, an uncle to the brothers and a well-established Melbourne merchant. The latter was able to obtain a line of credit which saw the output of the tannery increase from less than 150 to at least 480 hides per week. This was eventually increased to 800 hides a week: the business boomed, and a lucrative export trade was established.

By 1890 the firm employed 50 hands with an annual wages bill of £6000, plant valued at £25,000 and an annual output worth £60,000. At this stage the works covered an area of 31/2 acres primarily bounded by Ryan Street East, Whitehall Street, Hopkins Street and Maribyrnong Street. Advantage was taken of the slope of the ground to assist with the movement of materials. Salted hides were washed, limed, de-haired, then tanned for three to five months in tanning pits. The tannin for the pits was obtained from ground wattle bark; at any time a quantity of around 1000 tons would be at hand. In the final stages the hides were dried using steam-powered fans blowing air also heated by steam. Internal tramways assisted with the movement of hides between each of the 370 pits on site. An underground drainage system was installed to facilitate the emptying and cleansing of each pit as its contents need changing. Expended wattle bark was raised by a conveyor and fed into the boiler furnaces north of Ryan Street East. Consumption was aided by a small amount of coal placed at the front of the furnace. The boilers were of the underfired type, three in number, built by Langlands Foundry in the mid-1890s. A typical supply of coal on hand would be 60 tons. There was so much of wattle bark on hand that, at one point in the year, no coal was needed at all. The supply of wattle bark also provided a valuable buffer when strikes disrupted the coal supply.

The works were further extended across several adjacent streets in 1897 and 1899. In 1904, the works were changed over to electrical



Top: Tramway remains in Neilson Place looking east, 1975. Note the street-type tramway rails, and the turntable just in front of the parked car. Photo: Norman Houghton. **Centre:** Tramway remains in Neilson Place, 1975. A turntable is centre-right of the image, and two lines of rail (one curved) cross to the south side of Neilson Place- Photo: Norman Houghton. **Above:** Tramway remains in Neilson Place, 1975. A line of rails crossing to the south side of Neilson Place. Photo: Norman Houghton.



drive using electricity generated in a new powerhouse erected in Maribyrnong Street south of Hopkins Street. Steam was generated using two Babcock & Wilcox boilers fitted with superheaters and feeding Westinghouse fully-enclosed compound high-speed engines driving Westinghouse alternators. Power was conveyed to the main works via overhead cables crossing Hopkins Street. Electric motors aggregating 200 hp replaced six direct-drive steam engines. The cost of the new electrical system was £10,000.

The works continued to expand driven by a strong export trade and the acquisition of many subsidiary companies value-adding the product. The actual date of closure of the tannery is not currently known, although aerial photographs suggest that the main part of the site was cleared by 1973. The last of the tannery buildings were demolished in 1987, and apartment building are currently being constructed on the site. Portions of the tramway may survive under the resurfaced road. Any reader having further information is asked to contact the field reports editor of *Light Railways*.

Field report by Norman Houghton (with additional measurement information from Colin Harvey), historical research by Peter Evans. See also *Light Railway News* Nos. 6 and 9 (with thanks to Darryl Grant for his observations and to Phil Rickard for the detective work). 01/2021.

References

- Associated Leathers Limited (1964). The Michaelis, Hallenstein Story 1864-1964: One Hundred Years in Leather. Image Australia Pty Ltd, passim.
- Independent (Footscray), Saturday 27 December 1890, page 2.
- Independent (Footscray), Saturday 3 March 1894, page 3.
- PROV, VPRS 7854/P2, unit 4, BIAs 0332, 0334, and 0335. These three boilers, each of 140 hp, were sold-on to other industrial users in late 1907 and were replaced in 1910 by a single Babcock & Wilcox water-tube boiler of 232 hp, PROV, VPRS 7854/P2, unit 20, BIA 1999.
- Independent (Footscray), Saturday 1 September 1888, page 2.
- Independent (Footscray), Saturday 25 September 1897, page 2; Saturday 2 December 1899, page 3.
- Independent, (Footscray), Saturday 2 January 1904, page 3; PROV, VPRS 7854/P2, unit 4, BIAs 0330 and 0331.



Above: The Michaelis Hallenstein works in 1895. From Melbourne & Metropolitan Board of Works plan 308 dated 1895. State Library of Victoria.

Below: The Michaelis Hallenstein Footscray tannery in 1930. Neilson Place [Ryan Street East] runs left to right mid-image, with an operating boiler house on the side nearer the viewer. In the far top left corner is the electrical generating plant completed in 1904. The Footscray railway crosses in the right hand lower corner and, at the very bottom, a line to the Angliss meatworks diverges on a trestle bridge State Library of Victoria image H93.498/1.





Henry's Locomotive Operation at Forrest, Victoria – 1921

What a pleasant surprise it was to read Norman Houghton's article about the locomotive and railway tunnel associated with Mr. Henry's sawmilling operations at his number 1 mill some six miles from the township of Forrest in the Otway Ranges in the early 1900's.

In the late 1970s and early 1980s myself and companions did a lot of bushwalking in this part of the Otway Ranges and on several occasions visited and camped at the former sites of Henry's Number 1 Mill and the nearby Noonday mill. Our interest was to locate the former tramway tracks and to find the two tunnels that pierced the hills and so permitted the transportation by rail of timber from those remote mills to the township of Forrest and beyond.

The tramway formations had long been engulfed and reclaimed by the forest and modified by floods but their route was easily imagined and sometimes visible. Bridges had been destroyed by periodic fires and apart from a few brick and stone fireplaces, the sawdust dump, some structural iron and steel and a couple of large pine trees, there was no sign of the mill or the township that once was the home of more than 100 people. There were tell tale signs that bottle collectors occasionally visited the area looking for buried relics of yesteryear. Non-native grasses and plants prevailed over much of the landscape formerly occupied by human habitation.

And we never found the entrances to either of the two tunnels and we supposed these had been long buried by landslides common enough in this steep sided part of the mountains.

We were guided in our explorations by Norm Houghton's 1975 edition of *Sawdust and Steam* which provides an excellent history of the railways and tramways of the eastern Otway Ranges. His work contains excellent photographs and informative descriptions of milling operations, railway stations and sidings and people who pioneered the timber milling industry in this history-rich part of Victoria.

