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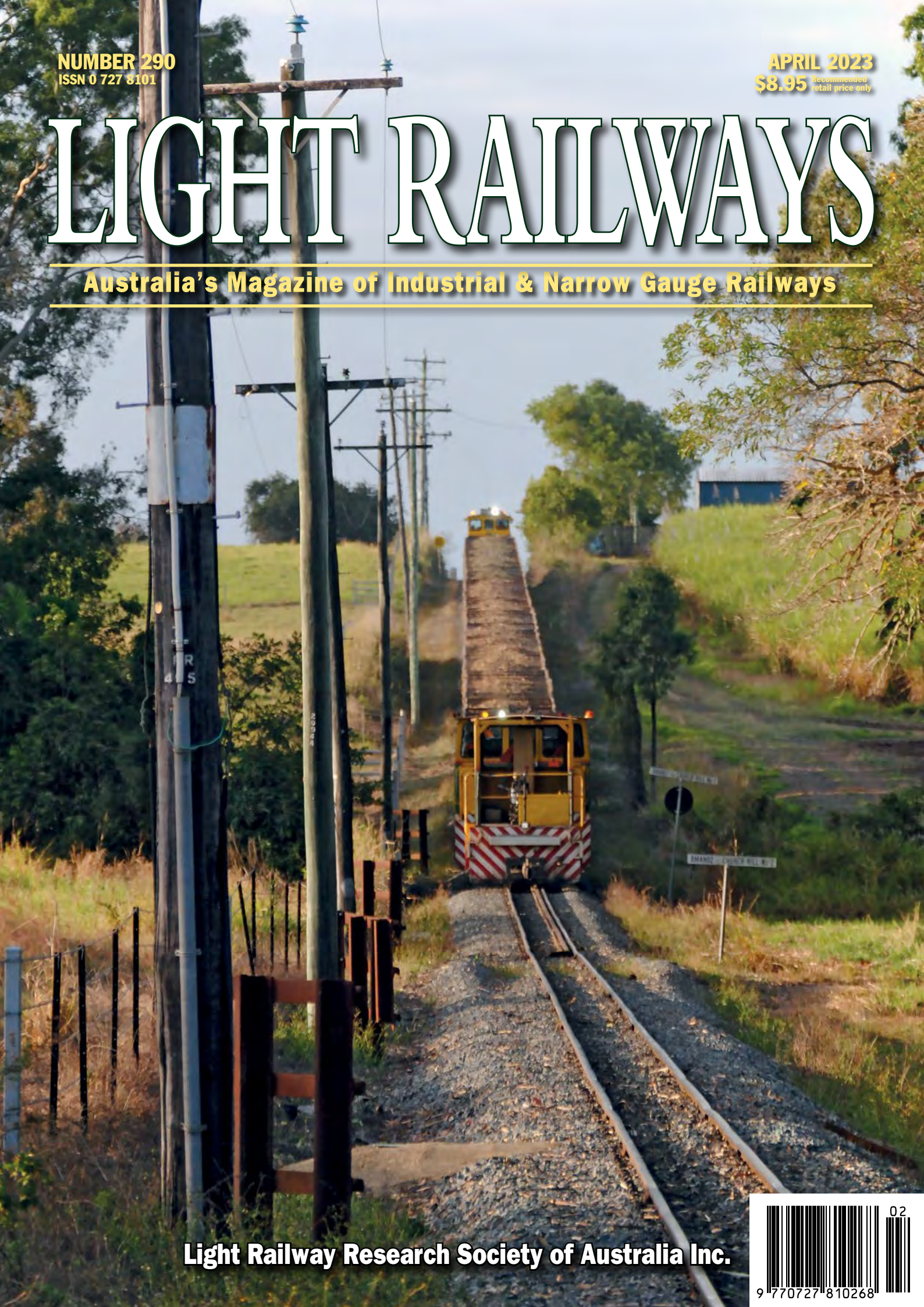
LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



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Imperial to metric conversions:

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

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Contents

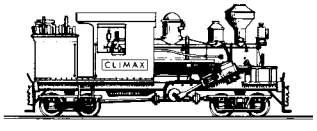
Editorial

By their very nature, light railways have a wide variety of motive power ranging from horse hauled, gravity via inclines, cable hauled, steam and diesel locomotives and so on. So it is with the various articles published in this magazine that reflect the type of motive power used on a particular tramway. In the last couple of issues, the articles have not included very many locomotives, particularly steam powered ones. From surveys of our members we know that you like to have lots of steam locomotives featured! Well, in this issue we address that need in large spades with articles covering the locomotives used by the NSW PWD, the Powelltown tramway, and BHP at the Iron Knob mines in South Australia.

Every now and then we have an article in *Light Railways* that attracts a lot of interest and generates several letters to the Editor. One such article is that written by Les Morley on the rail motors used on the Emu Bay Railway in Tasmania where there have been an ongoing thread of letters setting out further details. I have included some more such letters in this edition.

I trust that you enjoy all of the material contained in this edition. *Richard Warwick*

Front Cover: *Following the formation of Mackay Sugar in 1988, the then Pleystowe Mill line to Habana became a vital link between the Pleystowe and Farleigh Mill networks, allowing flexibility in rail transport options to facilitate crushing operations. Since the closure of Pleystowe Mill after the 2008 season, Church Hill with its 1 in 25 grade has seen the transit of large tonnages of cane, mostly uphill towards Farleigh Mill. The steepest section is less than 500m in length but working it is challenging, compounded by road crossings at each end. The crossing immediately at the top of the hill is of the Bruce Highway, Queensland's main north-south coastal road. For safety reasons, full trains ascending the hill must be banked or have a brake wagon in the rear. On this occasion, on 2 September 2020, a banking engine with a brake wagon was in use. The train is headed up by E.M. Baldwin B-B DH* Hampden *(6706.1 5.76 of 1976) while in the rear is* Walkerston*, the 1994 B-B DH rebuild by Pleystowe Mill of an ex-NSWGR 73-class standard gauge locomotive (Walkers 672 of 1971) with its 1996 bogie brake wagon constructed by Pleystowe Mill. Note the check rail, bridge/culvert nameboards and the protection installed for the power poles in case of a mishap. Photo: John Browning*



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

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

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

Locomotives of the NSW Public Works Department – Part 1

by Jim Longworth and Garry Allen

Departmental History

From the First Fleet landing in 1788 the infrastructure needs of the fledgling community needed building and engineering to be applied to the antipodean colony. During 1856 the government established a Department of Lands and Public Works to manage all works, and by 1859 the Lands Department was separated out. During this time administration of the Public Works Department was divided into the Colonial Architects Office, Internal Communications, Harbours and Rivers Navigation and the Civil Engineer. By 1888 Premier Henry Parkes reorganised the loosely linked branches.

The use of industrial railways can be found in the colony which became NSW going back to May 1830, and one involved on a 'public work' back to July 1836. The first use of a railway locomotive for a 'public work' in NSW was on constructing the Sydney to Parramatta railway in April 1855.[1] Over time, PWD locomotives were most commonly used on building government railway lines, coastal breakwaters, and dams. Since then the use of locomotives on building and operating 'public works' has been quite sporadic by multiple government departments, private contractors, and the NSWGR Construction Branch.

No original PWD documentation on its locomotives is known to have been found. Early PWD locomotives seem to have been referred to by a cognomen given to them by running staff. Secondary sources seem to suggest there was some sort of numbering applied during 1916. Some locomotives which seem to have belonged to the PWD, carried no visible number or identification. The NSW PWD also seems to have hired some locomotives from various sources. Much available railway historical literature about PWD locomotives is confused and there are many contradictions about details. This listing below is our best suggestions and provides a high level overview of all of the NSW PWD locomotives. The sources of the information quoted below are listed as references at the end of the article. The authors would welcome any further information on any of the locomotives discussed below.

Repairs and maintenance of the locomotives were undertaken in PWD workshops at large worksites, and at the NSWGR Newcastle locomotive workshops.

Details of all locomotives

No 1

Built by the Hunslet Engine Co Ltd as its builder's number 1112 of 1913, 2-6-0, tender, 4ft 8½in gauge.

Parts for PWD's locomotive Nos. 1 to 8 arrived new and were assembled at the Dyke Newcastle during mid-1913. Assembling each locomotive took about 10 days.[2]

The locomotive was transferred to the NSWGR on 31 December 1916, when it was located at Coffs Harbour-Glenreagh, to become G class No. 1204.

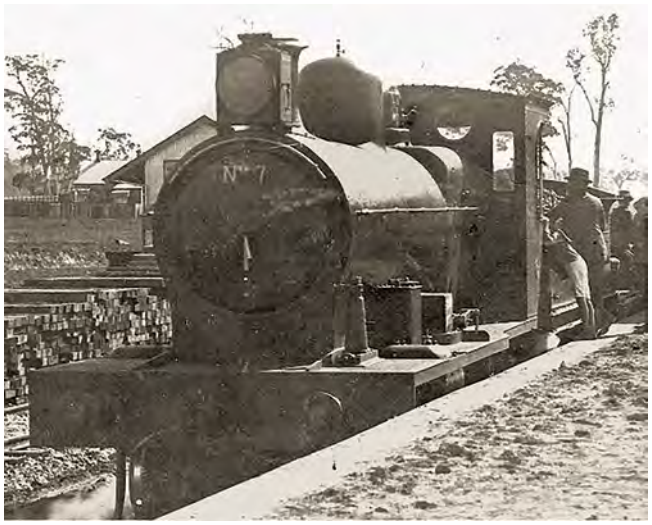
No 2

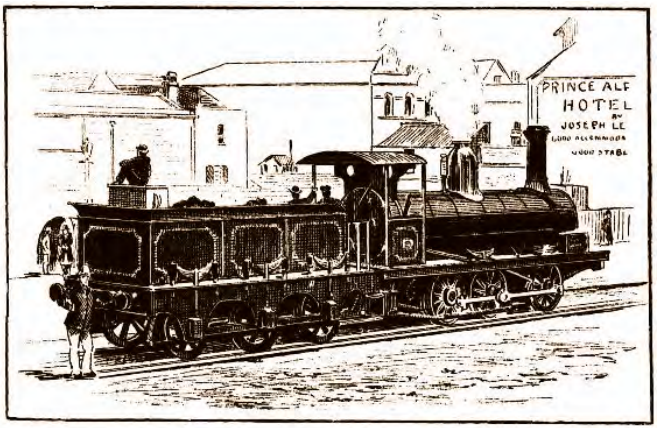
Built by the Hunslet Engine Co Ltd as its builder's number 1113 of 1913, 2-6-0, tender, 4ft 8½in gauge.

Arrived in Australia with PWD No. 1.

The locomotive was transferred to the NSWGR on 31 December 1916, when it was located at Coffs Harbour-Glenreagh, to become G class No. 1205.

PWD locomotive No 1 became NSWGR G class No. 1204, and 2701 in the 1924 renumbering. From 1929 the eight members of the class were progressively rebuilt with standard 'B' class boilers and fitted with 'T' class tenders, as seen above. Photo: ARHSnsw RRC – Neg No 854272





Top: *Undated view of PWD locomotive No 7 on a works train loading sleepers. Photo: courtesy Camden Haven Historical Society collection* ***Below left:*** *Moving No. 10 from its construction works to being placed onto the NSW railway network on 22 February 1888. Photo: Author's collection* ***Below right:*** *PWD locomotive No. 12 later as NSWGR 22x. Photo: Former SRA collection* ***Bottom:*** *PWD locomotive No. 11,* Gloucester, *on the construction of the Maitland to Taree section of the NSWGR rail line. Photo: Former SRA collection*

No 3
Built by the Hunslet Engine Co Ltd, as its builder's number 1111 of 1913, 2-6-0, tender, 4ft 8½in gauge.
Arrived in Australia with PWD No. 1.
Transferred to the NSWGR on 31 December 1916, when located at Honey Suckle Point, to become G class No. 1206.

No 4
Built by the Hunslet Engine Co Ltd as its builder's number 1114 of 1913, 2-6-0, tender, 4ft 8½in gauge.
Arrived in Australia with No. 1.
Transferred to the NSWGR on 31 December 1916, when located at Dubbo-Werris Creek, to become G class No. 1207.

No 5
Built by the Hunslet Engine Co Ltd as its builder's number 1115 of 1913, 2-6-0, tender, 4ft 8½in gauge.
Arrived in Australia with No. 1.
Transferred to NSWGR on 31 December 1916, when located at Wauchope section (Telegraph Point), to become G class No. 1208.

No 6
Built by the Hunslet Engine Co Ltd, as its builder's number 1116 of 1913, 2-6-0, tender, 4ft 8½in gauge.
Arrived in Australia with No. 1.
Transferred to NSWGR on 31 December 1916, when located at Honey Suckle Point, to become G class No. 1209.

No 7
Built by the Hunslet Engine Co Ltd as its builder's number 1117 of 1913, 2-6-0, tender, 4ft 8½in gauge.
Arrived in Australia with No. 1.
Transferred to NSWGR on 31 December 1916, when located at Binnaway, to become G class No. 1210.

No 8
Built by the Hunslet Engine Co Ltd as its builder's number 1118 of 1913, 2-6-0, tender, 4ft 8½in gauge.
Arrived in Australia with No. 1.
Transferred to NSWGR on 31 December 1916, when located at Wauchope section (Telegraph Point), to become G class No. 1211.

No 9
Built by Beyer Peacock as its builder's number 1891 of 1879, 0-6-0, tender, 4ft 8½in gauge.
Transferred to NSWGR on 31 December 1916, when located at Wyalong-Cudgellico, to become Z93 class No. 291x.

No 10
Built by Vale & Lacy, as builder's number 5 of 1870, 0-6-0, tender, 4ft 8½in gauge.
Bought from NSWGR in September 1898.
Named *Taree.*
Sold to BHP, Newcastle in 1914.

No 11
Built by Henry Vale, as builder's number 18 of 1882, 0-6-0, tender, 4ft 8½in gauge.
Named *Gloucester.*
Transferred to NSWGR on 31 December 1916, when located at Dubbo-Werris Creek, to become Z93 class No. 193x.

No 12
Built by R Stephenson, as builder's number 1549 of 1866, 0-6-0, tender, 4ft 8½in gauge.
Bought from NSWGR in December 1899.
Named *Dungog.*
Transferred to NSWGR on 31 December 1916, when located at Wyalong-Cudgellico, to become Z17 class No. 22x.

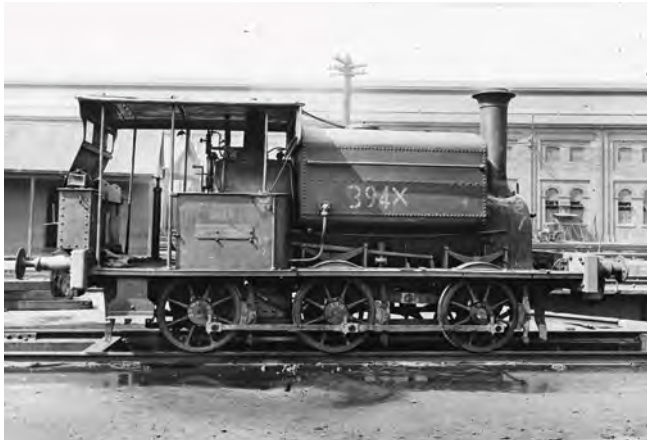
No 13
Built by NSWGR at Eveleigh in 1877, 0-4-2, tender, 4ft 8½in gauge.
Bought from NSWGR in 1915.
Returned to NSWGR on 31 December 1916, when located at Glenreagh-Dorrigo, to become Z36 class No. 78x.

No 14
Built by Vale & Lacy as builder's number 6 of 1870, 0-6-0, tender, 4ft 8½in gauge.
Bought from NSWGR in January 1900.
Returned to NSWGR on 31 December 1916, when located at Eveleigh shops, to become Z17 class No. 41x.

PWD locomotive No. 13 at Grafton in 1913. Photo: B Macdonald collection

Undated view of PWD locomotive No. 14 later as NSWGR 41x. Photo: Former SRA collection

Above: *No. 15 at work on building the North Coast Railway at Stroud Hill in the Dungog region. The square window openings in the front spectacle plate and rear cabin screen are distinctive. Photo: H Wright collection* ***Below left:*** *No. 15 later as NSWGR 394x. Photo: ARHSnsw RRC 009877* ***Bottom left:*** *PWD tram motor No. 16 at Harrington. The number '33' was the motor's original NSWGT number; not the PWD's number. Photo: GH Eardley collection*



No 15

Built by Manning Wardle as builder's number 32 of 1861, 0-6-0, saddle tank, 4ft 8½in gauge.

Acquired off R G Watkins in 1912.

Used on constructing the Muswellbrook to Merriwa section of the North Coast railway, and also on the Newcastle breakwater.

Transferred to NSWGR on 31 December 1916, to become Z29 class No. 394x.[3]

No 16

Probably built by Baldwin Locomotive Works, as either builder's number 5641 of 1882[4] or 5720 of 1881,[5] 0-4-0, steam tram motor, 4ft 8½in gauge.

Bought from J Newlands during 1905.

To Harrington in 1919 for breakwater construction along the Manning River. Main duties were hauling quarried rock for repairing the breakwater and constructing the river spur walls.[6]

Disposal unknown.

[The link between NSWGT's No. 33 and PWD's No. 16 seems to be commonly assumed; but seems yet to be proved.]

No 17

Suggested identities for PWD No. 17 have included: Baldwin builder's number 5528 of 1880, 0-4-0, steam tram motor; or Vale and Lacy 12 of 1875, 0-6-0 side tanks. However, available material is too confusing to suggest a substantive conclusion.

Above: *No. 18 later as NSWGR No. 29. The funnel has been extended upwards, probably to reduce smoke from entering the trailing passenger carriages, leaving the number 29 in a broad shallow groove at about half-height* ***Below:*** *No. 18 with its connecting rods on the ground. Photo: Author's collection* ***Bottom:*** *No. 18, still retaining the faded 'N° 18', derelict in the Newcastle area on an unknown date. Photo: J L N Southern*

No 18

Built by Manning Wardle as builder's number 88 of 1863, 0-6-0, saddle tank, 4ft 8½in gauge.

Bought by PWD off Excelsior Building Co at Toronto[?] in January 1901.

Purchased for Harrington as PWD No.18; but may have never actually worked there.

Sent to Newcastle in April 1923, and in May 1923 to Goninan for scrapping.

No 19

Built by Manning Wardle as builder's number 89 of 1863, 0-6-0, saddle tank, 4ft 8½in gauge.

Bought by PWD from R G Watkins[?] in ?

To Goninan for scrapping in May 1923.

No 20

Tentatively identified as built by Vale & Lacy as builder's number 1 of 1866, originally an 0-6-0, saddle tank, 4ft 8½in gauge.[7]

Worked on constructing Goodwood Island training wall at Iluka.

Converted into an 0-4-4.

Named *Hercules* at Iluka, and *Iron-Bark* at Port Kembla.

Relocated to Port Kembla 1907.

Above: *No. 19 while working as an 0-6-0 at South West Rocks, 1908. The funnel extension had been installed while the locomotive was working on the Kogarah-Sans Souci tramway to above the height of the end loading carriages then in use. Photo: Mitchell Library collection*
Below left: *No. 19, retaining the faded 'No. 19', after conversion into a 2-4-0, date unknown. Photo: Author's collection* **Below right:** *Close up of No. 20 as an 0-4-4 saddle tank hauling small sized rock in the Angourie quarry, date unknown. Photo: Author's collection*

No 21

Built by Baldwin, as builder's number 41073 of 1914, 0-4-0, saddle tank, 2 ft gauge. [The builder's numbers of PWD 21 and PWD 22 have been swapped by railway historians. Singleton (1938) allocated PWD number 22's builder number to PWD number 21, which was repeated by McCarthy (1979; and 1983)].[8]

Purchased new from Baldwin, arriving at Kiama in 1914.