I have not been back to the Noonday or Henry's mill sites since but often spare a pleasurable thought or two about that beautiful part of the Otway forest.

Vince Aitkin Melbourne – via email.

Whitcomb locomotives (LR277, page 48)

The sole surviving Whitcomb locomotive in Australia is preserved at the Alexandra Timber Tramway in Victoria. This locomotive is a Whitcomb 4wDM, model 5DM26A, builder's number 40521, built in 1947 to the gauge of 610 mm for a large 1946 order from the French Supply Council. The locomotive was originally powered by an International Harvester UD6 engine and weighed five tons. Whitcomb 40521 is reputed to have been used on the Snowy Mountains hydro scheme, and perhaps arrived in Australia around 1955 with the joint venture of six French contractors responsible for the Upper Tumut pressure shaft, T1 power station and the tail-water tunnel. At some stage after this work was finished in 1959, the loco was sold to Upton Engineering Pty Ltd of Corowa, NSW, where the engine was removed for use elsewhere. The image below is a builder's photograph showing how the locomotive would have looked originally.

Pete's Hobby Railway, Junee (LR 276)

In Heritage & Tourist News in LR 276, the suggestion was made that the chassis currently under the Fowler locomotive *Perth* at Pete's Hobby Railway, Junee, originated from an identical Fowler locomotive previously used by the Geraldton Shire Council. This could lead to an uncorroborated suggestion becoming accepted as fact, so it is timely to examine the evidence.

There never was a Geraldton Shire Council; what had been known as the Geraldton Tramway became the Innisfail Tramway in 1910 when the town was renamed. The Council was the Johnstone Shire Council, and the Tramway was taken over by Queensland Railways (QR) in 1914.

I am informed that *Perth* has the number 8735 stamped on the frames. The question raised by this is whether Perth, previously recorded as Fowler 8766, is really Fowler 8735. Fowler 8735 was previously recorded as Innisfail Tramway number 1.



In 1987 the locomotive was sold to a machinery collector and moved to Belgrave South, Vic, where it lay for some years. It was purchased by the Alexandra Timber Tramway in June 2005. We have a suitable International petrol engine to power this locomotive and, if we can find a suitable transmission, this should make an excellent operational loco with very little work other than the replacement of some of the cab structure and roof and a coat of paint. The wheels and drive have virtually no wear, and we surmise the French contractors were embarrassed by the much larger locomotives in use at the Snowy scheme and the little Whitcomb was quietly shunted into a shed and hidden there. (If any reader has further information regarding this locomotive the Alexandra Timber Tramway would be delighted to learn it). Apart from 61108 and 61109 of 1600 mm gauge used at APM Maryvale (and shown in LR 277), a third Whitcomb, 11734 of 1924 of 914 mm gauge, was used at the David Mitchell Estate's Cave Hill quarry at Lilydale, Victoria.

Peter Evans Mount Waverley, Victoria The previous identifications come from Fowler records as well as from Queensland information. The Fowler records, builder's plates and QR records concur that Innisfail Tramway number 1 was builder's number 8735. The Fowler records, builder's plates, and CSR records concur that *Perth* was builder's number 8766.

It has been suggested that CSR may have purchased the chassis of Innisfail Tramway 1 in the 1930s and used it to reconstruct Victoria Mill's Perth, following an accident or some similar misfortune This is intrinsically unlikely for several reasons. It is known that number 1 was written off by QR in October 1925 as worn out. CSR was a progressive and well-resourced company that did not make a practice of buying life-expired second-hand machinery from others, and was not known for having warm relations with the Queensland government. There is no local newspaper record of any incident involving a Victoria Mill locomotive that would make such a major rebuilding necessary. If CSR had purchased the remains of number 1 from Innisfail, it is reasonable to expect that this would have been recorded on the QR record card.

Far more likely, and I believe compellingly so, is another explanation. In early 1900, there were five locomotives of identical design under construction at the Fowler factory for Queensland customers. They were recorded by John Fowler as follows, reflecting the builder's plates we know they carried.

- 8733 ex works March 1900 Douglas Shire Council
- 8734 ex works March 1900 CSR
- 8735 ex works May 1900 Johnstone Shire Council
- 8764 ex works May 1900 Johnstone Shire Council
- 8766 ex works April 1900 CSR

If Fowler 8765 ever existed, it was not a railway locomotive.

Given an assumption that both the Johnstone Shire Council and CSR had ordered two locomotives each, this allocation of builder's numbers is difficult to understand. It may also be relevant that Fowler 8767, also for CSR, was not ex works until February 1902, suggesting that it could have been part of an order for three but with its delivery delayed. The period was one of considerable uncertainty for CSR with a strong move to close down the Queensland mills and transfer them to Fiji. In any case, CSR was a very significant customer for Fowlers so a flexible and responsive attitude during the building and delivery process would no doubt would have been wise on the supplier's part, and might help to explain what occurred.

Given the evidence, there could be several plausible theories about which builder's numbers had originally been intended for the Johnstone Shire and the CSR locomotives. What seems very likely is that the locomotive with frame stamped 8735 emerged carrying builder's plates 8766 and was sent to Victoria Mill to become *Perth*. This may have been in order to meet the delivery date required by CSR for the commencement of the crushing season, or it may simply have been accidental. If five identical locomotives were under construction simultaneously, then the numbers stamped on the frames at the Leeds works would not necessarily have been particularly important in the overall scheme of things at the time.

So how should *Perth* be identified? Given that we are certain that *Perth* carried builder's plates 8766, and it was recorded as such by Fowler and by CSR, and that the explanation of a second-hand purchase from QR lacks plausibility and has little circumstantial evidence to support it, then 8766 seems to be accurate and appropriate. While it is customary to identify a steam locomotive by its chassis, there is no reason to believe that the locomotive was ever recorded by Fowler or by its owners as 8735 and therefore it should not be identified as such today, even though its chassis carries that number stamping.

It is argued that *Perth* shows evidence of having been fitted with a high coupler. In the photographs that I have seen, any of the expected corrosion or pitting to the headstocks where this coupler would have been fitted is by no means obvious. A chassis originally intended for the Geraldton (Innisfail) Tramway may well have had provision for a high coupler, of course, and this would be entirely consistent with the change of plans that I suggest occurred at the Fowler factory.

It might be remembered that Bruce Macdonald identified the surviving jackshaft drive Fowler of 1883 as 4667 from stampings but Fowler records say it was 4668 (at that time Fowler plates did not include a builder's number) and state that 4667 went to an agent, probably for South America.

Fowler 8733 survives at Port Douglas and the remains of Fowler 8767 also survive, in New Zealand. I wonder what numbers are stamped on their frames?

John Browning Annerley, Queensland

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Dreamworld rail line

On a recent visit to Dreamworld on the Gold Coast (1 February 2021), I noticed that the railway was not working. While walking around the park I noticed that parts of the track have been removed or covered with building work. The track leading up to the Rocky Hollow station had even been concreted over. It also appeared that the large shed holding the engines had had part of its roof removed.

This makes me wonder if the train will ever be out back in service again and, like SeaWorld, there will be no more train rides.

Peter Jones

via email

Exports of locomotives from Australia

I am surprised at the comments from Brian Muston regarding the export of locomotives from Australia.

Including France, there have only been a handful of steam locomotives exported, and with the sole exception of M2 from Tasmania, now at Tanfield in the north east of the UK, (John Browning did an article on these in LR 196, August 2007, in this he set out to explain the Act that allowed exports at the time) all of the others have either been restored or are nearly there and ALL to a steamable condition.

If the Hunslet Engine Co 4-6-0 1239 of 1917 I restored for the Workshops Museum had gone to the UK it would be steaming also by now – see LR 261, and the photo of her 'sister' locomotive on the front page of LR 266.

I am aware that Decauville 246 of 1897 was exported illegally to the UK. However, her sister locomotive 247 is at Woodford and again 246 has been restored, and 247 is not likely to be!

Following on from my work on the Hunslet I started to put back together the A10 that had previously been on display in Ipswich, N 1167/1865. QR workshops at Ipswich pulled the plug on this, as it seems to have done with most of its steam fleet, so as this was in a total dismantled condition, I leave you to guess what will be the end result!

What would Brian prefer, locomotives rusting away to nothing, like is happening at Woodford – they even refused to allow one to go to NSW to be restored and returned. Locomotives unlikely to be steamed for years or just on display like Dorrigo. No steam in the Brisbane area on QR due to the current attitude of QR management, previous locomotives on display now out of sight. In NSW not a single 10 class running, Nos 10 and 18 are the only two complete but have not run for some time.

Perhaps Brian would also ban imports (a bit late as most of those now exported were originally imports), we would not then have the pleasure of seeing a 2 ft gauge South African Garratt converted to 2 ft 6 in and running on the Puffing Billy in Victoria. There have also been recent imports from Indonesia, but I suspect none of these will run in Australia. Where would the Welsh Highland Railway in the UK be without imports?

A similar event took place in Hong Kong with previous exports to the Philippines, where I saw both locomotives running, were returned, one as a static example, the other to run in a local park. Work was halted on the latter, after considerable time and money was spent on the restoration of it to working order, as the local authorities refused permission for it to run.

Not all offers of export are taken up; the ROD at Richmond Vale Railway Museum was offered to the UK on a loan, restore, run and return basis. As far as I am aware the offer is still open for discussion.

In MOST instances imported steam locomotives back into the UK are done in the best interests of all.

David Rollins Brisbane – via email

Queensland Pioneer Steam Railway locomotive Kilrie (LR 277 H&T)

Thanks for publishing the photo of *Kilrie* and the QR PB15 locomotive.

As an update, while there are still some plumbing, electrical and brake work together with a few other jobs to do on *Kilrie*, it has passed its boiler test a few weeks ago, and on 13 February 2021 it moved under its own steam for the first time since the overhaul was commenced.

David Rollins Brisbane – via email

Davenport locomotives in NSW (LR 277 Letters)

The following notes are taken from the LRRSA@groups.io group:

In Dr Gregory Oehm's very interesting letter, he notes the number on 1513 and then mentions 1595 and 1596.

On the complete listing of Davenport locomotives, which I have just been through, there are a total of five that came to Australia, these being listed below from the information in their builders list.

Shop No 1618 is also listed as coming to Sydney and Shop No 2118 to BHP.

| Shop No | Size | Туре | Gauge | Date | Name | Location |
|---------|-------|----------|-------|-------|-----------------------------|-----------|
| 1513 | 10x14 | 0-4-0 | 24" | 11/14 | Frank R. Perrot | Sydney |
| 1595 | 10x14 | 0-4-0 | 24" | 5/17 | Frank R. Perrot | Sydney |
| 1596 | 10x14 | 0-4-0 | 24" | 5/17 | Frank R. Perrot | Sydney |
| 1618 | 6x10 | 0-4-0 | 36" | 6/17 | Frank R. Perrot | Sydney |
| 2118 | E-20 | 8W-2TR-G | 42" | 12/27 | Broken Hill Proprietary Co. | Melbourne |

NORMAN HOUGHTON, OAM

Long time LRRSA member Norman Houghton received a prestigious Medal of the Order of Australia as part of the 2021 Australia Day Awards. He received the award for "services to community history".

When interviewed by local newspapers after his award, Norman commented that "I was born in Colac and I think I was born a historian. I was good at it at school and when I went to University my majors were history and politics. I was lucky enough to be able to find work in history, archive and records management for most of my career".

Norman has been a member of the LRRSA since 1972 and has contributed many articles to *Light Railways* magazine and authored many of the early books (*West Otways Narrow Gauge, Timber Mountain, The Beechy, Sawdust and Steam* and others) published by the Society. In recognition of his contribution to the Society's activities, Norman was awarded Life Membership of the Society in 1986 in recognition of his efforts towards light railway research in Victoria. The award recognized not only his efforts in collecting material, but also in preparing the many manuscripts.