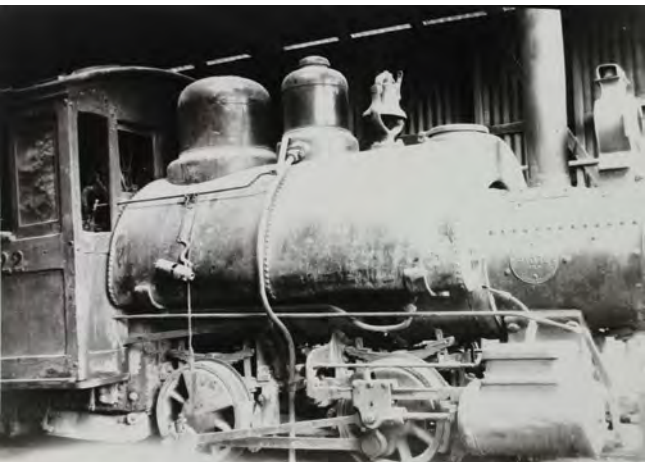
Worked at the State Metal Quarries at Kiama, which was part of the NSW PWD.

No 22

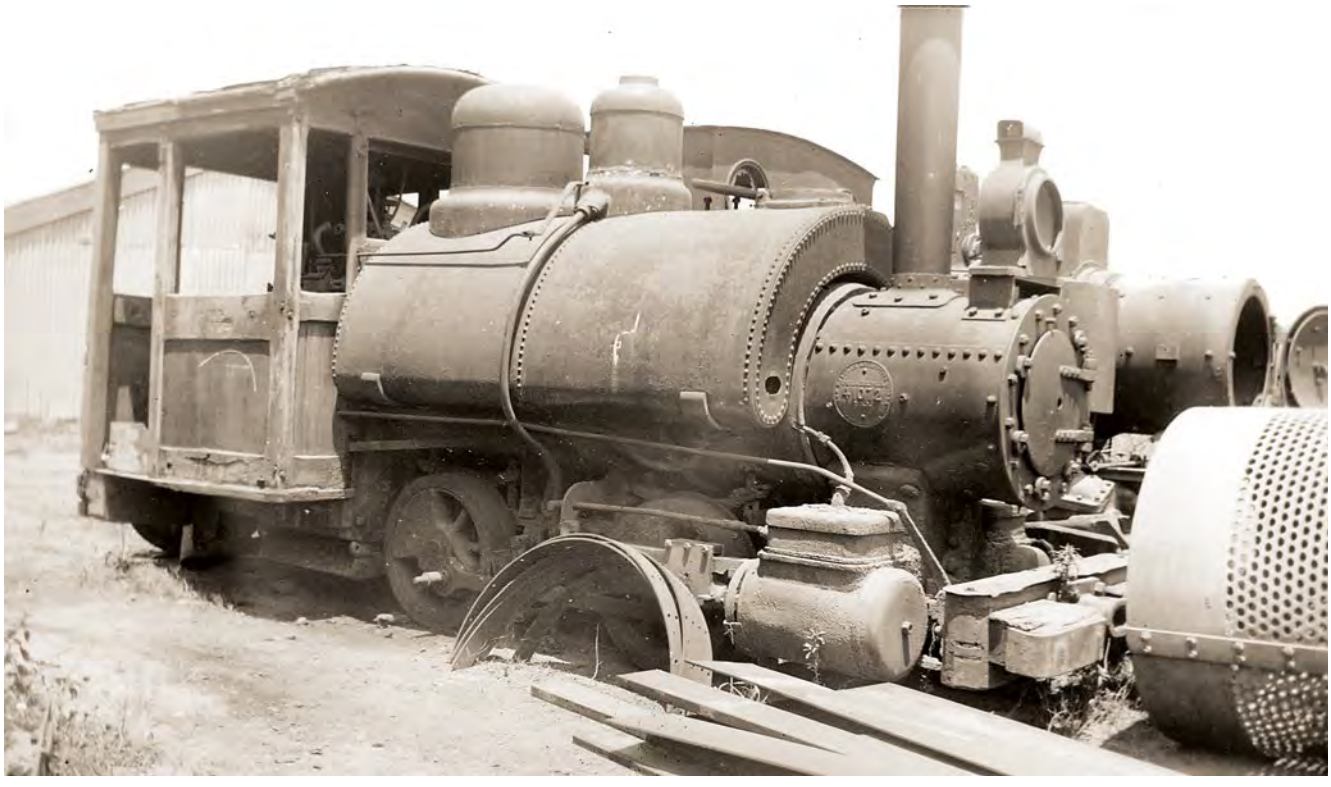
Built by Baldwin as builder's number 41072 of 1914, 0-4-0, saddle tank, 2 ft gauge.

Bought new, arriving at Kiama in 1914.

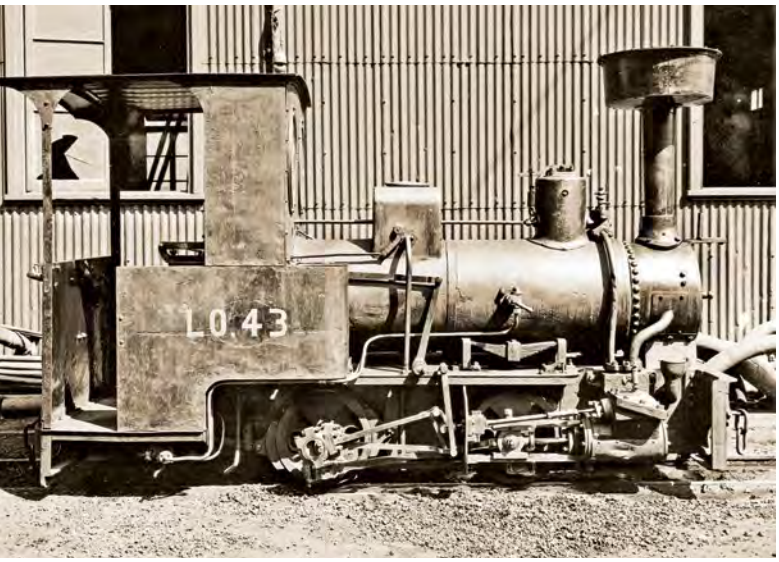
Worked at the State Metal Quarries at Kiama, which was part of the NSW PWD.



Top: *No. 21 at the State Metal Quarries at Kiama, date unknown. Photo: Author's collection* **Above left:** *PWD No. 22 at Kiama with the clearly visible builder's plate. Photo: ARHSnsw RRC collection negative no 507767* **Above right:** *No. 22 heading south along Manning St towards the NSWGR railway goods yard, Kiama date unknown Photo: Author's collection* **Below:** *Baldwin locomotive number 22 abandoned in the Kiama quarry, date unknown. Photo: Author's collection*



Above: *Krauss, builder's number 2179 at work on constructing the Coonabarabran-Gwabegar line, c.1917-1923. Photo: Author's collection* ***Below:*** *Krauss, builder's number 2179 later as NSWGR LO.43, date unknown. Photo: Former SRA collection*



No 23

Built by Krauss as builder's number 2179 of 1889, 0-4-0, tank, 2 ft gauge.

[A second identity of Davenport builder's number 1513 of 1915[9] is unlikely].

Bought second hand.

Worked at the State Metal Quarries at Kiama, which was part of the NSW PWD.

Sold to W West on 8 June 1936.

No 24

Built by Andrew Barclay, as builder's number 1346 of 1913, 0-4-0, side tanks, crane locomotive, 3 ft gauge.

Bought new, arriving in 1913.

Worked at the Walsh Island Dockyard.

After closure of the dockyard it was abandoned on site.[10]

No 25

Built by Vale & Lacy as builder's number 15 of 1875, 0-6-0, side tanks, 4ft 8½in gauge.

Acquired from Kerr & Wallace in 1897.

To Port Kembla in 1906.

Stabled at the running shed at Unanderra, and used hauling coal wagons and other traffic over the former North Bulli Coal Co's railway.

No 26

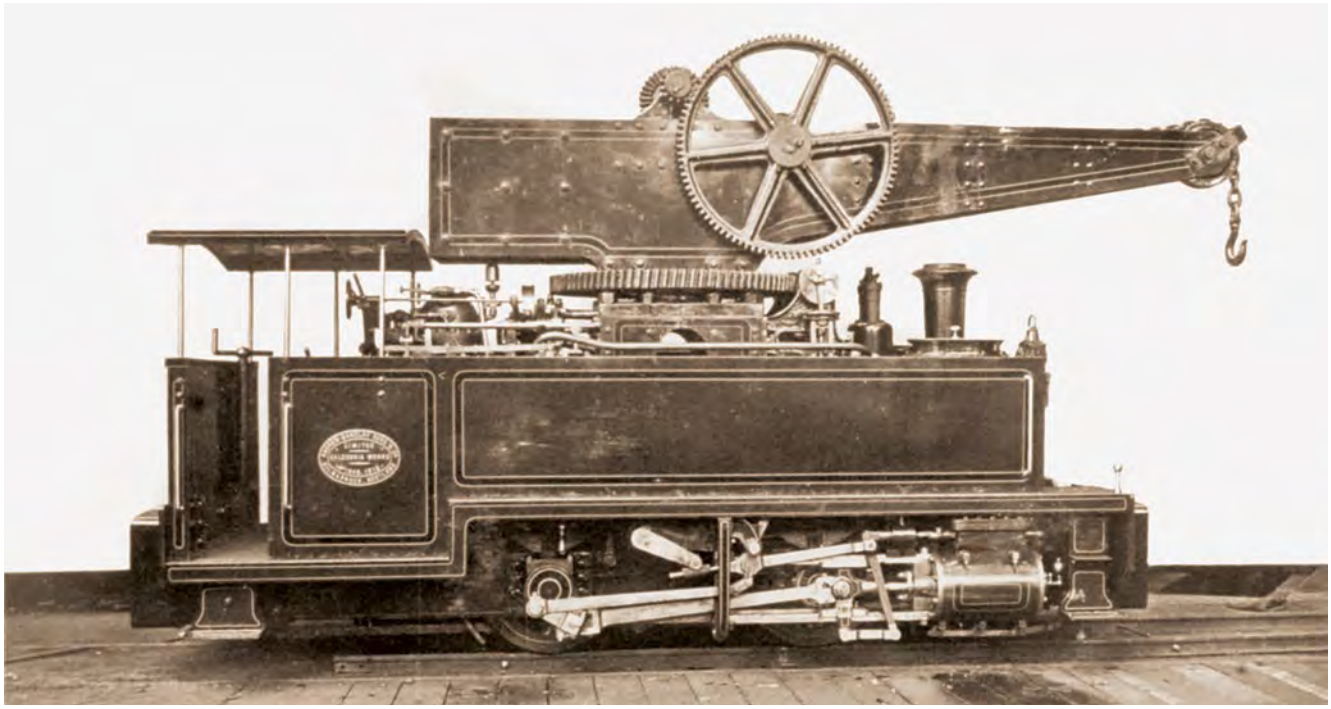
Built by Manning Wardle as builder's number 163 of 1865, 0-6-0, saddle tank, 4ft 8½in gauge.

Acquired, probably from Waratah Coal Co c.1897.

Worked at Yamba on building the southern breakwater at the entrance to the Clarence River; on forming and ballasting the new Wollongong-Port Kembla railway c.1915-1916.

Named *Iluka* at Clarence River, then *Tilly* at Port Kembla.

During 1919 sold through Mr Rogers of Newcastle to the Ashtonfields Colliery at Thornton.[11]



Builder's photograph of PWD No. 24, 3 ft gauge crane locomotive, 1913. Photo: R Horne collection.

From top to bottom, left to right:

> *Undated view of No. 25 at Port Kembla, ex-NSWGR 74N. The '7' and part of the '4' of the '74' are visible around the top of the front of the funnel. Photo: ARHSnsw collection Ref No 024017*

> *No. 26 at Port Kembla quarry, 27 July 1901. Photo: Author's collection*

> *Manning Wardle, builder's number 163 of 1864, still displaying its PWD number 26 after abandonment at the Thornton brickworks, date not known. Photo: E A Downs*

> *PWD No. 27 at Port Kembla breakwater construction. Photo: B Macdonald collection*

> *No. 27 after its cab had been enclosed – date unknown. Photo: G H Eardley*

> *No. 28 at Port Kembla. Photo: G H Eardley*

No 27

Built by Hudswell Clarke as builder's number 320 of 1888, 0-6-0, side tanks, 4ft 8½in gauge.

Worked on constructing Newcastle breakwater and Stockton breakwater. Arrived at Port Kembla Harbour works on 17 March 1907, St Patrick's Day, so named *Paddy.*

Numbered 27 and painted dark green in 1916.[12]

No 28

Built by Hudswell Clarke as builder's number 863 of 1908, 0-6-0, side tanks, 4ft 8½in gauge.

Acquired new during 1908 to haul trains of rocks from the Reid's Hill quarry to the Port Kembla breakwater construction.

Named *Kembla.*

Fitted with Westinghouse air brakes and worked 1920-1921 hauling passenger trains of NSWR carriages between Wollongong and Port Kembla.[13]

To NSWGR on 1 January 1949, to become ex PWD class tank type.

No 29

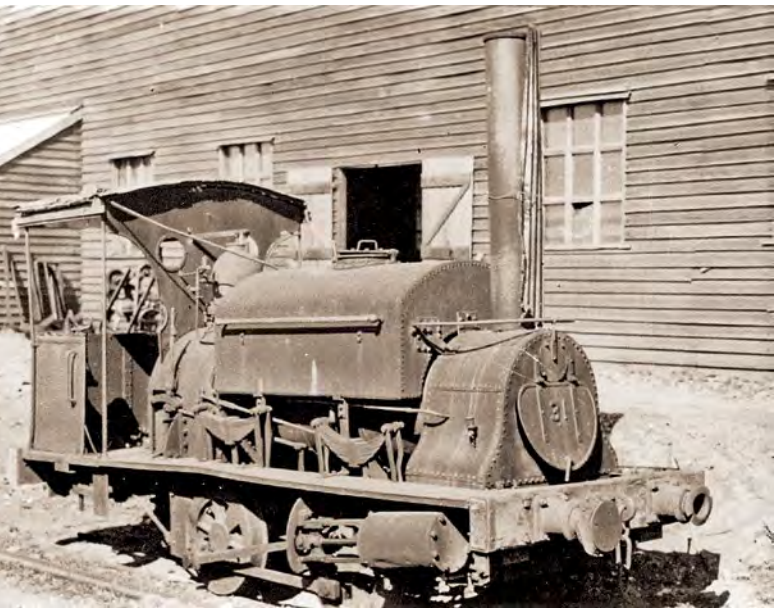
Built by Hudswell Clarke as builder's number 1006 of 1912, 0-6-0, side tanks, 4ft 8½in gauge.

Acquired new during 1912.

Named *Bingera*.

Fitted with Westinghouse air brakes and worked 1920-1921 hauling passenger trains of NSWR carriages between Wollongong and Port Kembla.

To NSWGR on 1 January 1949, to become ex PWD class tank type.



Top: *No. 29 at Port Kembla. Photo: G H Eardley.* ***Middle:*** *No. 30 at Reid's Hill, 1920s. Photo: R Horne collection.* ***Above:*** *No. 31 at Coffs Harbour outside the PWD workshop being used to generate steam, 7 August 1936. Photo: Tony Maston*

No 30

Built by Hudswell Clarke as builder's number 1007 of 1912, 0-6-0, side tanks, 4ft 8½in gauge.

Probably acquired new during 1912.

Named *Temora*.

During early-1948 transferred from Port Kembla to Moruya River entrance works.[14]

No 31

[Suggested identities for PWD No. 31 have included: Parkinson and Monaghan, builder's number 1 of 1895, 0-4-0, saddle tank;[15] Henry Vale, builder's number – of 1895, 0-4-0, saddle tank;[16] Morts Dock builder's number 36[?] of c.1880s.[17] All were of 4ft 8½in gauge. However, available material is too confusing to suggest a substantive conclusion.]

No 32

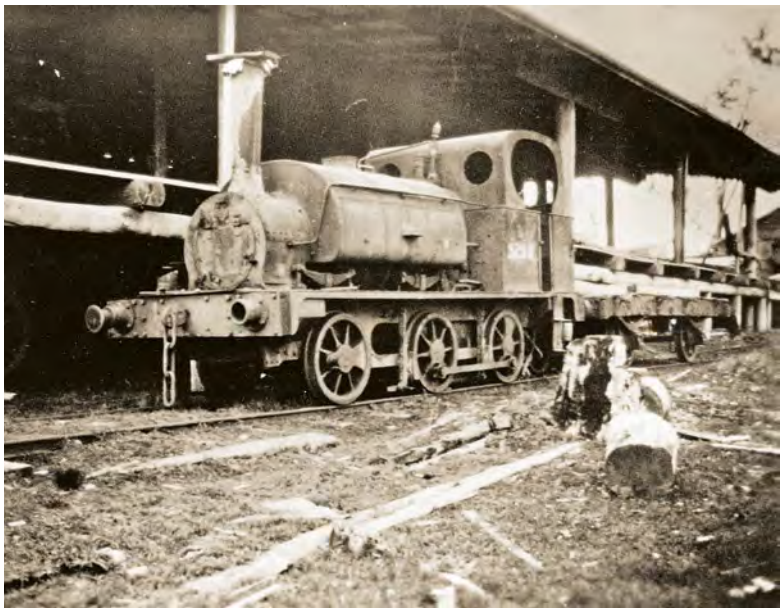
Built by Vulcan Foundry & Co Ltd, Leeds, builder's number 801 of 1877,[18] 0-6-0, saddle tank, 4ft 8½in gauge.

Acquired from the Corrimal-Balgownie Coal Company in July 1910, and used on constructing the Port Kembla northern breakwater.

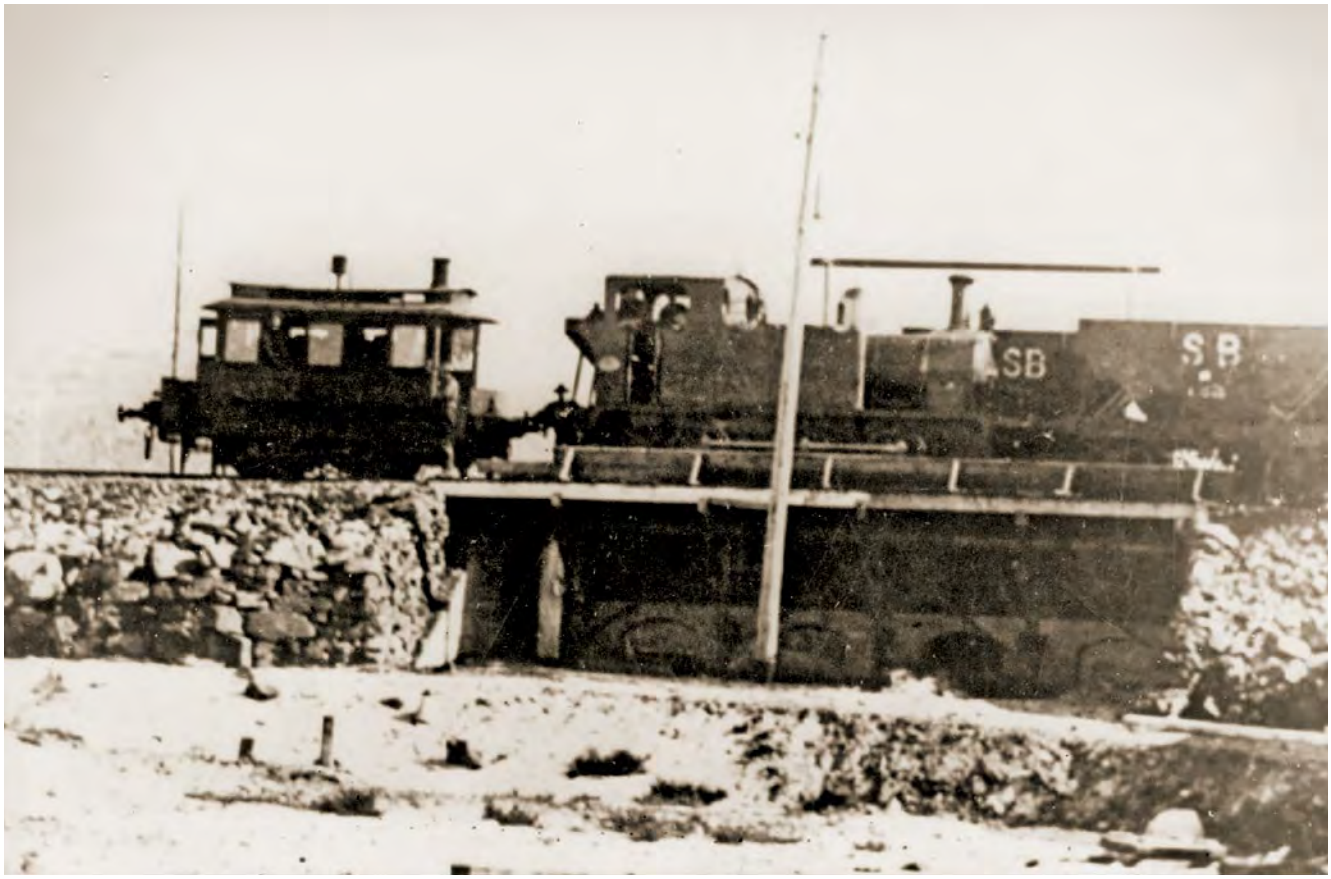
Named *Peggy*.