In the late 1970s Norman established the Geelong Heritage Centre as a central repository of records related to the history of Geelong. The collection of items and records now stretches to more than 4.2 km of mobile shelving

In addition to his writing and field research activities related to light railway history (particularly in the Geelong and Otway Ranges areas of Victoria) Norman took on the role of Editor of *Light Railways* magazine in July 1992 (LR 117) and continued for six and half years until October 1997 (LR 138) during which time he maintained the standards of the magazine and introduced many new features.

Norman is still writing articles for both *Light Railways*, and *Newsrail*, submitting field reports and self-publishing books on a wide range of subjects.

As well as activities related to the LRRSA, Norman is heavily involved with the Royal Historical Society of Victoria, the Forest History Society and several local Historical Societies in the Colac and Otways areas of Victoria.

On behalf of the LRRSA we offer Norman our congratulations and thanks for all the work that he has done for this Society and kindred organisations. We look forward to many more articles, Field Reports and books on light railway history.Well done!

An invitation to join the LRRSA ...

Membership of the LRRSA offers you:

- Light Railways magazine, mailed to you six times a year
- Substantial discounts on LRRSA publications
- Meetings in Adelaide, Brisbane, Melbourne and Sydney
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(full name of applicant)

of _____

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I would be interested to know whether anyone have details on where these two ended up working?

Bruce Rankin

2118 was a petrol-electric that worked at Whyalla, I think it was originally numbered PE10. It was later converted to dieselelectric and renumbered DE10. A little bit of info and a photo can be found at https:// www.minnipasiding.com.au/peninsulapioneer/bwdiesel.html

Chris Stratton

The locomotive 2118 is now a static exhibit on the Pichi Richi Railway.

1618 was a 0-4-0ST with the Australian Gas Light Co., Mortlake Gasworks, Sydney.

Richard Horne

OBITUARY Keith McDonald

It is sad to report that former LRRSA member and author Keith McDonald died in Queensland on 31 January 2021. He was 86 years of age.

Keith had a lifelong love of railways and served his apprenticeship at the QR Ipswich Workshops. In 1962 he entered the RAAF, becoming a skilled aircraft engine technician, and serving in Vietnam.

Moving around various Australian RAAF bases, including Amberley, Williamtown and Fairbairn (Canberra) gave him opportunities to research and explore a variety of industrial and government railways. Keith retired to Ipswich and became a regular volunteer at the Workshops Railway Museum.

He was an assiduous collector of information, photographer, maker of lists, and documenter of railway history, and an excellent draftsman. These skills are reflected in his book "Steel and Rails in Newcastle", published by LRRSA in 1981. He also jointly authored (with Ray Ellis) another LRRSA publication, "The Beaudesert Shire Tramway".

Keith was an early enthusiast for industrial

railways in Queensland. A significant contribution to recording cane railway history was the epic sugar mill trip he made in the 1956 Christmas holidays, when he photographed many small internal combustion locomotives, often locally improvised, that otherwise may well have escaped being documented.

Keith took a special interest in railways in Queensland, and compiled listings that featured every locomotive that operated in the state. He was the major authority on Queensland Railways rolling stock and authored a monumental encyclopaedia of every single class and variation of vehicle owned or proposed for QR, with several thousand entries, including diagrams and historical details.

His expertise was recognised to the extent that he was commissioned by Aurizon in Queensland to produce rolling stock data sheets and diagrams for them. Keith made regular contributions on this and other topics to "Sunshine Express", the publication of ARHS Queensland Division, of which he had been one of the original founding members in 1957.



A youthful Keith McDonald front and centre of a group of ARHS members on the famous October 1957 excursion to Moreton Mill, Nambour, that featured a trip behind the Shay locomotive. Photo: F. Murphy, courtesy ARHS Qld Div



MEETINGS

LRRSA Members Meetings

The LRRSA will be holding regular Members Meetings 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 Irrsa.org.au. After registration, details of how to join the meeting will be provided to those that have registered.

April 2021 Members Zoom meeting

Date: Thurs 8 April at 8pm AEDT Frank Stamford will give a presentation on the genealogy of the WA G class locomotives giving details of how the design developed over time.

June 2021 Members Zoom meeting

Date: Thurs 10 June at 8pm AEDT Mike McCarthy will tell the story of the 2 ft gauge Red Cliffs light railway that served the Red Cliffs pumping station in northern Victoria from 1924 to 1954.

BRISBANE: "Meeting details to be advised"

At the time of writing, no details were available of whether the venue will be open for a meeting. If a meeting is held, details will be provided to members locally and on the Facebook page *Light Railways in Australia*.

SYDNEY: "Railways in the Boer War"

Lt. Col. David Deasey OAM RFD is a retired Army Reserve officer who was Chairman of the NSW Committee of the National Boer War Association and has written numerous articles and papers on military history including the Boer War. He will be speaking on the importance of the railways in the Boer War set against a summary of what the war was about and Australia's role it.

Location: Woodstock Community Centre, Church Street, Burwood. Free Council car park behind building (entry via Fitzroy Street) or close-by street parking. Only 10 minutes easy walk from Burwood railway station.

Date: Wednesday 28 April 2021 at 7:30pm

NOTE: Due to the current Covid virus restrictions (which may be relaxed later?) the large meeting room at Woodstock (Penfold Room) will be limited to only 14 attendees for safe spacing requirements. Please contact the Secretary (0415995304) in advance if wishing to attend.

MELBOURNE: "No meeting"

There will be no meetings in Melbourne until further notice.

ADELAIDE: "The Pinera Road bridge – and other matters"

There will be an Adelaide meeting in late March. South Australian members will be advised by e-mail about a fortnight before, but the meeting will be held on 25 March 2021 depending on any Covid rules at the time.

Location: 1 Kindergarten Drive, Hawthorndene Date: 25 March 2021 at 7.30 pm



On Splintered Rails The Era of the Tasmanian Bush-Loco Volume 2: Northwest Coast and Central Coast

by Mark and Angela Fry

Self published 2020. 380 pages, 280 x 240mm, large format, 338 photos, 52 diagrams and plans. Glossary, bibliography, references, and index. Soft cover. \$80 plus postage. Limited edition of 500 copies, only available from the authors: markfryoldina4@gmail.com

Volume 1 of this series, reviewed by Phil Rickard in LR 260, was a lavish general introduction to the Tasmanian logging industry and the use of locomotive power on its tramways. It set a high standard for presentation and approach that continues in Volume 2, the first of a series of regional tomes, this one dealing with the Northwest Coast and Central Coast. It appears that two further proposed volumes will follow.