Sent to Gloucester and Craven State Sawmills line at Craven[19] in 1915, which was then part of the NSW PWD.

Disposed of to the Mackay Harbour Board in 1936.



Top: *No. 32 previously as 529-X at Eveleigh, date unknown. Photo: Former SRA collection.* ***Above:*** *No. 32 as ex-NSWGR 529-x at Craven on the forestry railway, c.1936, running as a 2-4-0. Photo: Former SRA collection*



No 33

Built by Baldwin Locomotive Works in Philadelphia, as builder's number 7135 of 1884, 0-4-0 steam tram motor, 4ft 8½in gauge.

Purchased from the North Bulli Coal Co in July 1912 for hauling coal wagons to the unloading hoppers at the shore end of the Port Kembla No. 2 jetty. Stabled at the running shed at Unanderra.

Crated up and sent to Randwick Tramway Workshops for complete overhaul and fitted with new boiler, after which was returned to Port Kembla; then possibly to Harrington.

No 34

Built by Andrew Barclay in Glasgow as builder's number 1312 of 1913, 0-6-0 side tank, 4ft 8½in gauge.

Worked at: Potts Hill No. 2 Reservoir; Homebush Sale Yards; Coffs Harbour improvement works. Transferred in 1919 to Port Kembla quarries.

Named *Dorrigo.*

Scrapped 1964.

Top: *Steam tram motor PWD No. 33, on left, and locomotive PWD No. 29, on right, shunting coal wagons at the base of the No. 2 jetty at Port Kembla, date unknown. Photo: Author's collection*
Middle: *PWD No. 34, date and location unknown. Photo: G H Eardley*
Left: *During December 1919, while a rock was being poled off its 4 wheel truck, No. 34 fell off the end of the breakwater which was being built at Port Kembla into the water. The locomotive was retrieved during February 1920* [20] *and repaired at the nearby PWD depot at Reids Hill. Photo: Author's collection*

No. 34 partly dismantled at Reids Hill depot, date unknown, Photo: ARHSnsw RRC collection No 217011

No 35

Probably built by Baldwin Locomotive Works, as builder's number 7388 of 1884, 2-6-0, tender, 4ft 8½in gauge. [Alternative identities for PWD No. 35 have been: Davenport Locomotive Co, builder's number 1513 of 1915, 0-4-0 saddle tank, 2ft gauge; Fowler & Co, Leeds, builder's number 16089 of 1913[21]].

If so, probably transferred from NSWGR to PWD in 1915, and from PWD to NSWGR in 1917.

No 36

Built by Baldwin Locomotive Works as builder's number 7387 of 1884, 2-6-0, tender, 4ft 8½in gauge.

To NSWGR on 31 December 1916, when located at Hamilton, to become Z294 class No. 294x.

…to be continued

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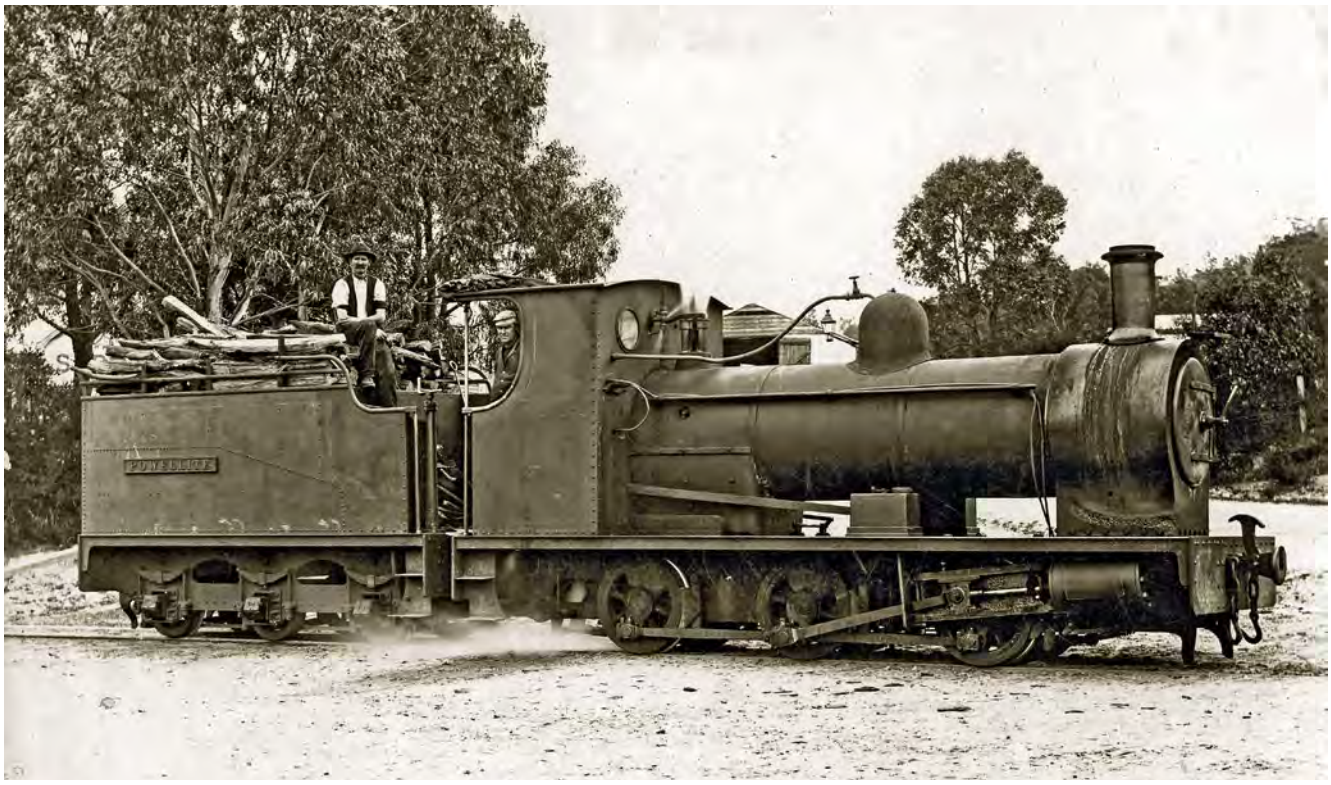
Comparison between NSWGR No. 295, on left, fitted with normal diameter driving wheels; and NSWGR No. 294, on right fitted with larger 55in diameter driving wheels for faster running, date unknown. Photo: ARHSnsw RRC collection 009887



An excellent side-on view of Powellite*, showing the engine's clean lines and no-nonsense style. Pictured at Yarra Junction circa 1930. Photo: Upper Yarra Valley Historical Society*

Ken Fall – Memories of Powelltown

Ken Fall, son of a Powelltown engineman, grew up hearing tales of the Little Yarra Valley and its fascinating narrow gauge railway.

As part of his research for his forthcoming new book 'Whistles Through the Tall Timber' which will cover the Warburton, Noojee and Powelltown railways, along with the associated timber tramways, Nick Anchen interviewed Ken Fall. This is Ken's story. The book is expected to be published in October this year.

In the early days pretty much everybody in the Little Yarra Valley was involved in the timber industry in one way or another, and sawmills were a big part of my family's history. My grandfather on my mother's side, George Worlley, was one of the major sawmillers in the district in the 1920s. He had a sawmill up above Gilderoy, and all his timber went down to the Gilderoy railway siding on a little tramway. It was loaded onto the Powelltown train which took it to Yarra Junction, and then on to Melbourne. At that time all the timber was used for building.

My grandfather on my father's side, Edward Fall, was foreman in charge of the Powelltown sawmill and the railway rolling stock, and in the late 1920s my father, Ted Fall, got a job at the mill. Dad then spent many years firing, and later driving engines between Powelltown and Yarra Junction.

Dad told me many stories over the years about his time as a Powelltown engineman. He used to say how important the train was to the area, because it shifted so much more timber than any road transport could, as the roads were just impossible at times. They were just mud. I think he enjoyed his time at 'Powelly', as the men always called the place, although it was hard work and long hours for low pay. But most jobs were like that in those days.

There were two engines that ran the Powelltown to Yarra Junction line. There was *Little Yarra*, which was the faster of the two, and *Powellite*, which was slower but more powerful, and a better engine for going up inclines. My father worked mostly on *Powellite*. He said, '*Little Yarra* was faster, but we'd catch them on the hills, no worries.'

I remember him saying how shockingly hot it could be in the tiny cab of *Powellite*, and how hard the work was, firing those engines on firewood. He said they had to be very sensible when driving the trains. You couldn't just slam the power on, you had to let the engines steam off gently, and then once it got going you could apply the power. The trains didn't go very fast, because they didn't have much in the way of brakes. Sometimes they got into trouble with braking, such as when they came downhill into Yarra Junction a bit faster than they should have. Then they'd put the engine into reverse and apply the steam, and slow the train that way.

As a very young lad in the early 1940s, I travelled on the 'Powelly' train, and I can still recall the train going along, taking trucks of timber into Yarra Junction, with the steam engine puffing away and the high pitched whistle blowing. I also loved watching the train going past my grandparent's property at Gilderoy. I can still to this day remember seeing the last train going through, when they closed the line, and all the people out beside the track to bid farewell. I don't recall any timber being hauled on this train, but I seem to remember the engine, *Powellite*, was hauling a few trucks with people on board.

Dad did lots of other work at Powelltown, such as helping to re-tube *Powellite*'s boiler. They put the copper tubes in and they had an expander, which expanded the tubes into the tube plate. There was a lot of maintenance done at Powelltown. If an an engine broke down, it had to be fixed. The mill didn't

Above: Powellite*, an 0-6-0 Bagnall locomotive hauling timber on the Powelltown tramway near Gilderoy in the 1930s. Photo: Upper Yarra Valley Historical Society*

Below: Little Yarra *at Powelltown in the 1920s. From left to right: Ted Fall Senior, engineer for the mill and rolling stock, Percy Adams, relief engine driver, Jack Edwards, engine driver, Mat Oreo, and Ted Fall junior. Photo: Ted Fall collection, courtesy Frank Stamford*

stop, and the timber had to be moved. They couldn't afford to have an engine down for too long, as no timber going out meant no money. The men would do their day's work, and if a job needed to be finished off after hours, they just had to keep on working and get it done. There was no such thing as overtime! It was a very rough time for the fellows who worked on those engines, keeping the maintenance up.

Dad also spent some time operating steam-powered winches out in the bush beyond Powelltown, moving logs to where they were being loaded onto the train. He also did maintenance work at the mill itself. I remember him saying, 'You did whatever job the boss told you to do.'

One day Dad had a bad accident at the Powelltown mill, and he lost his right leg. He was oiling up machinery underneath the mill, when his trousers got caught on a shaft, and his leg ended up getting mangled in the workings. He was in a bad way. They got him out and put him on the train, but the train had to wait until the timber was loaded. Then at Yarra Junction they loaded him onto the Warburton train which took him through to Lilydale, where he was put in a T model Ford ambulance and taken through to Melbourne. By that time the damage was done, because of course they never had the facilities to clean the wound properly at Powelltown. The doctors tried for six weeks to save his leg, but they finished up taking it off.

But it didn't stop him. He got a wooden leg, and he kept on driving *Powellite*. The engine never had a seat, so he had to stand up, and the stump of his leg would sweat so he'd be in pain. Dad was helped quite a lot by his workmates, who assisted him getting up and down from the cab and so on. He must have suffered tremendously, but there was no choice in those days. There was no welfare, so you just had to work.

Another thing my Dad told me was about the depression years. There was no work in Melbourne, so people used to come to the mill looking for a job in the timber industry. This one chap was given a start, wheeling barrows of sawdust. This fellow had been a jeweller in Melbourne, so his hands were very soft. Before work he'd wrap his hands in hessian, to stop getting blisters, but at the end of the day his hands would often be bleeding. So next day he'd wrap them up again, and off he'd go to work. That's just how it was in the depression years – men like these had to get tough very quickly. You were lucky to have a job, and if you didn't like it, there's the door, and another bloke was waiting to take your job.

The timber industry could be pretty dangerous in those days. Another story involved runaway log bogie coming downhill from The Bump, heading for Powelltown. A brakeman was riding a log, but the brakes failed, and the bogie got up to quite a decent speed, so he jumped off. When the bogie rounded one of the corners it left the rails, and the log flew down into the valley and buried itself 15 feet into the ground, so the brakeman would have been killed for sure if he hadn't jumped off. But the poor fellow lost his coat that day. He had hung it on the end of the log – the end which was driven into the ground, so that was the end of that!

Another story my Dad related was about a chap doing the high tree climbing, with just his climbing spurs and a bit of rope. This fellow climbed the tree and started taking the top off, about 60 or 70 feet up, but when he was nearly finished the tree began to spilt, which meant the rope would have pulled him into the tree trunk and crushed him. He thought quickly. He grabbed his axe and cut the rope, and then hung onto the tree like grim death. Once the tree had stopped swinging backwards and forwards, he climbed up on top of the tree and spliced the rope back together, before climbing back down. They must have had nerves of steel, those men.

After Dad got married in the late 1930s, he left 'Powelly' and went to work for his father-in-law, George Worlley, on a sawmill at Hoddles Creek. He worked the steam engines, as he had all his steam tickets. The timber from this mill was taken out by truck to the station at Woori Yallock.

Later, in the 1960s, he worked at the Witnish and Milner sawmill at Yarra Junction. I worked with him at that mill, on the saw bench, and I ended up working at various sawmills for about fifteen years all up.

High in the mists of the Star Mountains, the muck tippling facility at Papua New Guinea's Ok Tedi mine, dumping MEL bogie rollover muck bins shunted by one of the two ex-TML Schöma CFL150DCL, this one with some significant modifications - an extra ballast slab on the deck-plate and an 'alfresco' open cab. Photo: Courtesy Mining Equipment Ltd.

Schöma tunnel locomotives in Australia, NZ and PNG
Part 2

by Philip G Graham

Part 1 of this article appeared in LR 262 in August 2018 and covered the first Schöma locomotives used in Australia and their use on the construction of the Sydney Airport rail link line. This article looks at their use in Perth, the OK Tedi mine in Papua New Guinea and an overview of recent projects in New Zealand.

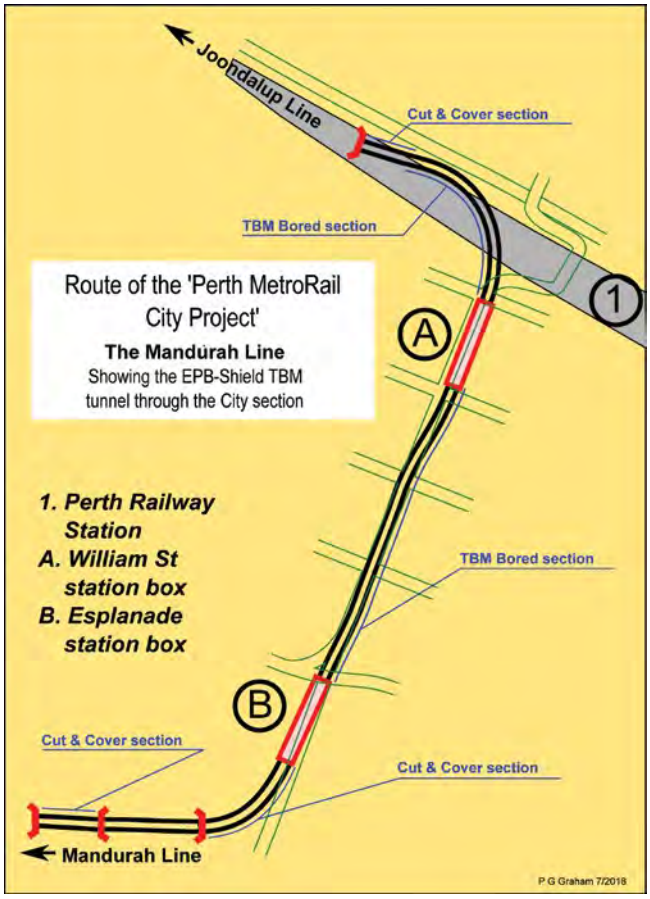
Background

In Western Australia, the construction of the Perth MetroRail through the CBD and to the southeast of the city saw a late 2004 arrival in Australia of a batch of Schöma tunnel locomotives, starting their third deployment. Ten locomotives of model type CFL180DCL had been built new for an Indonesian project for use on spoil disposal duties supporting a tunnel boring machine (TBM) driven pressure tunnel and the drill-and-blast excavation of a power station cavern in Sumatra. The Singkarak Hydro Electric Power Project, near Padang was a 500 MW installation undertaken for Perusahaan Umum Listrik Negara and included a 16.5 km long headrace pressure tunnel to the power station caverns, of which 7 km was excavated with a Robbins hard rock TBM in open gripper configuration. Tunnel locomotive duties included personnel movement, muck trains, tunnel lining material supply and the movement of shutters and formwork during the tunnel lining phase.

The international consortium consisting of Dumez-GFTM International (France), Impregilo SpA (Italy), and PT Istaka Karya Sumatera Barat (Indonesia) had members experienced with the use of Schöma locomotives and the CFL180DCL standard design was based on previous well-proven, reliable units.

These locomotives were built to the industry standard 900 mm gauge and had their weight adjusted up to 25 tonnes using detachable ballast weights. A Deutz F8L413FW engine rated at 136 kW was fitted, combined with a Clark-Hurth hydrodynamic transmission. Although for work in a tropical country, the units were unusually built with enclosed cabs (with bidirectional vision) and lateral glazed doors.

At the end of the project in Sumatra the locomotives were dispersed to various locations, some being returned to Europe, but a number remaining in storage on site. These locomotives were then picked up by the Japanese-based contractor Kumagai Gumi which was gathering equipment for an upcoming project in Taiwan. It is not clear how many of the Singkarak Schömas went from Sumatra to Taiwan for the tunnelling contract issued by Taiwan Power for the New Wuchieh Diversion Tunnel, Sun-Moon Lake, Yuchi, Nantou. With the project located in a tropical region, it is assumed a climate-based decision led to the removal of all cabin window glass and the cabin doors themselves on the ex-Sumatran CFL180DCL locomotives.



Perth MetroRail project

Kumagai Gumi was already well-known for a range of diverse construction jobs carried out in Australia over several decades when it teamed up in a joint venture with Leighton Contractors to build a portion of the Perth MetroRail City Project for the Public Transport Authority of WA, the section traversing the city for the Southern Suburbs Railway running to Mandurah, incorporated two parallel 744 m bored tunnels with approximately 600 metres of combined cut-and-cover approaches topping and tailing the bored section.

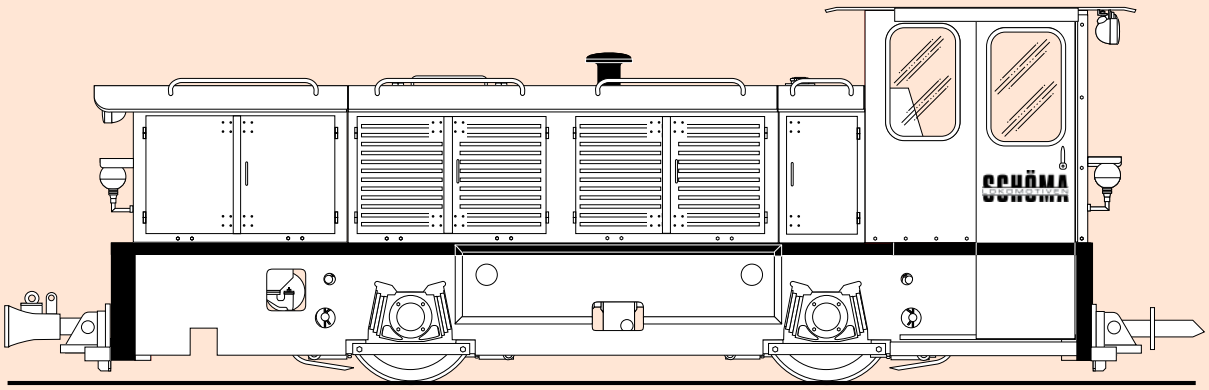
For Drive I the Mitsubishi/Terratec Earth Pressure Balance TBM was launched in October 2005 from the north wall of the Esplanade station box journeying to break through into the concrete station box for the William Street platforms in February 2006. Despite unforeseen circumstances and industrial action delays, the TBM was then pushed through to the north end of the station box, and by early May 2006 had broken through the northern diaphragm wall. It continued its journey to a concrete retrieval box in the Perth rail yards, Northbridge, just south of Roe Street, arriving in June 2006. Its work was not done however, and in preparation for Drive II, the TBM was disassembled and transported back to the Esplanade station box. After six weeks of reassembly, it launched in July 2006 and arrived at the William Street station box in September 2006, inched through to the north wall and launched again to complete the second bore along the parallel route by October. The entire tunnel section including the TBM section and cut-and-cover approaches was built between February 2004 and September 2007. Esplanade station box is now Elizabeth Quay; William Street station box is now known as Perth Underground.

The three Schöma CFL180DCL locomotives ex-Taiwan had already seen tough working environments prior to their Perth mission, with missing or patched-up engine hood doors and the aforementioned lack of glazing, but were still mechanically sound. The engine air intakes had been retracted into the hood body. One of the units, #2 (5284 of 1992) sported a crude modification to raise the height of the roof of the driver's cabin, made easier by the lack of cabin glazing, to enable the driver to see over the engine compartment hood and muck bin rim when in a standing position. The remaining two units were subsequently similarly modified in WA. Their duties were to handle the muck disposal trains which were using detachable lift muck boxes carried on flat cars, as well as transporting the segment sets to form each tunnel ring. On completion of the contract the locomotives were put up for sale, but the author has not been able to trace their further movements.

Ok Tedi mine drainage tunnel

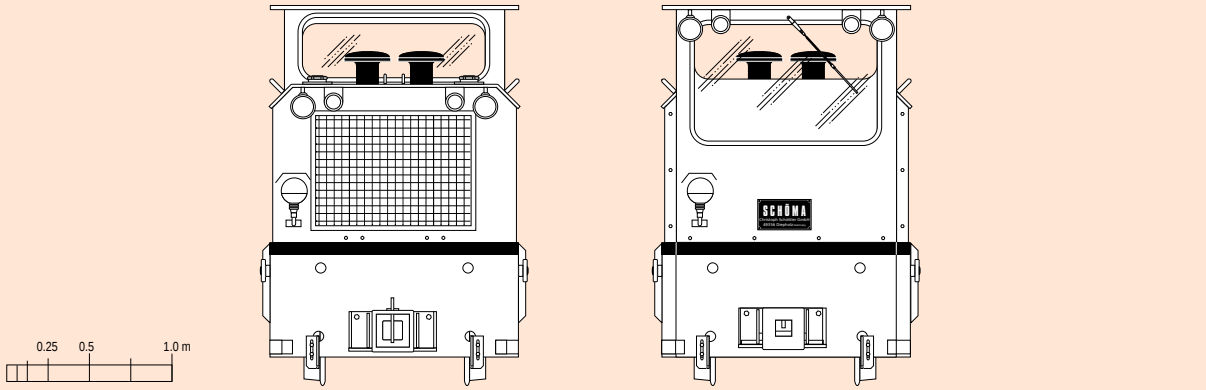
The next Schöma tunnel locomotives to turn up in the Australian neighbourhood were the unique type CFL150DCL that were used on a 2008 mine drainage tunnel project for the Ok Tedi gold and copper mine in the Western Province of Papua New Guinea. These locomotives had a circuitous route to this project. They were built in 1990/1991 for the Transmanche Link (TML) joint venture building the dual tube railway tunnel under the English Channel. They were

On completion of the Perth MetroRail tunnel boring operations, the three Schöma CFL180DCL locomotives were stored for a period on the surface at the site of Esplanade station pending further disposition. #3 (Schöma 5283 of 1992) illustrates the various modifications made during its harsh working life. No glazing or cab doors, heightened cab roof, replaced and rearranged mesh hood doors. Improvised fire extinguisher system for engine hood. Photo: Jeff Austin, 22 November 2006



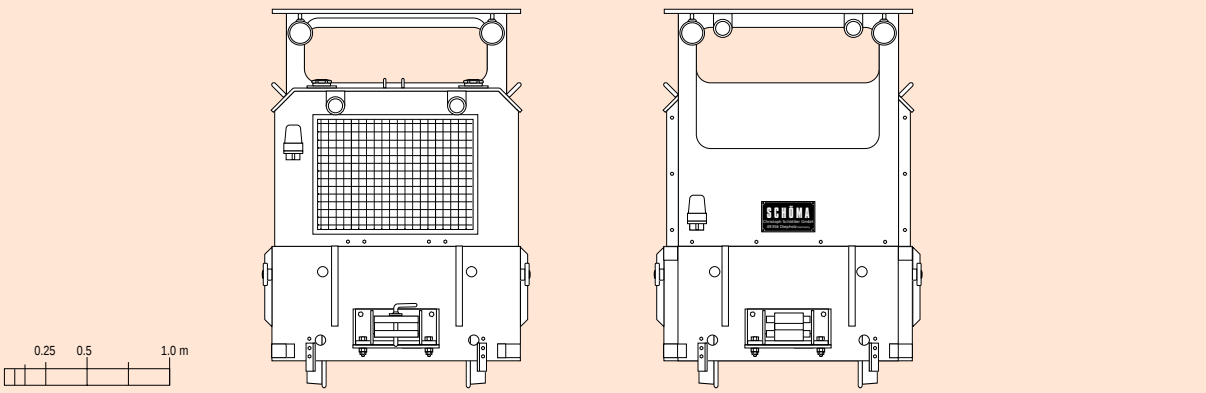
5280-5286, 5305-5307

Schöma Model Type CFL180DCL — Built new 1992 for Indonesia--Dumez (C), Singkarak HEP Sumatra



5280, 5283, 5284

Schöma Model Type CFL180DCL — Re-used 2006 for Australia--LCKG jv, Perth MetroRail City Project (via Taiwan)



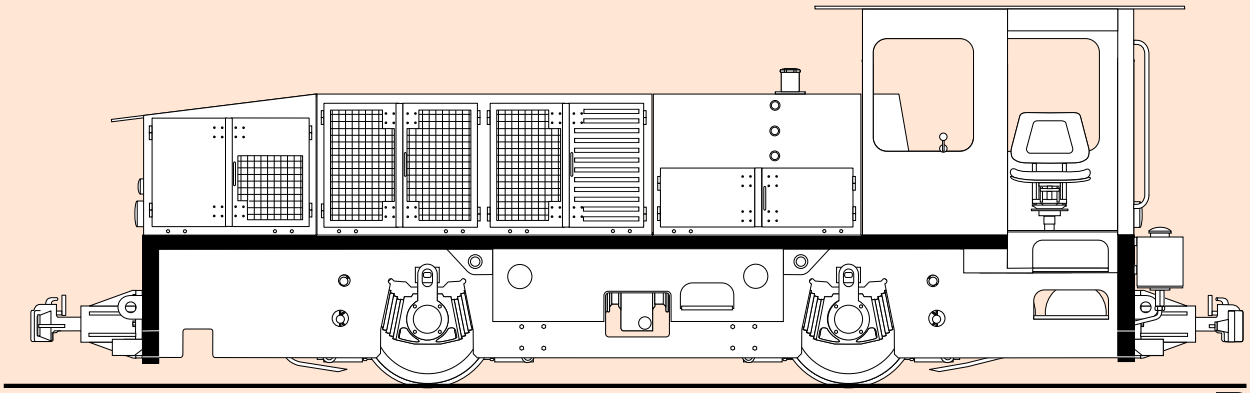
Deep in the Singkarak Hydro Electric Power Project power station caverns in Sumatra, access to the construction of a 16.5 km long headrace pressure tunnel is serviced by #176DL-11 (Schöma 5286 of 1992), one of ten Model Type CFL180DCL of which three will be destined for further service in Perth, WA. Photo: The late Ray Gardiner Collection

part of the huge fleet of construction equipment assembled for this momentous undertaking, which included 55 Schöma locomotives of several different types. The design of the CFL150DCL was derived from the earlier CFL180DCL which had restricted driver's vision when looking out over the engine compartment. During the life of the TML project, the redesign of the CFL180DCL through several iterations rendered a much improved driver's cabin with ample bi-directional vision. This was then adopted for further CFL180DCL units and the new CFL150DCL. The latter was further refined with a Deutz F6L413FW engine of compact profile and narrower engine hood including a unique sloping hood roof to the forward engine compartment. It was intended to make use of the improved vision during fitting-out tasks in the undersea tunnels, leaving the hard slog of the muck haulage and segment supply to the more powerful CFL180DCL.

By 1993 and the completion of the TML tunnelling phase, all 18 members of the CFL150DCL type had been returned to the Schöma factory in Germany. Schöma had commenced a buy-back option scheme whereby the used locomotives could be stored at a nearby facility and overhauled or modified to a new customer's requirements as required. In 1994 five of the CFL150DCL were picked up by the construction firm Taylor Woodrow Civil Engineering Ltd (TWCE) for its contract with Southern Water for the Brighton & Hove Stormwater Tunnel, Black Rock shaft in England. The locomotives were overhauled and remained in the same configuration as used on the Channel Tunnel project. At the conclusion of the Brighton project in 1997 these five locos were stored at the TWCE Southall Plant Depot, London and advertised for sale.

To Papua New Guinea via Atlanta, Georgia

The ready availability of a large amount of equipment lingering from the Channel Tunnel project had attracted interest from North America and, in this case, a sale to the United States dealer Mining Equipment Ltd (MEL) was made. Based out of workshops in Farmington, New Mexico, the Durango, Colorado, firm of MEL were heavily involved in the supply of new and used equipment, both locomotives and rolling stock, to the mining and tunnelling industries in North and South America, throughout the Persian Gulf, Asia and the Pacific region. While the transaction was made in 2001, there was a delay in shipment to the USA,



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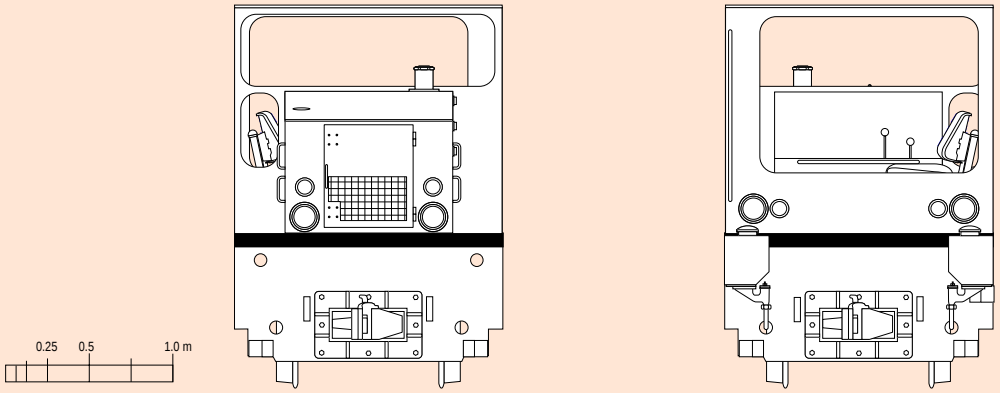
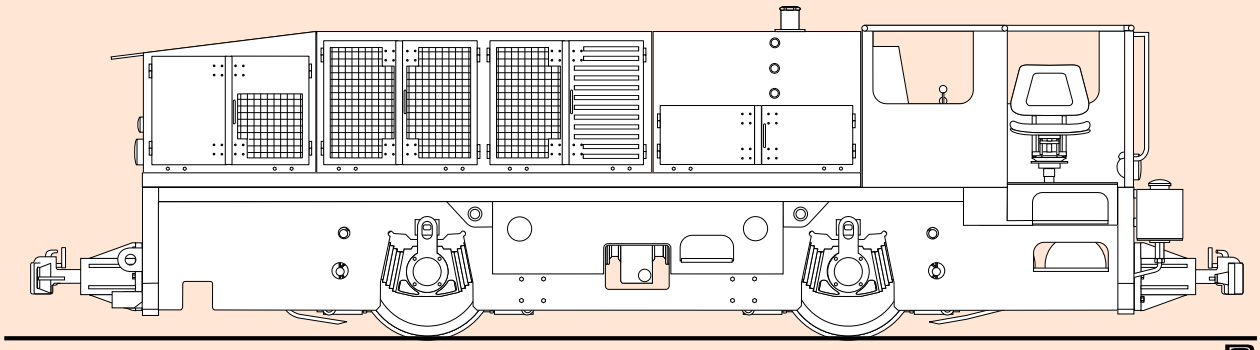
Schöma Model Type CFL150DCL — Modified 2008 for PapuaNewGuinea--Mine Drainage Tunnel Alliance, Ok Tedi Gold & Copper Mine





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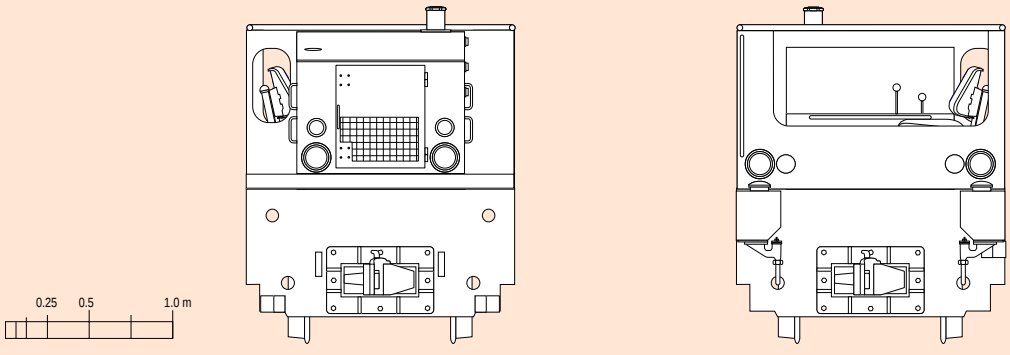
Schöma Model Type CFL150DCL — Modified 2008 for PapuaNewGuinea--Mine Drainage Tunnel Alliance, Ok Tedi Gold & Copper Mine



during which time the five units were moved to Manvers Engineering, Broomhill, South Yorkshire for prototype overhaul and revision (of which only one was completed). All had been shipped to the USA by early 2002.

Among several projects, MEL had been assembling a rail-based solution for a wastewater and sewer project at Nancy Creek, in Atlanta, Georgia. The operational requirements for projects in North America led to some interesting alterations to the Schöma locomotives. Most US-built tunnelling locomotives have open cabs, a few fitted with only a tell-tale pole to protect working clearances, drivers mostly standing while driving the locomotive. As built the CFL150DCL had fully glazed driver's cabins with a single lateral siding door access on the left hand side only, with the driver being seated while operating the locomotive. A front window, hinged at its top to open out in an emergency, had been developed by consultants to the TML project. For their use in North America, all the window glass was removed, a new static front window opening remaining slightly offset, and the sliding door removed, rendering the cabin open to the elements. For one of this batch further drastic modification saw the cabin roof removed and a hydraulic reach arm mounted on a small platform fitted to the rear end plate. The arm could be used to support a fitment for shotcreting or as a limited capacity materials handling crane.

Two variations of modified Schöma CFL150DCL

At the conclusion of the Nancy Creek project in Atlanta, the locos were available for MEL to allocate to further projects. In 2008 along with a solitary Plymouth Model DMD, 15 Ton, 36" gauge locomotive powered by a Caterpillar Model 3306 Diesel engine, two of the CFL150DCL were selected for the Ok Tedi project in Papua New Guinea. Despite much exhaustive and frustrating research this author has not been able to resolve the exact identities of this pair save for the fact that they are from within the batch of serials 5204 to 5208, the engines have been exchanged during overhaul and the Schöma builder's data plates long since removed from their position inside the cabin. They represent one of each North American modification - the deglazed roofed unit, and the roofless unit, the latter possibly being the Nancy Creek unit with the reach arm removed. This assumption is reinforced by the fact that locating tabs at the outer bottom of each side of the rear of the frame, for use with sledging skids, have been removed where the reach arm platform would have been attached. It also had additional ballast weight in the form of frame plate installed on top of the deck-plate with the engine hood shell raised by the same amount. Whether this was done for the Ok Tedi job or prior is not known, but the companion deglazed roofed unit was not similarly modified.

To cater for drainage with dewatering shafts of Ok Tedi's Mt Fubilan Open Pit in this high rainfall area, drainage tunnel works were undertaken from 2008, part of an underground drive development beneath the Open Pit area. Current underground operations are limited to ensuring the drainage tunnel continues to provide for drainage of the Open Pit. The Mine Drainage Tunnel Alliance joint

The provenance of the Ok Tedi units ***Top left:*** *Brand new awaiting shipping to TML from Diepholz, CFL150DCLs, "Elke" and "Lorraine" (5206 & 5205 of 03.1991). Photo: Ulrich Völz* ***Bottom left:*** *The variation with a hydraulic reach arm and cut-down cabin at MEL, Farmington, New Mexico. Photo: Courtesy MEL Official* ***Top right:*** *Still in original condition working in the Black Rock shaft, Brighton UK. Photo: Bob Darvill* ***Above right:*** *As an MEL unit now devoid of window glass and door in the Nancy Creek tunnels, Atlanta, Georgia. Photo: Gordon Certain*

venture was carried out by Ok Tedi Mining and Redpath Mining, the latter a well-known contractor in the mining industry. A Robbins Main Beam Open TBM was used to bore 3.6 km of drive between September 2008 and May 2009, but due to extreme ingress of water the balance of the drive was completed by drill & blast. To handle the mined muck, a fleet of 914 mm gauge MEL rollover hi-side bogie wagons were employed with wagons being discharged by a MEL-supplied rotary tippler. The locomotives were originally set to 900 mm gauge. However, given that the difference to three feet (914 mm) gauge is minimal the wheelsets are easily adjustable in profile. It is unclear where the two CFL150DCL units went on the completion of the Ok Tedi project.

Across the Tasman Sea, there were two TBM projects being executed along similar timelines. Incredibly the two projects had a binding connection with Greece in that the Schöma tunnel locomotives used either came from or went there.

Auckland cable tunnel

In Auckland, New Zealand, Mercury Energy needed a high voltage cable tunnel to be constructed from the Hobson Substation to the Penrose Substation in the Central Business District over a length of 9.2 km. This project utilised both one of the double shield TBMs, and two of the Schöma tunnel locomotives used on an earlier project completed in Greece in the 1990s, the 30 km long Evinos-Mornos Transfer Tunnel. This was part of a scheme to provide potable water supply for the Greek capital, Athens, connecting two reservoirs in the southwestern region of the mainland. The Greek/Italian/Austrian Evinos joint venture used four TBMs and four Schöma tunnel locomotives. One of the joint venture partners, SELI, retained options on this equipment for possible use on further projects.

The tunnel section between Hobson Substation to Newmarket (2.5 km) was excavated with a road header and the section from Penrose to Newmarket (6.7 km) was excavated with the Robbins TBM from Greece.