There is so much to like and admire about this book. The impression is that the content is authoritative and comprehensive, providing the definitive treatment of its subject. It is obvious that the authors are extremely knowledgeable and have researched their topic extensively. Their reasoning is generally clear and is based on the evidence. The number and range of photographs featured is most impressive. Production standards are very high. It is clear that this series of books will be the standard reference for many years to come. It would be churlish not to recognise that this great store of information has not been collected by the authors to be secreted away but is being published progressively, to the delight of all those who have an interest in it. Benefitting from the collaborative assistance of a number of well-known Tasmanian rail historians, it represents a very significant achievement in the publication of Australian light railway history.

With a focus on motive power, the authors do well in detailing the plethora of locomotives and locomotive types, many uniquely home-grown, and they ensure that even the most obscure of petrol-powered units knocked up in a local workshop receive as full a description as the available evidence allows. Several delightful drawings from Peter Manning supplement other graphic material illustrating locomotives and railcars, and the photographic record is often a superb source of information.

The main timber tramways in north-western Tasmania formed a complex network originating with the 3ft 6in gauge lines instigated by J.S. Lee from 1884, which in turn stimulated the construction of the Marrawah Tramway and the connecting lines of many other sawmillers, the last rail operations ceasing around 1971. The Marrawah Tramway ended up as a part of Tasmanian Government Railways, but it seems to have maintained its bush "light railway" character throughout. Not only were there complex changes of ownership, but sawmills and port facilities were developed and shifted, and locomotives were transferred between locations and from one owner to another as well as being radically transformed through



rebuilding. More than two-thirds of the book, six chapters in all, is taken up in dealing with the Marrawah Tramway and the lines associated with it, even though the scope is limited to locomotive-worked tramways. Each chapter deals with a different owner, and it would have been a major challenge to work out how this inter-related and layered subject might best be handled. The longevity of some of the operations means that 35 of the photos in the book appear in colour. The other seven chapters are shorter and deal with more discrete enterprises on various gauges that utilised a variety of steam and internal-combustion engined motive power.

The reviewer of Volume 1 made the suggestion that future volumes might be subject to rigorous proofreading to eliminate spelling errors and grammatical difficulties. It appears that this advice has been taken, with pleasing results. There are a few factual and terminological errors, always difficult to eliminate completely, although I doubt if J.S. Lee would have been amused at his Yorkshire home town of Mirfield being confused with a Scottish golf course, and surely a super foot and a cubic foot are not the same thing.

My feeling is that the intensive and robust editing previously suggested should have been taken further because the major avoidable weakness of Volume 2 seems to me to be a text that is difficult to plough through, with material organised in a less than optimal way. More reader-friendly accounts of the growth of company operations and tramway development could have been achieved if the authors had been reminded that they were telling a story - one that needed to be as clear and sequential as possible, written for readers who will mostly come with fresh eyes and who know little or nothing of the topic. While mention of the use of particular locomotives is essential in such a narrative, diversions into detailed locomotive histories can only serve to disrupt the reader's attempts to grasp of the development of the enterprise as a whole. It makes more sense to provide the detailed locomotive histories separately and in a consolidated fashion, whereas, for example, in Chapter 1 on J.S. Lee, material about the history of the "Coffee Pot" locomotive appears in at least four separate places, and even then not sequentially. A further complexity relates to changes in ownership of locomotives when they appear in different chapters, sometimes confusingly so. A summary tabulation of locomotives as an appendix would have been of great value in clarifying such matters for the reader.

Another editorial step that could have been taken to make reading less laborious would have included incorporating the material found in the curiously-named "Foot Notes" into the main text. The material in these footnotes always appeared germane to the narrative, and I could not understand why such interruptions to the flow of reading were necessary.

Lastly, improving the quality of mapping could make an enormous contribution to future volumes. The maps in Volume 2 are small, contain little or no topographic information, and are often lacking in the names of features and locations mentioned in the text when knowledge of the placement of these would help enormously in understanding the story. Perhaps I am spoiled by the quality of mapping found in most LRRSA publications, but I believe they provide a good example of what is possible, and hopefully the authors will investigate ways to harness the necessary expertise for future volumes.

The previous reviewer described Volume 1 as "seminal" and I have no doubt that this applies to Volume 2 and what will follow it. The book is definitely worth its price. Profits from Volume 1 amounted to \$8000 and were donated to The Kids' Cancer Project. Profits from Volume 2 will go to the same worthy cause. Because of the limited print run, if you have not already secured your copy of Volume 2 you should not delay a moment. I have no hesitation in giving this book a high recommendation and look forward to reading the next offering when it becomes available. *John Browning*



Heritage & Tourist

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

QUEENSLAND

FRIENDS OF ARCHER PARK STATION AND STEAM TRAM MUSEUM, Rockhampton 1067 mm gauge

The 2020/21 annual boiler inspection became a cause for concern with the Purrey Tram boiler having to be subjected to non-destructive testing to measure the thickness of the metal. The boiler did pass its inspection but it is getting closer to the time when it will need to be replaced. The Museum already knows that the body of the Tram is due for a refurbishment and the body and the boiler should be done together. Consequently, the Tram could be off the track for up to six months when the work is done. The Billard is still waiting to have its wheels replaced or repaired and it is hoped it can be returned to running condition this year. *Tram Tracks* Volume 15 Number 1 February 2021

DURUNDUR RAILWAY, Woodford

610 mm gauge

With just over eight months of no income from passenger trains, along with no Show income at all during the year, the railway's normal income stream was significantly reduced. Museum railways by their nature cannot just "switch off" and come back again when things are back to normal. Track still deteriorates at the same rate with or without COVID, rollingstock and grounds still need maintenance, etc.; expenses still have to be met. With a spate of natural disasters in recent times, the insurance industry is currently in a difficult part of its cycle. This means there are fewer underwriters taking on public liability insurance for things like heritage railways. Even though heritage railways have had no big issues, and this railway had greatly reduced risk for eight months, its public liability insurance went up again this year (it has gone up nearly 50% over the last two years). The Tasmanian Transport Museum has reported continuing difficulties it is having with public liability insurance and it appears to be a problem facing all heritage railways. ATHRA (the Federal body for Tourist and Heritage railways which came into being to unite all state and territory bodies) is working on trying to reduce this amount.