The two ex-Greece Schöma Model Type CFL180DCL with serials 5337 and 5338 of 1993 were of the very low

profile design needed to work within the restricted inside diameter clearances within the tunnel. In Greece they operated without a roof over the driver's position and were set to 750mm gauge. In New Zealand the gauge was adjusted to 762 mm to match locally available track fittings. Mechanically the standard equipment for the 25 tonne CFL180DCL was fitted - a Deutz F8L413FW rated at 136 kW combined with a Clark-Hurth hydro dynamic transmission. Provision was made to fit track brake apparatus. At the conclusion of the Auckland project, the locomotives were returned to SELI's Aprilia home base in Italy along with the dismantled TBM. Further service on other projects is not known. [1]

On site in Greece, one of the potential Auckland low profile CFL180DCL tunnel locos displays the roofless driver's position and the provision for track brakes - to be fitted in the slot between the driving axles. The prominent pipe in the engine compartment leads down to the exhaust scrubber apparatus in the forward section of the underframe. Photo: Courtesy Schöma Official

Manapouri II hydro-electric

New Zealand's next major tunnelling project where a TBM was supported by Schöma tunnelling locomotives, was the Electricity Corporation of New Zealand's expansion of the existing Manapouri hydro-electric power scheme on the South Island. The plan included a second 9.6 km long tail-race tunnel connecting the underground power station at Lake Manapouri to its discharge point into Deep Cove in Doubtful Sound, a fiord connecting to the Tasman Sea.

Truly in hydro country, the coastal portion of the Fiordland National Park is blessed with around 7.6m of annual precipitation. There were problems with the original tail-race tunnel where friction of discharge water meant that the designed power output was not achieved. A desire to overcome this issue led to the Manapouri II hydroelectric scheme second tail-race tunnel executed by the Fletcher/Dillingham/Ilbau joint venture which started tunnelling June 1998. Built by Kvaerner-Markham (U.K.), the Robbins/Markham TBM had a boring head of 10.05 m outside diameter. The new tunnel ran parallel to the original for 9.8 km and was completed when the TBM broke through after 33 months.

Previous tunnelling projects in NZ, as well those in the local coal mining industry, used the common gauge of 1067 mm where tunnel clearance restrictions were not a problem. Two new locomotives were ordered from Schöma, requiring modification to meet NZ specifications - 5566 and 5567 of 1998. For the otherwise standard Schöma Model Type CFL180DCL locomotive which normally ran a track gauge of 900 mm, the design was adapted with modifications to the under-frame, using gauge adapter plates in conjunction with shims to deliver the 1067mm gauge. By using these bolted-onto-the-frame axle box horn guides, conversion to other wider gauges could be easily made if required. Extra modifications added later included wider running boards on the deck-plate and at the cabin entrances.

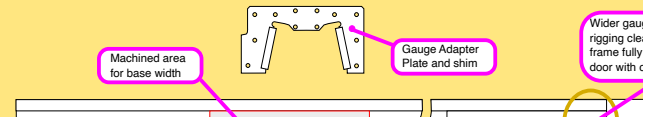
Shortly after the project was under way, an additional locomotive was required, and Schöma serial 5446 of 1995 was modified to 1067 mm gauge. This CFL180DCL had been of a standard configuration necessitating extra work to the underframe to match the new-build units 5566 and 5567. Starting life in the UK on the Heathrow Express Rail Link Project with Costain Taylor Woodrow, after the Manapouri II project this unit languished in storage for several years in Auckland before a job in Hong Kong saw it altered back to 900 mm gauge.

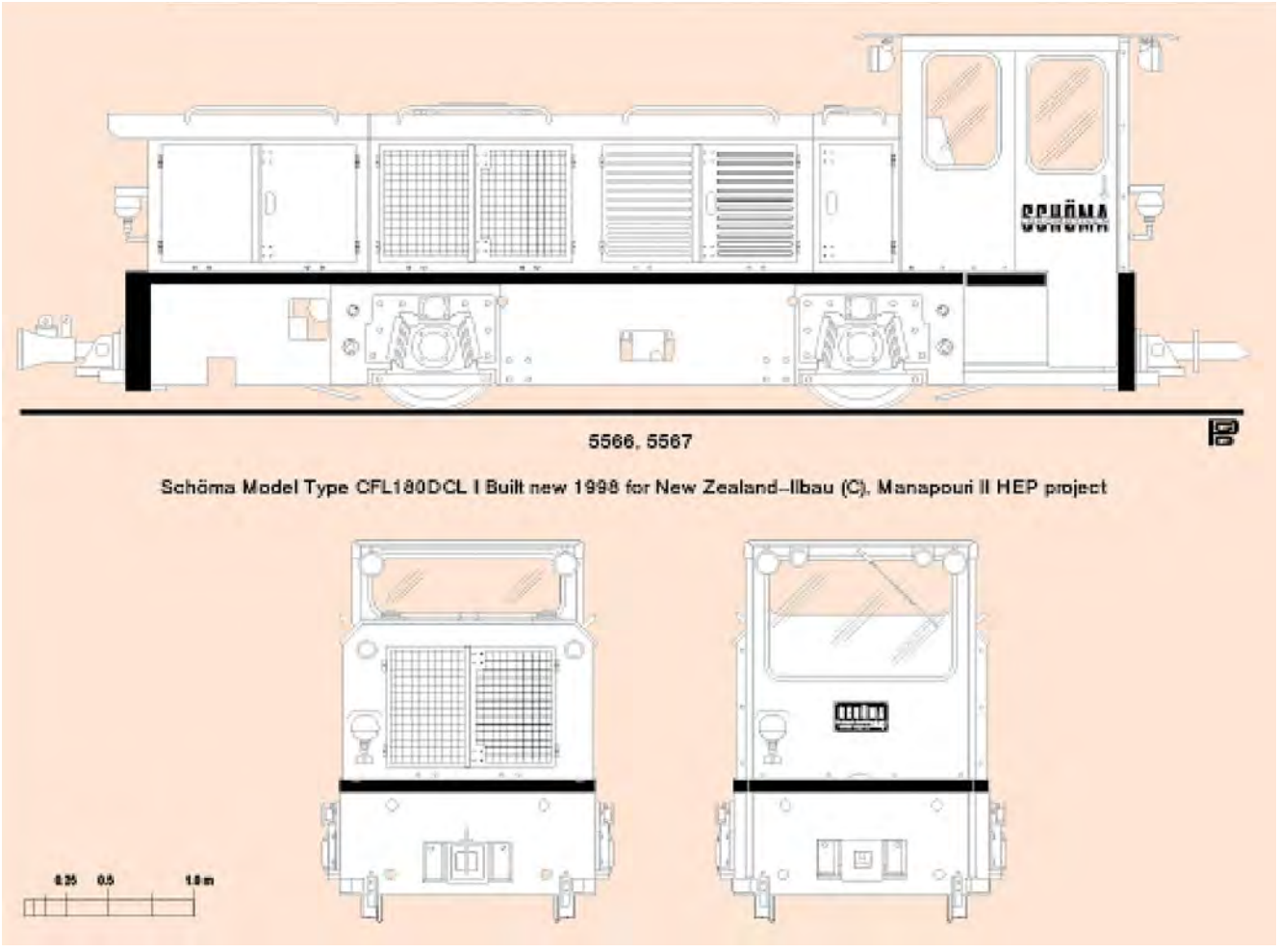
Schöma CFL180DCL with gauges above 900mm - 950 mm, 1000 mm, 1050 mm a 1067 mm. Frame is modified to cater for conversions to any of these wider gauges

ABOVE RIGHT: Schöma 5284 shows the size of the door clearance inset. Brake setting access holes still in same position.

ABOVE LEFT: Schöma 5170 shows the standard frame for 900 mm gauge and under - with provision for the wider sliding door, the frame partly inset, still with brake rigging access holes.

STANDARD FRAME





Above left: *The third Schöma (5446 of 1995) from the Manapouri II project, with 'Pacific Tunnelling' markings and a Plant Number #145, was placed in storage by 2004 at Fletcher's Auckland, North Island machinery compound until a buyer could be found. Photo: Alain Ballmer, 19 June 2005*

Above right: *By 2011 Schöma 5446 had been advertised for sale in a Dragages-Hong Kong West Drainage Tunnel auction catalogue, by which time it had been converted back to 900 mm gauge. Photo: Author's photo collection*

The widely travelled Kiwis

Used for track rehabilitation in Greece on the OSE Peloponnese metre-gauge rail system - Kórinthos-Trípolis-Zevgolatio-Kalamata line 2008-2012.

Right: *Schöma #E7 (5566 of 1998) at Eleochori, Arcadia, 31 August 2007, soon after the project commenced. Note the protruding axle boxes and lifting dowels, along with the extended walkways on an otherwise narrow gauge tunnel locomotive. Photo: Yiannis Zartaloodes*

Below: *Arriving at the Achladokambos, Arcadia, worksite 18 January 2008, the OSE railcar transporting track workers is preceded by ex-NZ Schöma #E8 (5567 of 1998). Photo: Christos Zacharis*

Schöma Tunnel Locomotives exported to Australasia/Oceania – New, Used, Disposals and later Re-sales (Part 2)

Maker Serial Nr Order Yr Model Axles Type Power Weight Gauge Shipping Date Initial Customer & Plant Number Disposition (below)

Schöma **5204..*** 1991 CFL150DCL -B- dh 139 PS 21t 900 .02.1991 GrtBrt--Transmanche Link, Shakespeare Cliff #RS 051 *Lynsly*
- ➔ _/9x Schöma, Diepholz;
- ➔ _/94 GrtBrt--Taylor Woodrow Civil Engineering Ltd (TWCE) (C) #2 *Jane* - Southern Water, Brighton & Hove Stormwater Tunnel, Brighton GB, Black Rock shaft - Howden TBM-EPB 3.56 m od x 5 500 m (_/93~_/97) (Seen: 8/94);
- ➔ _/9x GrtBrt--Taylor Woodrow Civil Engineering Ltd (TWCE), Southall Plant Depot, London GB. Stored;
- ➔ 11/00 GrtBrt--Acquired by Mining Equipment Inc (D), Farmington NM, US. Moved to Manvers Engineering, Broomhill, South Yorks. GB for storage and preparation for shipment to USA;
- ➔ 2/02 USA--MEI (D), Farmington NM US;
- ➔ _/03 USA--Nancy Creek Sanitary Sewer Tunnel Project, City of Atlanta GA, Dept of Watershed Management/DeKalb County/Fulton County GA US - Nancy Creek Constructors jv=Obayashi Corp/CJB Contracting (C) - (i) Clayton to Roswell Road{LS} to Clayton: Robbins TBM Main Beam #1610-279/3 5.5 m od x 7 989 m (_/03~_/04); (ii) Roswell Road{LS}~Johnson Ferry: Robbins TBM Main Beam #1812-299/1 5.5 m od x 5 016 m (8/03~8/04;
- ➔ _/0x USA--Mining Engineering Inc, Farmington NM (D) for rebuild and overhaul;
- ➔ _/08 PapuaNewGuinea--*One of either **5204, 5205, 5206, 5207** or **5208** (See Notes below)

Schöma ..**5208*** 1991 CFL150DCL -B- dh 139 PS 21t 900 .1991 GrtBrt--Transmanche Link, Shakespeare Cliff #RS 055 *Christine*
- ➔ _/9x Schöma, Diepholz;
- ➔ _/94 GrtBrt--Taylor Woodrow Civil Engineering Ltd (TWCE) (C) #1 *Elaine* - Southern Water, Brighton & Hove Stormwater Tunnel, Brighton GB, Black Rock shaft - Howden TBM-EPB 3.56 m od x 5 500 m (_/93~_/97) (Seen: 8/94);
- ➔ _/9x GrtBrt--Taylor Woodrow Civil Engineering Ltd (TWCE), Southall Plant Depot, London GB. Stored;
- ➔ 11/00 GrtBrt--Acquired by Mining Equipment Inc (D), Farmington NM, USA. Moved to Manvers Engineering, Broomhill, South Yorks. GB for prototype overhaul and revision (only one completed), then preparation for shipment to USA;
- ➔ 2/02 USA--MEI (D), Farmington NM US;
- ➔ _/03 USA--Nancy Creek Constructors jv, City of Atlanta GA US, Nancy Creek Sanitary Sewer Tunnel Project;
- ➔ _/0x USA--Mining Engineering Inc, Farmington NM (D) for rebuild and overhaul;
- ➔ _/08 PapuaNewGuinea--*One of either **5204, 5205, 5206, 5207** or **5208** (See Notes below)

Schöma ..**520x..*** 1991 CFL150DCL -B- dh 139 PS 21t 900 .1991 GrtBrt--Transmanche Link, Shakespeare Cliff #RS *xxx*

Notes: Exact identity for PapuaNewGuinea unit not confirmed. Previous histories detailed above.
- ➔ _/0x USA--Mining Engineering Inc, Farmington NM (D) for rebuild and overhaul;
- ➔ _/08 PapuaNewGuinea--Mine Drainage Tunnel Alliance, Ok Tedi Gold and Copper Mine, North Fly District, Western Province PNG, Mine drainage tunnel (3 drives) - MDTA jv=Ok Tedi Mining/Redpath (C) - Robbins TBM-Main Beam Open #1410-251/3 5.57 m od x 3 554 m (9/08~5/09)

Schöma **5280** 1992 CFL180DCL -B- dh 135kW 25t 900 .1992 Indonesia--Dumez (C) for Singkarak HEPP jv, Sumatra #176DL-01

Notes: Perusahaan Umum Listrik Negara (PLN), Singkarak HEPP,Pariaman (Padang), Sumatra ID - Impregilo/Dumez-GTM International/PT Istaka Karya Sumatera Barat jv (C) - Robbins TBM Main Beam Open Gripper 6.125 m dia x 7 000 m (_/93~_/97)
- ➔ _/00 Taiwan--Kumagi Gumi Co - New Wuchieh Diversion Tunnel (Taiwan Power), Sun-Moon Lake (Yuchi) Nantou TW - New Asia/Kumagi jv - Robbins TBM-Main Beam Gripper #161-279/2 6.2 m dia x 6 300 m (4/00-6/02);
- ➔ 10/04 Australia--LCKG jv #1 (seen: 11/04, 6/05), Perth MetroRail City Project, Public Transport Authority, Perth WA AU, Package F, Esplanade~Perth Yard - LCKG= Leighton Contractors/Kumagi Gumi Co Ltd jv (C) - Mitsubishi EPB TBM #1649 6.9 m dia x 2 x 744 m (10/05~9/06). Loco advertised for sale 2006;

Schöma **5283** 1992 CFL180DCL -B- dh 135kW 25t 900 .1992 Indonesia--Dumez (C) for Singkarak HEPP jv, Sumatra #176DL-06
- ➔ _/00 Taiwan--Kumagi Gumi Co - New Wuchieh Diversion Tunnel (Taiwan Power);
- ➔ _/04 Australia--LCKG jv #3, Perth MetroRail City Project;

Schöma **5284** 1992 CFL180DCL -B- dh 135kW 25t 900 .1992 Indonesia--Dumez (C) for Singkarak HEPP jv, Sumatra #176DL-07
- ➔ _/00 Taiwan--Kumagi Gumi Co - New Wuchieh Diversion Tunnel (Taiwan Power);
- ➔ _/04 Australia--LCKG jv #2, Perth MetroRail City Project;

Schöma **5337** 1993 CFL180DCL -B- dh 135kW 25t 750 .1993 Greece--Evinos Water Supply, Jäger-SELI (C)

Notes: Evinos-Mornos Water Supply Tunnel, Aetolia-Acarnania, West Greece GR - GR.IT.AU Evinos jv=AEGK/Domika Erga/Meton/Jäger-SELI - Evinos Contract C-B1 tunnel, SELI/Robbins-Grandori DS-TBM #1111-234/2 *Salima* 4.04 m o dia x 9 697 m (6/93~9/94); Evinos Contract C-D1 tunnel, SELI/Robbins-Grandori DS-TBM #118-221/2 *Ginevra* 4.04 m o dia x 7 421 m (7/93-1/95).
- ➔ _/97 NewZealand--Downer Construction/SELI jv, Venture Tunnel project, Auckland NZ, Venture Power, Auckland CBD Reinforcement Cable Tunnel, Penrose{LS}~Newmarket - Robbins-Grandori TBM-DoubleShield #1111-234/2 3.56 m od x 6 500 m (5/97~9/00)

Schöma **5338** 1993 CFL180DCL -B- dh 135kW 25t 750 .1993 Greece--Evinos Water Supply, Jäger-SELI (C)
- ➔ _/97 NewZealand--Downer Construction/SELI jv, Venture Tunnel project, Auckland;

Schöma **5446** 1995 CFL180DCL -B- dh 135kW 25t 900 .1995 GrtBrt--Costain Taylor Woodrow (C), Heathrow Express Rail Link

Notes: BAA Heathrow Airport, London, Heathrow Express Rail Link Project, __??__ section - Costain Taylor Woodrow (C) - __??__ TBM x.xx m od x X XXX m (_/95~_/96);
- ➔ 2/97 Returned to Schöma, Diepholz (seen 10/97), then overhaul and regauged to 1067 mm;
- ➔ 6/98 NewZealand--Ilbau (C), {Austria}, Manapouri II HEPS Project, acquired via Pacific Tunnelling (D), Plant Equipment Number #145 Advertised for sale (Fletcher/Dillingham), located Auckland 2005 (Seen: 6/05)
- ➔ _/0x China--__??__ (C), Hong Kong, overhaul and regauged to 900 mm (by whom, where?); Advertised for sale (Dragages-Hong Kong West Drainage Tunnel Sales Notice 8/11~3/12), located Hong Kong 2011

Maker	Serial Nr	Order Yr	Model	Axles	Type	Power	Weight	Gauge	Shipping Date	Initial Customer & Plant Number	Disposition (below)

Schöma **5446** 1995 CFL180DCL -B- dh 135kW 25t 900 .1995 GrtBrt--Costain Taylor Woodrow (C), JLE Contract 103 (Part)/104

Notes: London Underground Limited (LUL), Jubilee Line Extension (JLE), London - Contract 103, Aoki/Soletanche jv (Costain Taylor Woodrow sub-contract) - NATM/Dosco Boom-in-Shield 4.8 m od x 2 x 1 200 m Redcross Way-Waterloo (4/95~9/95)
LUL, Jubilee Line Extension (JLE), London - Contract 104, Costain Taylor Woodrow jv (CTW) - NATM/Dosco Boom-in-Shield 4.8 m od x 2 x X XXX m (_/95~_/9x) Waterloo~London Bridge [intermediate tunnelling sections of C103 and C104 executed as single sub-contract];

➔ 2/97 Returned to Schöma, Diepholz (seen 10/97), then overhaul and regauged to 1067 mm;

➔ 6/98 NewZealand--Ilbau (C), {Austria}, Manapouri II HEPS Project, acquired via Pacific Tunnelling (D), Plant Equipment Number #145
Advertised for sale (Fletcher/Dillingham), located Auckland 2005 (Seen: 6/05)

Schöma **5566** 1998 CFL180DCL -B- dh 135kW 25t 1067 .1998 NewZealand--Ilbau (C), Manapouri II HEPS Project

Notes: Electricity Corporation of New Zealand, Manapouri II Hydroelectric Scheme, Second Tailrace Tunnel - Dillingham/Fletcher/Ilbau jv (C) - Robbins/Markham TBM Open Main Beam Gripper HP #323-289 10.05 m od x 9 700 m (6/98~3/02)

Advertised for sale (Fletcher/Dillingham), located ??

➔ _/0x Austria--Bruno Podesser (D), A-9871 Seeboden, Karnten for overhaul (where?), gauge converted to 1000 mm (when? by whom?);

➔ _/07 Greece--Bioter SA (C) #E7 {BIO.T.EPA.E.}. Used for track re-habilitation on the OSE Peloponnese metre-gauge rail sysytem - Kórinthos-Trípolis-Zevgolatio-Kalamata line 2007-2012 (Seen: 8/07, 8/08, 4/11, 9/13). Line closed 2011, project totally suspended 2012. Advertised for sale 04.06.2014 Ref: *http://www.rapid-rail.com/_dbe,offers_requests,_auto_2206202.xhtml*

Schöma **5567** 1998 CFL180DCL -B- dh 135kW 25t 1067 .1998 NewZealand--Ilbau (C), Manapouri II HEPS Project

Notes: Advertised for sale (Fletcher/Dillingham), located ??

➔ _/0x Austria--Bruno Podesser (D), A-9871 Seeboden, Karnten for overhaul, gauge converted to 1000 mm;

➔ _/07 Greece--Bioter SA (C) #E8. Track re-habilitation OSE Peloponnese metre-gauge (Seen: 1/08, 8/08, 9/12, 9/13).
Advertised for sale 04.06.2014

The two Schöma tunnel locomotives which had been built new for the Manapouri II project were repatriated to Europe, having been acquired for surface work on a track rehabilitation contract in Greece on the Peloponnese peninsula metre gauge of OSE (Hellenic Railway Organisation).

The contractor was Viomichanika Technika Erga Vioter AE. The project was for track renewal with new concrete and steel sleepers, deep crushed rock ballast and small scale realignments. The OSE Kórinthos-Trípolis-Kalamata 1000 mm gauge mainline is on a scenic peninsula with enormous tourist potential. The locomotives were fitted with OSE centre buffer/screw hook couplers to handle air-braked OSE ballast wagons.

It is not clear who did the gauge conversion from 1067mm to 1000mm (a task made possible due to the locomotives design). When the two locomotives arrived in Greece at Trípolis in 2007, they still had shipping instructions pasted to the cabin window glass indicating that they had been shipped direct from Fletcher/Dillingham in New Zealand to an agent, Bruno Podesser in Carinthia, Austria. Ilbau, the other contractor partner in the Manapouri II joint venture, had workshops capable of re-engineering equipment for its own needs at its nearby home base of Spittal. This location is now run by a subsidiary of the successor company STRABAG, and where the gauge conversion is most likely to have been done.

The project for the rehabilitation for the metre gauge network on the Peloponnese peninsula saw closure of the operating system for the duration. The well-meaning project fell victim of the global financial crisis, and eventually the Greek Government was unable to continue payments to the contractors. By 2011 the equipment had been laid up and most of the mobile construction machinery was subsequently dispersed elsewhere as it became apparent that the project was unlikely to resume. The network has not re-opened and remains moribund. The two Schöma CFL180DCL locomotives were moved to storage at Kalamata, where exposure to the elements took its toll. They have been advertised for sale with several different dealers and were most recently moved to a storage location near Piraeus.

Reference

1. Remo Grandori, Manfred Jaeger, Fabrizio Antonini & Luis Vigl, 1997. "Evinos-Mornos Tunnel – Greece. Construction of a 30 km long hydraulic tunnel in less than three years under the most adverse geological conditions". http://www.selitunnel.com/pdf_articoli/9.PDF

Thanks and acknowledgements

Mention must be made of the extraordinary research of the late Ray Gardiner, sorely missed, particularly where material concerned Indonesia, without which another link in the puzzle would have remained obscure.

Extending thanks for assisting with material in this part of the article to the following people, sources and organisations:

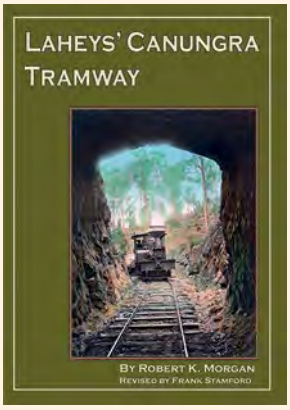
Jeff Austin; Bahn Express (BE) German language magazine; Alain Ballmer; John Browning; Bob Darvill; Christopher Down; Nick Fotis; David Haydock; Industrial Railway Society; Thomas Kautzor; Jens Merte; Matt Pope and Mining Engineering Ltd; SCHÖMA, the company; Stuart Thyer; Ulrich Völz; Desiree Willis and The Robbins Company; Christos Zacharis; Yiannis Zartaloodes.

Glossary (The Schöma listing)

TBM - Make, Type, Model, Serial number, Name
od - Outside diameter of the boring head
' x ' - Tunnel diameter by Length of drive, '2 x' two separate tunnel drives over same distance by same TBM
{LS} - Launch Shaft at this site name

Recently published by the LRRSA ...

Laheys' Canungra Tramway



By Robert K. Morgan, Third edition revised by Frank Stamford

Published by the LRRSA

Soft cover, 32 pages, A4 size, 33 photographs, 4 maps plans and diagrams, references, and index.

This booklet describes Queensland's largest timber tramway. Originally published as a special edition of *Light Railways*, (No.54, Summer 1975-76), the second edition pubished in 2000 was completely revised, with additional material, and more photographs. This third edition includes seven photographs hand coloured by the traditional method between 1908 and 1912 .

Laheys Canungra Tramway was a 3 ft 6 in gauge timber tramway in south-east Queensland which operated from about 1903 to the early 1930s. It used one B class Climax locomotive, and two A class and one B class Shay locomotives. The tramway ran through superb scenery, and included one tunnel through rock, and a 1 in 12½ grade for over half a mile. To add more interest, it had a very basic T Ford railcar, an even more basic Commer railcar, and a home-made passenger car.

The recommended retail price is **$10.00** ($7.50 for LRRSA members) plus postage and packing of $3.80 anywhere within Australia.

Wooden Rails & Green Gold

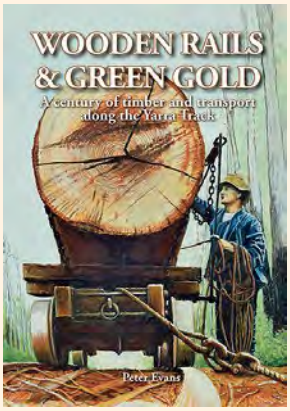
A century of timber and transport along the Yarra Track

By Peter Evans — Published by the LRRSA

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

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

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



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

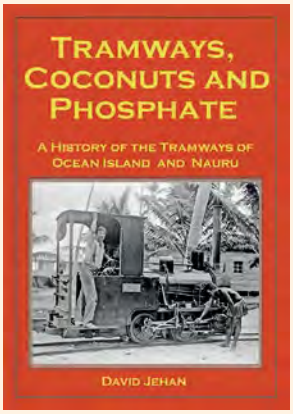
The book includes many exquisite maps. One of these shows the alternative surveys for narrow and broad-gauge extensions of the VR's Healesville railway to Narbethong. No Narbethong railway was built due to the desire to protect the water catchment. The book explores the conflict which existed between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

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

The recommended retail price is **$77.00** ($57.75 for LRRSA members) plus postage and packing of $18.40 anywhere within Australia.

Tramways, Coconuts and Phosphate

A History of the Tramways of Ocean Island and Nauru



By David Jehan — Published by the LRRSA

Soft cover, 144 pages, A4 size, 195 photographs, 16 maps plans and diagrams, bibliography, references, and index.

Nauru and Ocean Island are 265 km apart and about 3000 km from Brisbane. For most of the twentieth century the major activity on both islands was phosphate mining, for the manufacture of superphosphate.

On both islands tramways were used between the mines and the jetties. Over 25 steam locomotives of 2 ft and 3 ft gauge were used, as well as two electric, five petrol, and seven diesel-hydraulic locomotives. This book describes the tramways in detail. It also explores the discovery of the phosphate, the establishment of the industry, its management, and the living and working conditions of the many people who worked there.

The recommended retail price is **$33.00** ($24.75 for LRRSA members) plus postage and packing of $14.30 anywhere within Australia.

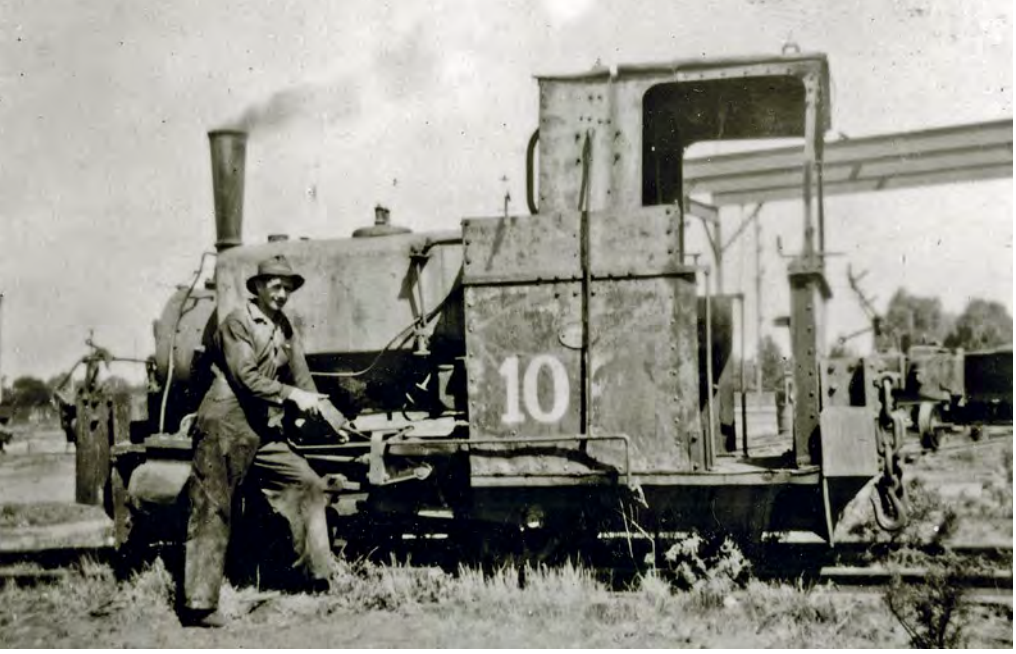
Light Railway Research Society of Australia Inc.
A14384U ABN 27 859 154 705

More details, preview videos, and online orders: https://shop.lrrsa.org.au/

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

At the October 2022 members Zoom meeting, Peter Knife gave a presentation on BHP's operations at Whyalla and the Middleback Ranges on the Eyre Peninsula in South Australia. Here we present some photos from that area from the Arnold Lockyer collection at the National Rail Museum at Port Adelaide. BHP mined iron ore at various mines called Iron Knob, Iron Monarch and many others.

Above: *Surface workings at BHP's Iron Knob in South Australia in 1915. Plenty of 5 ton quarry trucks (for iron ore) are present, loaded by hand. The small end-tipping horse-drawn wagon is a mullock truck – reject material from the quarry face was taken in these to the edge of the quarry and dumped. Steam powered excavators are at work further along. Photo: Michael Dugan from BHP Australian Fact Finders*
Below: *Photo taken on a visit by the Institution of Engineers to Iron Knob and Iron Monarch in December 1939 showing a large electric shovel loading its train. Two electric trains with 30-ton quarry trucks are on hand to take the ore to the primary crusher. Note the offset overhead wiring, reached via a long trolley pole on each locomotive. The overhead supports were attached to the track panels. Photo: Harold Beaney (Reference F211/4A).*



Locomotive No. 10 at Whyalla in 1951. It had been withdrawn around 1945, and this was actually a posed photo with burning rubber tyres in the smokebox to give the smoke effect. No. 10 was built by Baguley (B/N 2525/1922), and the enclosed cab and funnel came from 1st No. 9 (Arnold Jung B/N 680/1903) at Whyalla. Photo: David Griffiths collection.

Locomotive 2A at the loco shed at Whyalla, probably c.1960. This loco is another interesting BHP Whyalla hybrid. Apparently in the last several years of steam at Whyalla, the boiler and saddle tank from No. 1 (2-6-0ST Beyer, Peacock B/N 4723/1905) were fitted to the frame and running gear of side tank 2A (2-6-2T Beyer, Peacock B/N 5125/1908), resulting in this 2-6-2ST. Both locomotives were scrapped by late 1962. Photo: George Bishop collection

An inspection party at BHP's Iron Monarch mine in South Australia. Date unknown, but between 1928 and 1968. Photo: David Griffiths collection

Industrial Railway NEWS

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

QUEENSLAND

MSF SUGAR LTD, South Johnstone Mill
(see LR 289 p.31)
610 mm gauge
Com-Eng 0-6-0DM 27 (AI57111 of 1975) was seen with the herbicide spraying wagon at an unknown location in mid-December. 27 is also used on ballast trains.
Darren Smith 12/22

TULLY SUGAR LTD
(see LR 289 p.31)
610 mm gauge
Bradken at Boogan delivered twenty new 10-tonne bins before Christmas and another forty are on order to be delivered by August 2023.
Bradken 1/23

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills
(see LR 289 p.31)
610 mm gauge
The frame of EM Baldwin B-B DH *Rynne* originally named *Brisbane* (5423.1 9.74 of 1974) is being built into a bogie brake wagon at Victoria Mill. By 2 February, the front end had been shortened to the original length of overhang and steel plates had been added to the deck for ballast weights. EM Baldwin 6 wheeled brake wagon VRA 8 (7065.1 6.77 of 1977) was also there undergoing a rebuild including the addition of a steel plate to the deck for added weight. Hudswell Clarke 0-6-0 *Homebush* (1067 of 1914) was steamed for and passed its annual boiler inspection on 1 February. Walkers B-B DH 630 of 1969 is being rebuilt at Pioneer Mill for Victoria Mill and will be named the *Clem H.McComiskie*. Two new EM Baldwin type B-B DH locos are being assembled at Macknade Mill with the first frame arriving from Bundaberg Foundry by 31 January and the second arriving on 15 February. One of these locos will become Victoria Mill's *Leichhardt* and the other, Inkerman Mill's *Iyah*. Assembly of a batch of new 11-tonne bogie bins for Victoria Mill is expected to commence at Macknade Mill late in the 2023 slack season.
Editor 1/23, 2/23; Kieran Koppen 1/23

SUGAR TERMINALS LTD, Lucinda
(see LR 259 p.28)
610 mm gauge
Sugar Terminals Limited has announced that it will be taking over operation of its bulk sugar terminals from Queensland Sugar Limited after 30 June 2026. QSL has been their operator since 2000.
The Courier Mail 3/2/2023

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru
(see LR 289 p.31)
610 mm gauge
Invicta Mill finished crushing shortly before Christmas and in the last days, locos were making deeper than usual forays into Kalamia Mill territory, picking up extra transfer cane to help Kalamia out. Piggy back transfer of Inkerman Mill cane to sidings on the north side of the Burdekin River for Invicta Mill continued to the end of crushing at that mill. Walkers B-B DH locos *Giru* (593 of 1968) and *Clare* (655 of 1970) were on loan to Kalamia Mill by 3 January. Walkers B-B DH 625 of 1969 is being rebuilt at Pioneer Mill for Invicta and will be named the *Giru*.
Kieran Koppen 1/23; Thomas Dearing 12/22; Luke Horniblow 12/22, 1/23

WILMAR SUGAR PTY LTD, Pioneer Mill, Brandon
(see LR 289 p.31)
1067 mm gauge
Clyde 0-6-0DH *Airdale* (64-318 of 1964) was seen off lined on 3 January. It had suffered a broken axle with collateral damage to rods and crank pins. Walkers B-B DH locos 625 and 630, both of 1969, are being rebuilt here for Invicta and Victoria mills respectively. 625 was formerly Invicta Mill's *Rita Island* and 630 was formerly Plane Creek Mill's *Karloo*.
Luke Horniblow 1/23; Kieran Koppen 1/23

Victoria Mill's Walkers B-B DH Clem H McComiskie *(605 of 1969) crosses Palm Creek on the Bambaroo line on 12 December. Photo: Luke Horniblow*

Top: *Kalamia Mill's Westfalia B-B DH* Strathalbyn *(13863.1 8.91 of 1991) crosses the Queensland Railways diamond on the McDesme line on 19 December. Photo: Luke Horniblow* ***Middle:*** *Kalamia Mill's Westfalia B-B DH* Strathalbyn *(13863.1 8.91 of 1991) pulls a rake of full bins and Invicta Mill bogie brake wagon* Jarvisfield *(built in the nineteen nineties) out of a siding along the McDesme line for Invicta Mill's Walkers B-B DH* Jarvisfield *(647 of 1970) on 19 December. Photo: Luke Horniblow.* ***Above:*** *EM Baldwin B-B DH 9 (6626.1 7.76 of 1976) picks up full bins from Mackay Corner at Proserpine on 8 January. Photo: Luke Horniblow.*

WILMAR SUGAR (KALAMIA) PTY LTD, Kalamia Mill
(see LR 289 p.32)
610 mm gauge
In the lead up to Christmas, Invicta Mill trains were working deeper than usual into Kalamia areas, picking up extra transfer cane. By 3 January, Walkers B-B DH locos *Giru* (593 of 1968) and *Clare* (655 of 1970) were on loan from Invicta Mill to cover for loco breakdowns.
Thomas Dearing 12/22; Luke Horniblow 12/22, 1/23

WILMAR SUGAR PTY LTD, Inkerman Mill, Home Hill
(see LR 289 p.32)
610 mm gauge
Piggy back transfer of Inkerman Mill cane to sidings on the north side of the Burdekin River for Invicta Mill continued to the end of crushing at that mill. A new EM Baldwin type B-B DH loco to be named the *Iyah* is being assembled at Macknade Mill for Inkerman.
Luke Horniblow 12/22; Editor 2/23

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill
(see LR 289 p.32)
610 mm gauge
Clyde 0-6-0DH 3 (58-195 of 1958) was seen stored out of use at the mill on 8 January and is said to be used for spare parts.
Luke Horniblow 1/23; Joel Warren 1/23

MACKAY SUGAR LTD, Mackay mills
(see LR 289 p.32)
610 mm gauge
On 4 January, EM Baldwin 4wDH *Little Baldwin* (5/774.1 2.64 of 1964) left Costellos line on road transport after assisting with track maintenance there for some time. On 6 January, Clyde 0-6-0DH *Palmyra* (63-273 of 1963) was running without its multi-unit partner Clyde 0-6-0DH *Pleystowe* (64-321 of 1964) which had failed. Com-Eng 0-6-0DH 22 *Pinnacle* (AA1549 of 1961 rebuilt Com-Eng AN5849 of 1975), seen in use at Racecourse Mill on 19 December; is probably the only Com-Eng on cane hauling duties for Mackay Sugar. A torrential downpour of rain on 12 January caused washouts and brought about the end of a late running crushing season for Mackay Sugar. Almost five thousand tonnes of harvested cane was cut off from Farleigh Mill by the washouts but was able to be re-routed to Marian Mill for crushing.
Thomas Dearing 12/22; Steven Jesser 1/23; Danielle Jesser 1/23; Karl Kruger 1/23; Luke Horniblow 1/23; Mackay Sugar 1/23

BUNDABERG SUGAR LTD, Millaquin Mill
(see LR 289 p.32)
610 mm gauge
The 100,000 tonnes of cane left assigned to Millaquin Mill in the Wallaville area is trucked directly to the mill. EM Baldwin B-B DH *Calavos* (4983.1 7.73 of 1973) was seen in the mill yard sporting Christmas decorations on

Top: *Clyde 0-6-0DH* Pioneer *(63-287 of 1963) waits to cross the Queensland Railways catch points on Pioneer Mill's Colevale line on 3 January. Photo: Luke Horniblow* ***Middle:*** *Clyde 0-6-0DH* Pioneer *(63-287 of 1963) on its way to Maidavale 3 siding on 3 January. Photo: Luke Horniblow* ***Above:*** *With Christmas approaching, someone at Millaquin Mill deemed it appropriate to decorate their EM Baldwin B-B DH* Calavos *(4983. 1 7.73 of 1973) accordingly and it is here shunting in the mill yard on 23 December. Photo: Mick Harrip*

23 December. EM Baldwin B-B DH *Moorland* (5565.1 10.74 of 1974) returned to Bingera on 4 January after being stationed at the Fairymead Depot for the crushing season. Ex-Queensland Railways Walkers B-B DH DH41 (623 of 1969) is stored at Bush Paddock near Fairymead.
Mick Harrip 12/22; Mitch Zunker 1/23; Luke Horniblow 2/23