On Saturday 19 December 2020 former Moreton Mill, Nambour, Purcell Engineering locomotive Vanguard visited the Woodford Railway in Queensland on its way to Lithgow for preservation. The two photos show the locomotive at Nambour in 1965 (above), and loaded onto a motor truck for transport to Lithgow (below). See page 11 for the original appearance of this locomotive. Both photos: Bob Gough



A positive side to the pandemic is that it allowed workers to construct and install two new sets of points (with some associated track upgrading) at the Peterson Road end of the railway. This could not have been achieved between running days in normal times. It also forced workers (and created the time) to get rid of the old wood pile at the Peterson Road end of Woodford Station and construct an exit ramp, along with other long overdue site improvements and general tidying up.

After a huge effort and significant cost, the first public passenger train in over eight months ran on 20 December. It was deliberately low key as a trial, but it ran.

As part of commissioning some works at Peterson Road, a test train consisting of locomotive *Netherdale*, three four-wheel passenger carriages (ex-Douglas Shire open wagons) and the Malcolm Moore locomotive used as a brake van, was operated along the mainline to the existing Peterson Road Station. In addition to the test train, numerous work train operations using locomotives *Gemco* and *Netherdale* have successfully occurred during the construction period.

The remaining stages are the completion of the relocated mainline and the passing loop. Considerable progress had been made on this work before it was mothballed to allow completion of the Locomotive Storage Shed project. All the rails and sleepers are in place for the passing loop with levelling, ballasting and packing still required. With the completion of the current work, workers can return to work on the new mainline and passing loop for the future Peterson Road Station.

Durundur Railway Bulletin 42: 367 January/ February 2021

AUSTRALIAN SUGAR CANE RAILWAY, Bundaberg

610 mm gauge

This railway has restored its very rare Orenstein and Koppel 0-4-0 steam locomotive of 1914, named *Little Germany*. It was Millaquin Sugar Mill's first steam locomotive, which replaced the horse motive power of previous years. This means that the railway has three working steam locomotives and one diesel locomotive. Bundaberg Now Facebook page 14/1/2021

BUDERIM PALMWOODS HERITAGE TRAMWAY INC. Buderim

762 mm gauge

The major achievement of this group last year is the repainting (in a green which looks like the British Railways Brunswick Green on 4472 in earlier days, with a black trim) of its Krauss locomotive and housing it in a secure new shed. Buderim Palmwoods Heritage Tramways Inc. Facebook page 31/12/2020

NEW SOUTH WALES

PETE'S HOBBY RAILWAY, Junee

610 mm gauge

During a severe storm at the site on 11 November 2020, two large water tanks, intended

for fitting to the new Storage Shed and the Archives Shed, broke their moorings and headed eastwards. The new PHR Storage Shed was hit in two places causing minor damage, before the tanks came to a stand near the eastern boundary of the property. The vibration resulting from the impact caused a number of items on the western wall to be thrown to the ground, breaking the glass in one picture frame. A small rubbish bin containing inter-alia empty soft-drink aluminium cans collected for deposit reclaiming (for the Volunteers Fund), was thrown in the air, depositing its contents far and wide. Tree branches snapped, some blocking the vehicular driveway near the front gate.

No locomotives or rolling stock were damaged, even those located outside which received the full impact of the winds and resultant heavy rains. Progress Report 63, December 20, 2020

GLENREAGH MOUNTAIN RAILWAY, Lowana 1435 mm gauge

On the 26 January weekend, members of the Glenreagh Mountain Railway took their rail trikes out for a run from Lowana. During the outing, younger members were trained in track maintenance involving fish plate greasing and re-sleepering. They rode to the current track limit (about six kilometres from Lowana) then walked to Moleton bridges two and three. They hope that soon they will be able to ride all the way to the bridges.

GMR Facebook site 1/2/2021

VICTORIA

THE BELLARINE RAILWAY, Queenscliff

1067 mm gauge

The author of this news report has been wrongly referring to this railway as the Bellarine Peninsula Railway for the whole of this century and more. The word "Peninsula" was dropped from the name of the Railway when the region became just The Bellarine and it will be known by its correct name, The Bellarine Railway, from now on. Our apologies to the Railway, its workers and railfans.

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge

Between 1 February and 30 April 2021 trains from Belgrave to Lakeside will operate on Fridays, Saturdays, and Sundays. On Saturdays and Sundays a train will also operate from Belgrave to Gembrook. The Friday timetable requires two locomotives in steam, with a third on Saturdays and Sundays for the Gembrook service.

Additionally, trains will operate from Belgrave to Lakeside on Labour Day, 8 March; and all days of the week Belgrave to Lakeside and Gembrook during the April school holidays (2 April–18 April). Online pre-bookings are essential on all trains. puffingbilly.com.au website

WALHALLA GOLDFIELDS RAILWAY, Walhalla 762 mm gauge

On the railway's carriages, the brake-pipe plumbing was altered from that which accommodated the old cast iron Triple Valves to an arrangement to suit the new aluminium WP1 Triple Valves. The old (1927) Cast Iron ITVs (improved Triple Valves) required stripping and greasing every 12 months while the modern aluminium WP 1 Triple Valve only requires maintenance every 10 years. This is clearly an advantage to the Railway.

News on Rail motor (RM 461) is that the sub-frame has been lifted onto and mounted on the bogies and the motor has been located in and fitted into the sub-frame. This is very promising progress. Engineering Report to the Board 12 January 2021

VICTORIAN GOLDFIELDS RAILWAY, Maldon 1610 mm gauge

The Young Volunteers Group at this railway have restored van T222 to its former glory, carrying a livery that only a handful of T vans wore. The livery is predominantly white with a red stripe along the middle and the word Imperial in a diamond sign. Along the top there is a sign for *W. Angliss and Co.* and along the bottom are the words *Interstate, Chilled, Meats.* A very striking paint job. A few final touches are needed before it can be added to the goods train but this will happen soon.

The van was originally built at Newport Workshops in 1911 as a six-wheel T van but in 1933 it returned to Newport for conversion to four wheels and automatic couplers. It was approved for scrapping in 1973 and taken off the Register in 1974. It was however, not scrapped and was converted to HD 239 for use as the Electrical Engineering Branch tool truck and eventually ended up at Castlemaine in 1996.

Victorian Railway Enthusiasts Facebook page 11/2/2021

TASMANIA

WEST COAST WILDERNESS RAILWAY, Queenstown

1067 mm gauge

As reported previously, the Abt locomotive No. 2 which has been on display at Hobart, has been moved back to Queenstown for restoration.

After the Mt Lyell railway closed in 1963, Abt Locomotive No. 2 was transported to her new home at the Tasmanian Transport Museum just outside of Hobart. She spent over half a century as a museum exhibit, leaving the remaining Abt locomotives in Queenstown to live out a different future.

In 2019, the Tasmanian Government funded the West Coast Wilderness Railway's purchase of the Abt Locomotive No. 2. The funding will also be used to complete the necessary repairs and maintenance in order to prepare her for a return to operation.

The West Coast Wilderness Railway now has an excellent fortnightly blog on its website where interested readers can view progress of the restoration in detail together with a comprehensive photographic record. For further details go to www.wcwr.com.au and follow the prompts. The blog provides very detailed information on the work that the crew and its team of experts have had to do in order to bring it back to working order by mid to late-2021.

LIGHT RAILWAYS 278 APRIL 2021

When the railway closed in 1963 there were five Abt locomotives and it is quite remarkable that four of the five originals are preserved and operational. The fifth locomotive (No. 4) was scrapped. The two photographs show the locomotive on display in Queenstown after the railway closed. Thanks to Scott Gould, Bruce Maclean and Chris Wurr for the reports and photographs

DON RIVER RAILWAY, Don

1067 mm gauge

Most of the volunteers have resumed work at Inveresk (a site away from Don where restoration is carried out) after the Covid-19 shutdown. The Railway was recently given brand new windows for the X class diesel-electric locomotive (English Electric Bo-Bo 1950 TGR) as well as a number of as-new windows for the Y class locomotive (Y6 English Electric TGR Bo-Bo 1970). They have both since been transferred to Don.

Workers are still busy working on DB11 (one of the last TGR DB guard's vans which was most recently used for storing hay). One of the major expenses was going to be the recovering of the vinyl passenger seats. Luckily there is a roll left from one of the last carriages to be restored at Inveresk and there should be enough to complete the job. The major work of stripping paint from inside the roof of the goods compartment has been a long and difficult job. Fitting of the doors is nearly finished and all the windows in the goods compartment have been fitted.

Diesel-hydraulic locomotive1002 (Walkers Ltd B-B 1963 Emu Bay Railway) has had a number of problems attended to including a new radio in the cab and changing or replacing all lights throughout the loco. The nose was removed so new pipework could be fitted for the cab heater which has been upgraded.

Work has progressed slowly but steadily on CCS25 (Beyer Peacock 2-6-0 1926 TGR (ex C25 of 1905)). The smokebox baffles have been repaired or replaced and the chimney shroud has to be repaired and fitted; other than that, the front end is complete. Boiler fittings are being installed and fitted at the moment including insulation, injectors, safety valves and cladding. This is a low priority job at the moment but in the coming weeks workers will be in a position to light some fires to check for leaking stays. Diesel-mechanical locomotives V2 (Drewry/Vulcan – C – 1948 TGR) and U6 (Malcolm Moore – B – 1960 TGR) were recently overhauled and repainted to a very professional level.

A new steel arch arrived on site for the Fowler (John Fowler and Co. 0-6-0T 1886 ex-Tasmanian Transport Commission) which has been fitted in the firebox. The grate and ashpan have been refitted and the loco was fired up and the safety valves set. *Don Express* June 2020

TASMANIAN TRANSPORT MUSEUM, Glenorchy

610 mm and 1067 mm gauges

The plans to hold a Gala Weekend over 13 & 14 February 2021 to celebrate 150 years of Tasmanian railways, have been postponed to a later date. Due to the late announcement of funding for insurance cover and no advice as to when the policy will be



Ex Mt Lyell Railway Abt locomotive No 3 in June 1976 in a fenced off area in Queenstown. Photo: Chris Wurr



Locomotive No.3 mounted at Queenstown on 24 January 1988. It was pleasing for the photographer to realise that he can now ride in its cab above the King River all those years later. Photo: Bruce Maclean

issued, the weekend will be rescheduled to a time after train running recommences so that visitors will have the added attraction of train rides. Meanwhile, work has continued in the museum. The repaint of the body of wooden four-wheeled goods van E242 was nearing completion in the New Year and it looks very smart. Attention was given to the steelwork on the wagon which should be completed by the end of summer. TTM Newsletter January – March 2021

DERWENT VALLEY RAILWAY, New Norfolk 1067 mm gauge

In the *Hobart Mercury* of 30 December 2020 was an article titled 'Make us the island of Heritage Rail', which argues that there is a real opportunity for Tasmania to become the mecca of heritage railways as there are already a number of functioning heritage railways and a larger number ready to roll, but that government inaction is stifling progress.

Derwent Valley Railway Facebook page 30 December 2020

SOUTH AUSTRALIA

SOUTH AUSTRALIAN LIGHT RAILWAY CENTRE, Milang

1610 and 610 mm gauges

The Centre, which is part of the Milang Railway Museum, now has four qualified drivers and consequently is able to offer free train rides every Sunday. The coaches have been upgraded with roofs for passenger protection and the train is now called *The Milang Flyer*.

The BEV battery locomotive came from the UK in 1942 and was purchased by the Centre in 1999. It came to the museum equipped with 24 two volt batteries that were, at the time, a couple of years old. In mid-2020, it became evident that those batteries were getting near the end of their life and needed replacing. An on-line fund raising campaign was started and \$6600 was quickly raised for their replacement, which took place in October.