MSF SUGAR LTD, Maryborough Mill
(see LR 288 p.31)
1067 mm gauge
In a letter to employees dated 9 January, MSF Sugar states that the sale of the mill to Advanced Energy Group had fallen through and that their positions were no longer needed. This mill closed following the 2020 crushing season and AEG had planned to reopen it for the production of cane-driven biofuels.
The Maryborough Sun 24/1/2023

DOWNER EDI, Maryborough
(see LR 287 p.35)
1067 mm gauge
Walkers B-B DH locos DH73 *Hugh Boge* (718 of 1974) and 1104 (641 of 1970) were seen stabled on 5 and 22 December. 1104 was carrying some Christmas decorations on the latter date.
Kevin Yates 12/22; Mick Harrip 12/22

MARTINUS RAIL PTY LTD, Queensland
(see LR 289 p.33)
1067 mm gauge and 1435 mm gauge
GM Canada A1A-A1A DE locos MR-0101/4444 (A2225 of 1967 rebuilt Clyde 79-933R of 1979) and MR-0103/4692 (A2056 of 1964 rebuilt Clyde 80-961R of 1980) were still on the Bowen Rail Company's Carmichael Rail Network in late January, apparently needed to haul ballast trains.
A ship with standard gauge locos for use on the Inland Rail Project by Martinus was due to dock in Brisbane in February. They appear to be EMD GT26CW-2 Co-Co DE locos originally built for Yugoslav Railways then passed on to Hrvatske Railways after the break-up of Yugoslavia in 1991. Eventually, some were sold to NRE which had them completely rebuilt in Croatia by TZV Gredelj. Some of these ended up with Irolli Railway Services in Saudia Arabia with at least two on the ship. These are numbered ITC003 and what appears to be ITC004.
Jocelyn Smith 1/23; Mel Turner 2/23; Adrian Cardier 2/23; Martinus Rail 2/23; Wikipedia accessed 2/23

NEW SOUTH WALES

BLUESCOPE STEEL LTD, Port Kembla Steelworks
(see LR 284 p.42)
1435 mm gauge
English Electric Australia Bo-Bo DE D27 (A-040 of 1960) was shunting at Cringila on 25 January. General Electric Australia Bo-Bo DE D40 (A-241 of 1972) and Clyde Bo-Bo DE T373 (64-328 of

Top: *Also with Christmas decorations, although more toned down, is Downer EDI's Walkers B-B DH 1104 (641 of 1970) at Maryborough on 22 December. Photo: Mick Harrip* ***Middle:*** *Farleigh Mill's Walkers B-B DH locos* Walkerston *(672 of 1971) and* Tannalo *(705 of 1972) at Mandurana Junction on 13 January. Photo: Luke Horniblow* ***Above:*** *General Electric Australia Bo-Bo DE D40 (A-241 of 1972) shunting at Bluescope Steel's Port Kembla Steelworks' Cringila yard on 13 February. Photo: Chris Stratton*

1964) were doing the same on 6 February. D40 was shunting the 120" mill on 7 February and was back at Cringila on 13 February. More use is being made of these locos as the PB class locos go through their first overhauls. In LR 284, the Clyde T-class locos here were inadvertently referred to as Co-Co DE's.
Ben Koperberg 1/23; Steven Neil 1/23; Chris Stratton 2/23; Phil Howcho 2/23

MANILDRA FLOUR MILLS PTY LTD, Manildra
(see LR 286 p.36)
1435 mm gauge
Pacific National loco Goodwin Co-Co DE 48144 (G-6013-19 of 1969) was shunting flour hoppers for loading on 18 January. Goninan Bo-Bo DE MM03 (4970 of 1961) remains stored at the end of a head-shunt.
Jim Houghton 1/23

OVERSEAS

FIJI SUGAR CORPORATION
(see LR 289 p.33)
610 mm gauge
Minister for Sugar, Charan Jeath Singh, has been espousing the benefits of using the rail system to transport cane to the mills. Restoration of the rundown rail system is a major priority for him and he states that it is the cheapest method of bringing cane to the mills. He says that poor maintenance of the rail network has caused farmers to use more expensive road transport. He has directed the FSC to sell 114 trucks bought in 2019 for cane haulage to assist the fleets of privately owned lorries. They incur 1 million dollars per year in maintenance costs and will be sold to individual cane farmers and cane co-operatives. It costs FSC $10 million annually to repair and maintain the rail systems at its three mills.
Singh plans to visit India to hold talks with Indian companies on the possibility of setting up a new railway system and if necessary, privatising it under a joint venture. As well, Singh says the Sugar Ministry will privatise the FSC and wants it to run independently and be financially stable.
Cane production in 2022 was 1.6 million tonnes and it is hoped to increase this incrementally to 2.5 million tonnes in 2026. Labasa Mill plans to start crushing on 17 May and will have nine locos operational for the 2023 crushing season. Ecotrax continues to operate out of the former FSC depot at Cuvu using pedal and battery powered vehicles based on pairs of push bikes.
A bridge between Natadola Bay and Batiri was washed out in 2009 at the same time as a large section of the big bridge over the Sigatoka River was washed away.
FBC News 5/1/2023, 11/1/2023, 12/1/2023, 9/2/2023; *The Fiji Times* 7/1/2023, 26/1/2023, 31/1/2023, 4/2/2023; Craig Baikie 2/23

Field Reports

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

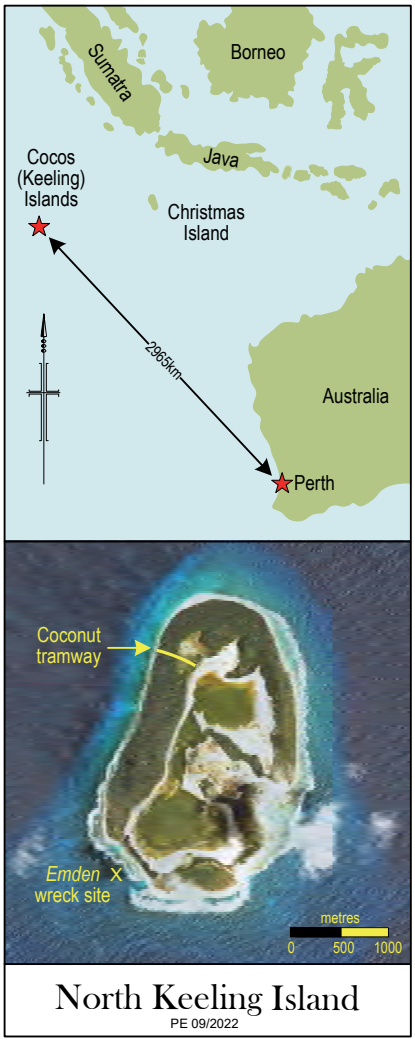
North Keeling Island salvage tramway
Gauge uncertain, possibly 610mm
Bob Backway reports

The accompanying images were posted on the 'Old & Abandoned Australia' Facebook site by Paul Fitzgerald. The German raider SMS *Emden* was forced to beach on the south side of North Keeling Island on 9 November 1914 following a naval battle with HMAS *Sydney.* The latter had been dispatched from troopship escort duty when *Emden* attacked the wireless station on nearby Direction Island, and used her superior gun range to cripple the *Emden.*
The wreck of the *Emden* was stripped of anything usable by Islanders between 1915 and 1916 using a light railway system to transport the salvaged items up the coast to a channel blasted through the reef where they could be loaded onto a vessel. The stripped hulk of the *Emden* later slipped back off the reef into deeper water. In 1950 a Japanese salvage company removed as much of the hull as possible and shipped the scrap back to Japan.[1]
There was also a tramway system about 500 m in length at the northern end of the Island, supposedly of around 610 mm gauge, which was said to be used to carry coconuts from a plantation to waiting ships. The period of operation is believed to be roughly 20 years up until the 1940s.[2] The Cocos/Keeling Islands group would undoubtedly repay additional research, although access to North Keeling Island is currently restricted for conservation reasons.
September 2022

References:

1 https://www.dcceew.gov.au/parks-heritage/national-parks/pulu-keeling-national-park/history/north-keeling-island-history.

2 Burke, David (1982). *The North Keeling Island Tramway.* In *Light Railways* 78, page 16. See also letter from Jim Walker, *Light Railways* 93, page 22; item from Ray Graf in *Light Railway News* No.68, February 1989, citing *The Sunday Age Extra* of 3 September 1988; item from David Whiteford in *Light Railway News* No.70, June 1989, citing the *West Australian* of 11 March 1989; all of which give slightly conflicting information! Phil Rickard attempted to resolve some of these conflictions in *Light Railway News* No.73, December 1989.



The German raider Emden *aground off North Keeling Island one year after the battle. Photograph by Allan C. Green, State Library of Victoria image H91.108/160*

Above: *Portion of one of the* Emden's *12 water-tube boilers in the jungle on North Keeling Island. Photograph by Paul Fitzgerald circa 2001* ***Left:*** *Abandoned tramway wheelsets on North Keeling Island. Photograph by Paul Fitzgerald circa 2001*

LETTERS

Rail motors of the Emu Bay Railway (LR 286)

In response to Ian Crellin's letter in LR 288 the ex-TGR railcar body he saw at Great Lake in 1965 is that of DP10, the sister to railcar DP9, which became Emu Bay M8. DP10 was taken out of service after a collision with a cow while running the Launceston - St Marys service in March 1950! The body was offered for sale (incorrectly described as DP11) in September 1952. I saw it as a fisherman's shack on the west side of Great Lake in January 1960, in the course of a somewhat epic cycle ride from Stanley to Hobart.

I attach a photo (above right) of Emu Bay M4 outside the disused locomotive shed at Guildford on 27 August 1962. I noted M4 at Guildford on various occasions from February 1961, I believe it was being used by permanent way staff.

In addition to the photos that were published in LR 289, I forgot to send you my photo (at right) of the sad remains of the Hudson car at Zeehan in 1964.

Jim Stokes
via email

Rail motors of the Emu Bay Railway (LR286)

Further to the Emu Bay rail motor articles and follow up comments in recent LR issues which I have found very interesting, I have attached a photo (at right) taken in December 1972 of a collapsed frame of what I thought to be an Emu Bay rail car in Zeehan yard. I remember searching for a number on the frame, hoping to identify it but was unable to locate one.

Doug Miles
Adelaide

Editor's Note: Comparison with Jim Stokes' photo (centre) confirms that Doug's wreck is the remains of the EBR's 1916 Berliot engined rail motor as abandoned by saw miller R J Howard. See page 4 of LR 286.

Katoomba incline – points arrangements

I am researching the 1880s incline in Katoomba, NSW, which today is the Scenic Railway. In 1883 a sawmill was established at the foot of the incline in addition to the coal mine already operating there. An additional branch to the Eastern track was installed to enable the timber jinkers to be hauled up the incline.

There is a photo of the incline taken about this time showing the branch. It does not appear to be connected to the incline by a conventional switch as there is no frog evident in the photo.

I am wondering if it was what I would call an "over point", where the switching rail is simply laid over the "main" rail with a tapered end and the other side an "adaptor" is used to allow the wheel to drop onto the other "main" rail.

I have attached four photos, (see page 39 opposite); one of the bottom of the incline with the branch line leading off to the right and the timber jinkers on the right, a cropped photo of the branch, and two photos of an "adaptor" obviously made to fit over bridge rail, that I found in the vicinity in 2009.

I would appreciate any comments or suggestions.

Philip Hammon
via email

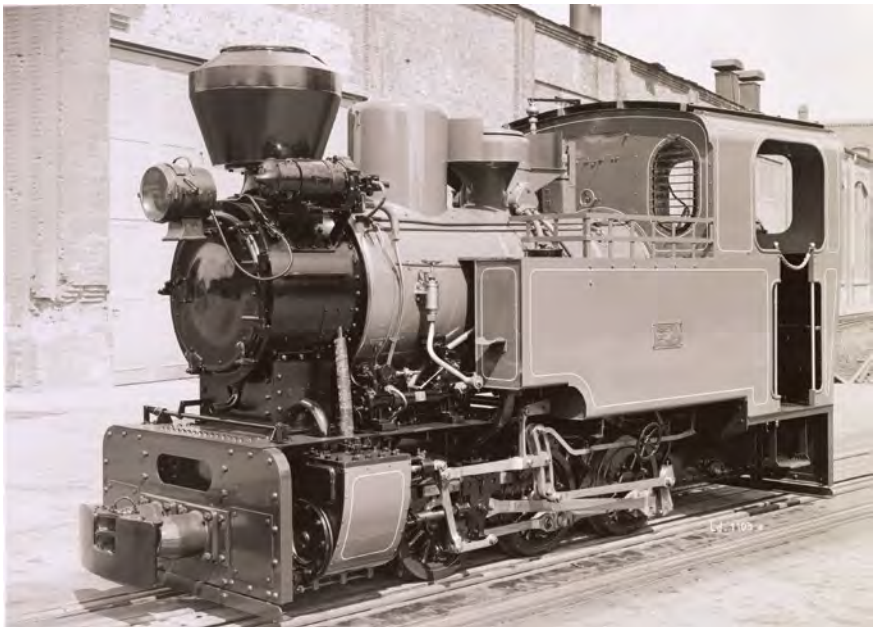
Mt McIntyre mill track (LR221)

In *Light Railways* No. 221 (October 2011) Glen Howe reported that the first timber tramway so far identified in South Australia, had been 'discovered' at Mount McIntyre in the state's South-East, near Mount Gambier; a 1907 photograph having been found.

Further to that report, I attach an extract from the South Australian Woods & Forests Department 1915-1916 report p.5-6 which confirm the existence of the light railway.

I am seeking out South-East locals who may know exactly where the case mill was. Once we have that, we'll examine remote sensing images and consider a site visit. The harder task is likely to be to find documents and plans which the Woods and Forests Department would certainly have required before the mill and a rail line were established.

Cases – the number of apple cases sold during the year was only 2016 as, though the crop was abundant in most localities, much of the fruit was small, and the weak state of the export trade consequent on the war, lessened the call for export cases. A steady demand has continued, however, for dried fruit and orange cases, in response to which 34,890 56 lb cases, 6100 28 lb cases for dried fruits and 28,500 orange cases were supplied to the Renmark Fruit Packing Union and other River Murray fruit growers. Some of these were supplied from Bundaleer and Wirrbara Forests, but the bulk were cut at the Mount McIntyre Forest Plantation near Kalangadoo, to which forest the mill plant has been removed from Moorak, Mount Gambier early in the year. As the site for this mill was conveniently situated in the plantation it was possible to lay down a light line on which the main bulk of the pine timber was hauled by a light timber truck and one horse to the mill,



thus effecting considerable economy in the cost of hauling, which is usually done either by a horse or bullock team. A view in the appendix clearly indicates the plan adopted.

Rob Robinson
via email

Henschel locomotive - H and T report – (LR 289)

I note in LR No 289, page 46 an incorrect caption on the top photo. The 750 mm gauge Henschel locomotive No 29583, ex-No 104 Chonburi Mill, Thailand and ex-Pioneer Park Museum, Dalby, Queensland is shown being unloaded at Tamborine Mountain. Side tanks and fittings are awaited from Dalby. The locomotive appears to be in very good condition and having been used for 10 years only, should prove to be an easy restoration. The photo above shows how it should look in a couple of years.

Alan Robert
via email

Good Hope Mine, Crooked River, Vic (LR 289)

I enjoyed the great article on the Crooked River Mine. In January 1961, myself and a friend walked into Talbotville on our way hiking into the Wonnangatta Valley and onwards to Mt Stirling and Mt. Buller, a long walk! Regrettably we did not explore the mining relics as we didn't have the time, however we did find a relic of sorts, a post office registration label (which would be attached to a letter) as part of the registered mail service.

So Talbotville had a post office. The post office must have moved around the district over the years, from opening 1 January 1862 as Crooked River, then Grant, then Talbotville, finally closing 30 April 1948. Like the timber industry later, there is great social interest associated with the mining.

Kevin Burt
via email

Bellarine Railway report on the Q Train (LR 289)

Just a note of correction on the caption for Michael Chapman's photograph of ex-South African Railways 24-class 3620 at the head of *The Q Train*.

The photo was taken at the Suma Park stop, not at Drysdale. Suma Park is a heritage property and function centre and The Bellarine Railway's Suma Park station provides a stopping point for wedding and special event trains as well as *The Q Train* and *The Blues Train*. The Q Train disembarks passengers here on the up journey to Drysdale and sets back for a photo run past when steam services are operating (first three services of the month).

As an aside 3620's bell and headlight are additions made by NZ owner Ian Welch to make it look like its Southern Pacific namesake, whilst the cab was cut down to fit New Zealand's loading gauge. Other modifications include the fitting of Westinghouse air braking (to replace vacuum), fitting of buffers and conversion to an oil-burner.

The bell is non-functional, and the headlight replaced the smokebox door dart – as one who crews on this engine I can confirm that the use of dogs to hold the door shut is a pain in the proverbial when checking the front tube plate during morning light up.

As to the similarities between this engine and its Southern Pacific counterpart there is little to compare apart from the wheel arrangement and the Vanderbilt tender.

As is said, beauty is in the eye of the beholder but neither class of engine is what I would call good looking – and the changes to 3620 have made it less so!

David Price
Former President & Chairman - The Bellarine Railway
via email

Looking Back – Longworths' (Laurieton) Limited (LR288)

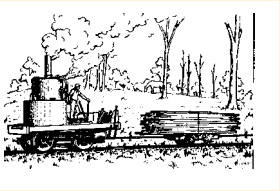
Further to my short notes and accompanying photographs of the above standard-gauge logging operation conducted at Kendall on the NSW Mid-North Coast in the 1910s and 20s, I have located another photograph in the same set.

I was recently trawling through the State Library of NSW photographs looking for some images to illustrate a (hoped for) book on the quarry tramways of Kiama. Serendipitously, I came upon a photo simply titled "Timber Country, North Coast" and my previous quest was quickly put aside.

The image was clearly of Longworths' operation and upon close examination I now believe it was taken at the same location as the previous photos, and on the same day, probably in 1922. Minute comparison of the trees and logs prove that the 'pig sty' bridge in the full page image on page 27 of LR288 is across the gully seen in the mid-foreground of the image on page 26, that being the same bridge as shown in LR133.

Further, the attached image is of the same log dump and loading point seen in the background of the page 27 photograph. All of which raises the question – "Were any other photographs taken on the same day and if so, where are they"?

Phil Rickard
Ringwood, Vic



LRRSA NEWS

MEETINGS

LRRSA members' on-line meetings

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

April 2023 members' Zoom meeting – Mortlake Gasworks tramways

Date: Thursday 13 April 2023 at 8.00pm AEDT

The Mortlake gas works was erected in the late 1880s on a site on the Parramatta River in Sydney. The site had been selected to enable coal to be shipped directly from Newcastle to the gasworks. Initially, a single retort house was erected and, to transport the coal from the wharf to the Retort House, a locomotive was purchased from Hudswell Clarke in England.

Eventually, the Mortlake Gasworks would grow to become the largest gasworks in the Southern Hemisphere and seven locomotives were acquired to operate the internal railway system. In 1914, a Telpher system commenced operation at Mortlake to transport the coal, but the internal railway system did not close until 1948. This presentation by Mark Langdon will describe both the narrow-gauge railway and the Telpher system used at Mortlake. Not to be missed!

June 2023 members Zoom meeting – a 1968 jet search for steam

Date: Thursday 8 June 2023 at 8.00pm AEDT

The introduction of "Pacesetter" fares for under-26-year-olds in 1968 made international air travel much more affordable. Frank Stamford will give a presentation that will include some highlights of a fifteen-week trip which took advantage of those fares. It will include Indonesia, western Europe, and South Africa. The emphasis will be on Java, which was a mind-boggling journey into the unknown; and some characterful narrow-gauge railways. Register your interest now!

Melbourne: " No in-person meeting but why not come and Zoom with us?"

On-line meetings via Zoom will be hosted from Melbourne and will feature presenters from far and wide. See details above or visit our website www.lrrsa.org.au

Sydney: Timber railway bridge construction

Date: Wednesday 26 April 2023 at 7:30pm

Civil engineer Bill Phippen will be speaking on timber railway bridge construction in NSW and on light railways in general. He is the author of numerous books including the Hawkesbury River Railway Bridge and Timber Truss Railway Bridges of NSW, both of which will be on sale on the night.