The steps up into the coaches had proved a problem for elderly visitors so in December



The Milang volunteers try out their upgraded WW2 vintage munitions train. Photo: Peter Lucas

the Centre was successful in obtaining a grant from the Royal Automobile Association (RAA) of South Australia for a platform and access ramp which is now being constructed by volunteers.

The SA Light Railway Centre is now well balanced with a mixture of historic and interactive displays which both inform and entertain visitors. The Centre has two diesels and one battery locomotive, an assortment of wagons, a model light railway and a steam driving simulator. There is just one thing missing... there is no steam locomotive. The Centre has therefore started a search for a two-foot gauge locomotive, in virtually any condition, which volunteers can restore to a displayable state. If anyone knows of a possible locomotive being available by loan, donation or acquisition, could they please contact the secretary, Peter Lucas, on secretary@milangrailway.org.au.

PICHI RICHI RAILWAY, Quorn

1067 mm gauge

The PRR has now signed deeds to acquire former SAR locomotives 843 and 846 from One Rail Australia (formerly Genesee & Wyoming Australia). These two locomotives will be used by PRRPS to make one operational unit, the body of 843 onto 846's 1067 mm gauge traction bogies. 846 and the 1610 mm-gauge bogies will provide a source of spares (including traction motors which are interchangeable with NT76's). Both locomotives have been very generously donated to PRRPS by One Rail, however the logistics of moving them, 843 from Dry Creek South to Quorn, and 846 from Port Lincoln to Quorn, will be the responsibility of PRRPS.

After arrival at Quorn, there will be much work

required to unite 843 with the 1067 mm gauge bogies from 846, and then restore the locomotive to an operational status. The railway estimates that \$40,000 will be needed to get the locomotives to Quorn and restore them to working order.

Given the importance of the Alco DL531/830 Class in SAR regional, as well as metro operations, the acquisition of an 830 representative for PRR has been a long-term goal. 830 class locomotives based at Peterborough operated to Quorn on regular goods services.

Any readers interested in helping in this fund-raiser should check the website at www. pichirichirailway.org.au.

Letter to PRR members 15 February 2021

WESTERN AUSTRALIA

BENNETT BROOK RAILWAY, Whiteman Park 610 mm gauge

When the Whiteman Village Junction South Signals project is completed, the Museum will have electric point motors controlling the scissors crossover as well as No.3 Road points South and numbers 2 and 3 road points North. The only other tourist and heritage railway using electric point motors is thought to be Puffing Billy. Progress has been made on the NG 15 123, with the old tube plate sections removed from both ends in preparation for new section plates to be welded in. This repair is due to the old tube plate ligaments (distance between holes) being below the minimum Australian standard. Workers recently removed the main steam pipe from the dome opening to enable easier access for the welders and inspectors. The ash pan project is underway and once that is fitted, the boiler can be placed on to the chassis.

Workers are progressing steadily on the Fowler No. 2, aiming to have this locomotive mobile for the first half of 2021 with the cooling system done, the vacuum pump fitted and plumbed up, the compressor and air system done, the fuel lines and filters ready to go and the air intake for the motor effectively done. Still to be completed are the wheels (out getting their tyres replaced), the exhaust piping, the new driveshaft, the paintwork and the last of the electrical and dashboard fit out.

The Dorman Planet No. 8 had a failure a couple of months back and requires the wheels and axles repaired. This has to wait until after the Fowler's wheels get back and the Fowler can be moved to clear space for it. The cab interior is getting painted while it waits in the queue.

Ashley, No. 5 will see the next diesel locomotive overhaul after the Fowler with work needed on the fuel rack/pump, injectors, air compressor,

Wanted—A two foot gauge steam locomotive

For restoration and display at the South Australian Light Railway Centre.

By loan, donation or acquisition.

Please contact the Secretary, Peter Lucas, at secretary@milangrailway.org.au.

axle final drives and wheels. This will need to be scheduled between Ashley days and will need costing and preparation. In the short term the Maylands No 6, is being reactivated to eventually reduce and share the large number of kilometres and days that Ashley runs.

The Bennett Brooklet – January/February 2021

MAYLANDS BRICKWORKS

The Maylands Brickworks, on the Maylands Peninsula close to central Perth, operated from the mid 1920s to 1982. The current remains are now a heritage site with plans to restore the ground floor kilns and top floor open space for community use. On 13 December 2020 the Maylands Historical Society arranged an open day at the site and the attached photographs were taken on that day. *Light Railways* 43 (pp22 – 25) and *Light Railway News* December 1978 page 12 & August 1981 pp19-20 contain articles and information on the works. David Whiteford



Above: A view taken from the new stairs giving access to the floor above the Maylands Brickworks kilns shows two of the kiln entries and remains of tram lines now concreted in leading from the kilns and also through a long removed drying shed. **Below:** Maylands Brickworks drying sheds with wide gauge traverser and track at right angles to the narrower gauge drying shed lines. The traverser carried the narrow gauge wagons loaded with bricks. Both photos: David Whiteford





John Phillips visited the Richmond Vale Railway line in June 1983 and took the four shots shown here. The line was the last commercially operated steam railway in Australia and holds many fond memories for rail fans. The railway was a standard gauge line that was 26 km long and had three tunnels and served the coal mines at Minmi, Stockrington, Pelaw Main and Richmond Main. It was operated by J & A Brown and its successor companies. Coal trains no longer operate on the line but the Richmond Vale Railway Museum does operate tourist trains south of Kurri Kurri.

John notes that it was not the easiest line to photograph as most of it ran across an inaccessible swamp, however, with a bit of walking you could get into a couple of good photo locations. The staff were always a friendly lot, and rides on the railway were not hard to get, either in the cab or in the van. These shots were taken climbing out of the mine area with a load of coal bound for Hexham. Note the nature of the coal with a mixture of large chunks right down to the fine dust

All shots feature 10 class No.17 with a load of coal in non air-braked four wheeled hoppers as it "barks" upgrade from the Stockrington mine Photos: John Phillips