Location: Club Burwood RSL, 96 Shaftesbury Road, Burwood, in the 'Private Room', Brasserie Restaurant. Free parking in RSL car park. Only 10 minutes easy walk from Burwood railway station. Please contact Ross (0415995304) or David (0400347127) if you need to be signed in upon arrival. It is highly recommended to arrive early and enjoy a meal with other LRRSA members.

Adelaide: "Bi monthly meeting"

Date: Thursday 6 April 2023 at 7.30 pm

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

Location: 1 Kindergarten Drive, Hawthorndene

Notice re South East Queensland Division meetings

After much consideration it has been decided to cancel all future meetings of the SEQ Division in Brisbane.

Due to dwindling numbers and members having other interests as well as the library being closed due to Covid, these issues have impacted upon attendance numbers.

A big thank you to Bob Dow and Bob Gough for their efforts over the years. Also, thanks to those who have attended the meetings, especially those who have provided the interesting entertainment that was enjoyed by all.

If anyone is interested in taking over the position of convenor, please contact the LRRSA Secretary (Nick Sheridan): secretary@lrrsa.org.au

Members in South East Queensland, and indeed everywhere, are reminded that bi-monthly national entertainment meetings are available via Zoom. See the LRRSA website for details.

Heritage & Tourist NEWS

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

QUEENSLAND

THE MARY VALLEY RATTLER, Gympie

1067 mm gauge

Your Heritage and Tourist Editor took a trip on this railway on Wednesday 21 December 2022. The journey begins at the historic Gympie station, travelling to Amamoor and return. This is a journey of 23 kilometres each way and takes about 90 minutes each way, with some short stops at intermediate places to change staffs and a longer stop at Amamoor where the locomotive is turned on the turntable and passengers can alight for food and shopping at the small local market. The Rattler used to go as far as Brooloo but the section between Imbil and Brooloo is now a rail trail. After the trip was cut back to Imbil this was as far as passengers went, but in 2019 the trip was further shortened to Amamoor when a truck hit a bridge at Kandanga and a structural engineer declared that the bridge was unsafe and consequently demolished. There is still a lot of infrastructure at Imbil including a locomotive (C17, number 705 named *Imbil*) on the turntable, other rolling stock in the station yard, a station building and sheds and a wonderful bridge across the Yabba Creek just north of the station.

The train was hauled by C 17 class locomotive number 967 named *Amamoor,* built by Walkers of Maryborough in 1950. This is one of two C 17 locomotives able to be viewed at Gympie, the other one being stored on one of the roads next to the station. It is a 4-8-0 tender engine and was, as the year 9 boy (he looked about that old) who was driving proudly told me, rescued from a plinth in a park in Caloundra and, after a trip to Alice Springs and other places, restored in the Gympie workshop.

Andrew Webster

SHAY LOCOMOTIVE, Palmtree

2 ft 6 in (762 mm) gauge

The Shay locomotive *Munro* was built by Lima Loco Works as No.906 in 1904. It is now displayed at Palmtree, north of Toowoomba in a covered enclosure which keeps the vandals away but makes it difficult to photograph. A group has restored the right hand side as much as possible with remaining parts, in contrast the left hand side which is unrestored.

The locomotive is being restored from the remains of Shay locomotive SN906 formerly owned by A and D Munro. The locomotive operated on the line from Bunkers Hill, 5.5 kilometres to the east of Palmtree, bringing logs to Munro's Sawmill at Palmtree. The locomotive also carried sawn timber from the mill at Palmtree to Hampton where it was loaded on to the main rail line for transport to Toowoomba. The total length of the tramway from Palmtree to Hampton was 27 kilometres. It commenced service in 1904 and closed in 1936. There were two locomotives in use and their remains were left to disintegrate until the 1970s. One side of the loco is being restored to as close to the original as possible while the other is being left in its deteriorated condition other than a few structural enhancements to preserve its longevity. The restoration work is being carried out by members of the Munro Tramway Historical Group Inc.

Facebook post by Mark Dorman, 4 February 2023 on the *Light Railways of Australia* Facebook Group.

ATHERTON HERBERTON HISTORIC RAILWAY, Atherton

1067 mm gauge

The restored 1905 Peckett engine along with a restored 1913 carriage has had its first official trip with passengers on 21 January 2023 on the four kilometre return journey between Herberton's

At Albion Park Burra *is having its saddle tank removed as part of its ongoing restoration. Photo: Brad Johns*

railway station and its historic village. The engine was made in Bristol, England and was later shipped to Australia. It was unloaded in Pinkenba and was taken to Mount Morgan where it worked for more than 20 years. After that it worked at the Mount Isa Mine and was decommissioned in the mid-1950s, after which it sat in a local park. Two Peckett locomotives from Mount Isa fell into private hands until the group got hold of them.

Since 2005, volunteers from the Men's Shed, She Shed, The Railway and prisoners at the nearby Lotus Glen Correctional Facility have spent more than 90,000 hours and more than $190,000 over 18 years restoring the locomotive and its carriage.

Regular trial weekend trips on the rail journey are scheduled ahead of the train's official opening in March, but meanwhile these trial weekend trips are useful to gauge energy consumption and timing.

ABC Far North by Phil Brandel, posted 26 Jan 2023

In other news, the Group has purchased two 2000 class railmotors, numbers 2031 and 2024. These sat outside the North Ipswich Workshops for many years and were heavily graffitied and are missing many parts. Number 2031 arrived very recently and 2024 will be on its way in a few weeks. On its trip to Herberton, the low loader transporting 2031 tipped over on the Kennedy Highway at Ravenshoe, just near the Herberton turnoff. Fortunately, there was not much damage.

Various posts on the *Atherton Herberton Historic Railway* Facebook page, on and around 7 February 2023.

DURUNDUR RAILWAY, Woodford

610 mm gauge

During September 2022, the ANGRMS celebrated its 50th birthday with activities at the Woodford site followed by an event/lunch at the Woodford Golf Club. Then in October, the Railway held a commemorative model railway show in the locomotive shed. After significant delays due to COVID, workers finally got the Workshop Annex erected and this is proving to be of great benefit.

While it has meant a lot of additional work, the Group has been working with RTO (Registered Training Organisation) CERT 22 who used the Railway for the practical component of track worker training courses. Six courses were run during the year resulting in the mainline now being 86% steel and concrete. This has put the railway roughly five years ahead in track maintenance.

While COVID continues to affect members, fortunately during 2022 no running days needed to be cancelled. While weather also affected the railway, passenger numbers on public running days were only fractionally below pre Covid 2019 figures (4351 in 2022 versus 4558 in 2019), bringing in very welcome income at a time when costs are rapidly rising.

With the exception of the first set of points at Margaret Street Station, the first 600 metres of the mainline contains all steel and concrete sleepers which includes the whole section adjoining the subdivision development. This will minimise maintenance needs and associated noise through this future residential area.

Durundur Railway Bulletin, Volume 44 Number 379 January/February 2023.

Top: *Locomotive* Seymour *was decorated for the Halloween celebrations at Albion Park in October 2022. Photo: Brad Johns.* ***Above:*** Kiama *with some Christmas decorations, steams through the bush at Albion Park in December 2022. Photo: Brad Johns*

FRIENDS OF ARCHER PARK STATION AND STEAM TRAM MUSEUM, Rockhampton

1067 mm gauge

The railway's volunteer hours have increased with the Work for the Dole project and were over 1200 hours for November. Whilst they go up and down depending on availability, this is a great help to the Museum to keep it in top condition.

The Purrey Steam Tram passed its boiler inspection in early January 2023 and should be operating again for 2023 very soon.

Tram Tracks: Volume 17 Number 1, 1 February 2023

NEW SOUTH WALES

ILLAWARRA LIGHT RAILWAY AND MUSEUM SOCIETY, Albion Park.

610 mm gauge

The year 2022 ended on a positive note for the Society having celebrated its fiftieth year since its foundation in 1972. The highlight is the fact that visitor numbers have risen sharply post covid and restoration work continues to move forward positively. Other highlights of the 50th celebrations included *Kiama* and *Burra* in charge on the Halloween run in October 2022, The Eve of Halloween celebrations with *Seymour* in charge and at the end of the year, the Ride the Christmas Train in December 2022 with *Kiama* in charge. As with all Society operational days, the miniature railway played a huge role as the secondary ride.

In December we saw the return of the Perry boiler from Eagle Tech Engineering in Lithgow NSW after its restoration there. Since then, the boiler has been reunited with the underframe and the reassembling of the locomotive has begun. The Perry was built by Perry engineering, Mile End South Australia builders number 7967/49/1 of 1949, ex Tully Sugar. Loco No. 6 *Tully* was first placed into service at Albion Park in 1987 and continued to work until taken out of service due to boiler issues.

The Society was successful in 2022 in securing a Transport Heritage Grant for the construction of a new water tank for *Burra* (Hawthorn Leslie, Newcastle on Tyne, England builders number 3574 of 1923, ex Corrimal Colliery). *Burra* is now 100 years old, and the tank was removed and transported to a local firm for the building of the new tank.

Two of the Society's long-term members have been recognised for their services; Michael Milway who has given 41 years' service to the Society since joining in 1982, and Brad Johns who has given 40 years' service since joining in 1983. Both Michael and Brad were presented with Life Membership of the Society in 1996. Amazingly, the Society still has financial members who were foundation members in 1972.

Brad Johns, ILRMS

Top: *Photo taken at the 50th birthday celebration and the cake cutting ceremony. Left to right are Chris Homer, Mayor of Shellharbour, Michael Milway, ILRMS, Stephen Jones, federal member for Whitlam and Brad Johns. Photo: Dan Demaagd* ***Above:*** *At Pete's Hobby Railway at Junee,* Torpedo *steams out of the Shed, with the Ruston on the adjacent track. Photo: Peter Neve*

Top: *At the Menzies Creek Museum on the* Puffing Billy Railway *in January 2023 locomotive NRT1 can be seen with the new bike-carrying wagon. NQR21 Photo: Frank Stamford* ***Above:*** *Leading engine unit of G33 being turned prior to being shunted into the Queenscliff Workshops for overhaul - the first time that it has been undercover since departing the engine shed at Fyansford in 1968. The trailing truck had been removed prior to former TGR X 20 carrying out the shunting move. Former EBR 1107 is the background. Monday 31 October 2022. Photo: Michael Menzies*

PETE'S HOBBY RAILWAY, Junee

610 mm gauge

Torpedo (otherwise described as a 2-ft gauge 0-4-2T Hunslet 'Bodry' class steam locomotive, builders number 1187 of 1915) underwent boiler inspection on Easter Saturday, 16 April 2022, receiving a clean bill of health and passed for a maximum operating pressure of 1100 kPa (or 160 psi). Despite the steepness of the grades on PHR, operators keep the operating pressure down to 130 psi, which easily meets all the operating needs.

An initial stationary steaming trial was undertaken on Sunday, 26 June. The fire was lit at the respectable hour of 10.45 in the morning. Pressure was allowed to build up until the safety valve lifted at 125 psi, resetting at 108 psi. No problems were identified, apart from a couple of minor wisps which either took up with or without adjustments so the fire was dropped and the boiler allowed to cool, preparatory for running trials on the following day.

On Monday 27 June, light-up took place to the same schedule. The initial steaming had been undertaken without the dome cover to confirm that there were no leaks, this was installed for the day's running.

Once steam was raised, *Torpedo* was eased back into the shed and over the inspection pit, so that the inside valve-gear could be well and truly lubricated. Once completed, *Torpedo* streamed out and on to the turntable, to be rotated to one road for the departure track. Unlike on previous running days, the loco continued funnel-first around the track and up the 1 in 18 ruling grade to the truncated outer terminus.

Several light engine runs were made to the current outer dead-end, only metres away as the crow flies from the departure point, but several hundred metres as the rails go.

It was now time for actual load trials of three carriages and a flat wagon which took place on the third day and which proved to be more than satisfactory.

Progress Report 72: Torpedo Returns Steam! January 10, 2023

VICTORIA

BELLARINE RAILWAY, Queenscliff

1067 mm gauge

ASG 33 and Car 19 restoration progress - December 2022

The Bellarine Railway workshop at Queenscliff was open to the public on 4 and 5 February 2023. Visitors were able to inspect progress on restoration of two significant items of rolling stock: the sole surviving Australian Standard Garratt (ASG) steam locomotive G 33, and a 140 year old timber bodied railway carriage, former South Australian Railways narrow gauge Car 19.

ASG 33.

A significant event occurred on Monday 31 October, when the ASG leading engine unit was

shunted into the old Queenscliff Locomotive Shed. That is the first time it has been undercover since it was removed from the Engine Shed at Fyansford in September 1968 and transported to the Newport Railway Museum for preservation.
The leading engine unit had its trailing truck removed and was turned prior to it being shunted into the shed. That was so that the frame may be jacked up and the leading bogie and all driving wheelsets removed. The frame will then be checked, repaired and repainted. The bogie and wheelsets, axle boxes and springs etc. will all be checked and repaired or replaced as required. Spare new main springs (purchased from the Emu Bay Railway 40 years ago) are available to be fitted.
The ASG was separated into two sections, the front engine, which is yet to be restored, has been lifted and the wheels moved out from underneath. Most removable parts have been removed except for the two cylinders which are still attached. A local contractor has agreed to sand blast the whole front engine, a process that will save the restorers a year of work if they had to do it by hand.
The central boiler unit is well advanced. Most repairs have been completed and components have been refitted to the frames. All superheater elements were removed, pressure tested, repaired as required and have been refitted in the flues. Most boiler fittings have been reconditioned and many reattached to the boiler. Some boiler wall stays still require replacement. The repaired cab has been lifted back onto the boiler cradle and new timber ceiling lining has been fitted. New floorboards are ready to be fitted once other boiler work and cab fittings have been installed. The coal bunker is repaired and ready to be refitted to the hind engine unit.
Of particular note is that there were two sets of wheels that were flangeless but not the middle two of the 2-8-4 wheel arrangement. Some of the restorers suggested that this was the reason that the ASGs had so many derailments in service. These have been fully documented and amount to a substantial number. The Emu Bay railway ASGs had one set of wheels re-flanged in an attempt to stop the derailments and there is a book running in the Queenscliff shed on when they will have their first derailment.

CAR 19.

Car 19 was one of 21 carriages, numbered 14 to 34, built for the South Australian Railways narrow gauge system on imported 6 wheel underframes. The bodies were subsequently transferred to new bogie underframes, as their original wheelsets were articulated on the Cleminson system and soon proved to be unsatisfactory.
Restoration of Car 19 commenced in mid-2019 and is now well advanced. The bottom body frame members were rotten on both sides and ends. New timber of the size required was hard to obtain. A sawmill at Birregurra manufactured new material to the required cross section by laminating pieces of American Oak. The bottom of some vertical frame members were also rotten and new sections of timber were spliced onto them and morticed into the new bottom frame as required. The body frame was then structurally sound and much straighter than when work commenced. The roof frame had also sagged in many places and as the body frame was repaired, the roof became much straighter.
Work is carried out on the ASG and Car 19 every Tuesday from around 10 am until 3 pm and similar hours on Saturdays. Some tasks require skilled work, but many simply require a useful pair of hands. A variety of age groups are involved, both male and female. New volunteers are always welcome and donations to purchase materials are also required. Progress with the ASG locomotive may be viewed on the Facebook page *G33 Fundraising and Progress*. Car 19 has its own Facebook page *Car19 restoration.* Look at both pages, like them and then come to Queenscliff to view their progress.
Michael Menzies and Andrew Webster

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge
Seen at Emerald (Puffing Billy Railway) on 31 January 2023 Ruston Hornsby diesel-mechanical loco and NQR truck No.21. Ever since 1899 NQR trucks have been modified for all sorts of different purposes, e.g. ballast spreading, pulpwood, sheep, tourists, water tanks etc. This one is a new variation - to carry bicycles.
Light Railways of Australia Facebook Group post by Frank Stamford, 31 January

YARRA VALLEY TOURIST RAILWAY, Healsville

1600 mm gauge
The Walker Railmotors number 24 RM, (which entered service in March 1949 and ceased

Locomotives and rolling stock receiving attention at the workshops at the Don River Railway in Tasmania in January 2023. Photo: Peter Sansom

service in 1979) and RM 228, which were stored at Huon on the Cudgewa line for many years, have been moved to the Yarra Valley Tourist line as a source of spares for its own railmotors.

On the tourist line, the Yarra Glen station has been upgraded and the railway is presently rebuilding the 5 miles 48 chains (9.0 km) section to Yarra Glen station, including the reconstruction of the Tarrawarra station and the replacement of 14 timber trestle bridges within this section.

Facebook post on the *Closed Railway Lines and Stations of Australia* Group, by Andrew Jones and Joshua Fowler, 7 and 19 January.

WALHALLA GOLDFIELDS RAILWAY, Walhalla

762 mm gauge

Walhalla Goldfields Railway is most grateful to have received 1600 sleepers from the Level Crossing Removal Project (LXRP) in Melbourne. With a recent works at Pakenham, surplus railway sleepers have been donated to WGR. The sleepers were cut down to size and will be used to replace old sleepers along the line.

Walhalla Goldfields Railway Facebook post, 27 December.

Work on the railmotor has been halted with all the railway's limited energies focused on keeping the three current locomotives, the Fowler, the 10 Class and the Kasey, operational, and importantly regauging the DH locomotive that has been sitting in the Walhalla yard for over a decade.

The DH is the priority as it will provide reliable and substantial pulling power and will be able to haul all the railway's carriages, and take 100 passengers on each journey. This newer locomotive will also be able to travel longer distances and potentially help the railway with its goal of eventually returning to Erica.

The railmotor concept of a single self-propelled car that can run a daily service, is fantastic as it will demand fewer crew; it will also provide a cosy and comfortable ride. However, this project needs considerably more resources than currently available. The designs for every component to transform an old tram body into a railmotor need to be highly detailed and raise considerable engineering challenges, currently beyond WGR. The railmotor, even when completed will not be able to pull the heritage style carriages and it is not designed for this type of load or function.

Walhalla Goldfields Railway Facebook post, 20 December.

COLAC TO CROWES RAILWAY, Colac

762 mm gauge

Crowes Buffer Stop

The photo on the left was taken on a recent visit to the buffer stop at the terminus of the former Colac-Crowes line in the Otway Ranges. Sadly, the site has become somewhat overgrown since its restoration by Puffing Billy Preservation Society members in the late 1980s. Signage has become rather dilapidated, the buffer stop timbers are rotting, and the NQ wagon is rusting badly and covered in leaf debris and moss.

After some 34 years since restoration, it is unlikely that the same PBPS volunteers would be capable of tidying up the site, but perhaps a local group may be prepared to undertake some work there? As a site of great significance in narrow-gauge railway history, it would be a great pity if it were to be left to the elements to further deteriorate.

Geoff Earl, January 2023

TASMANIA

SHEFFIELD STEAM FEST, Sheffield

610 mm gauge

A full report of the railway action at Steamfest (due to be held on March 11-13, after this issue went to print) will be published in the June edition of the magazine.

Top: *The former buffer stop at Crowes on the Colac to Crowes narrow gauge railway showing its dilapidated condition taken in January 2023. Photo: Geoff Earl* ***Above:*** Wee Georgie Wood *drains its cylinders before it heads back to the shed at Tullah on 14 February 2023. Photo: Peter Sansom*

Hudswell Clarke 0-6-0 Melbourne *in the empty yard at Victoria Mill in the nineteen fifties. The* Melbourne *was a 1956 combination of 1552, 1659 and 1701 and carried the builder's plates from 1701. Photo: P.G.Dow*

Perry 0-6-2T Perry *(5643.51.1 of 1951) in the full yard at Bingera Mill in the nineteen fifties. Photo: P.G.Dow*

Fowler 0-6-2T Wattle *(12874 of 1911) at the Bingera Mill loco shed in the nineteen fifties. Photo: P.G.Dow*