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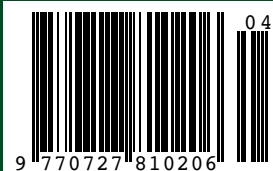
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Australia's Magazine of Industrial & Narrow Gauge Railways



Light Railway Research Society of Australia Inc.



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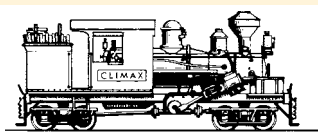
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1 inch (in)	25.40 millimetres
1 foot (ft)	0.30 metre
1 yard (yd)	0.91 metre
1 chain	20.11 metres
1 mile	1.60 kilometres
1 ton	1.01 tonnes
1 pound (lb)	0.454 kilogram
1 acre	0.4 hectare
1 horsepower (hp)	746 Watts
1 gallon	4.536 litres
1 cubic yard	0.765 cubic metres
1 super foot (sawn timber)	0.00236 cubic metre



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No 256 August 2017

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Editorial

I was recently consulting old copies of LR from the early 2000s looking for some inspiration from former editor Bruce Belbin to write this Editorial.

It is interesting to compare the contents of old copies of LR with what we produce now. Essentially there is really no material difference but there are a number of subtle changes. Firstly they were all only 32 pages long compared with 40 pages now (plus regular 48 page editions).

Some observations from the early 2000s – most articles were a lot shorter than they are now, they often had basic hand drawn maps with not too much detail, and whilst the photos were very good, they were not reproduced to the same standards as today. Also, IRN and H&T have basically not changed at all, there were no Field Reports then, and there were often very lively discussions with letters to the Editor.

So, what has changed? I would suggest that the biggest change has been the availability of newspapers on line via Trove, that has taken the drudgery out of research. Also, better scanning technology for old photos, better computer packages to produce high quality maps, and better printing techniques have also been introduced. Finally, dare I say it, our authors and contributors possibly have more time on their hands to spend on thorough research and preparation of comprehensive articles.

Therefore, the future of this magazine is looking very bright. *Richard Warwick*

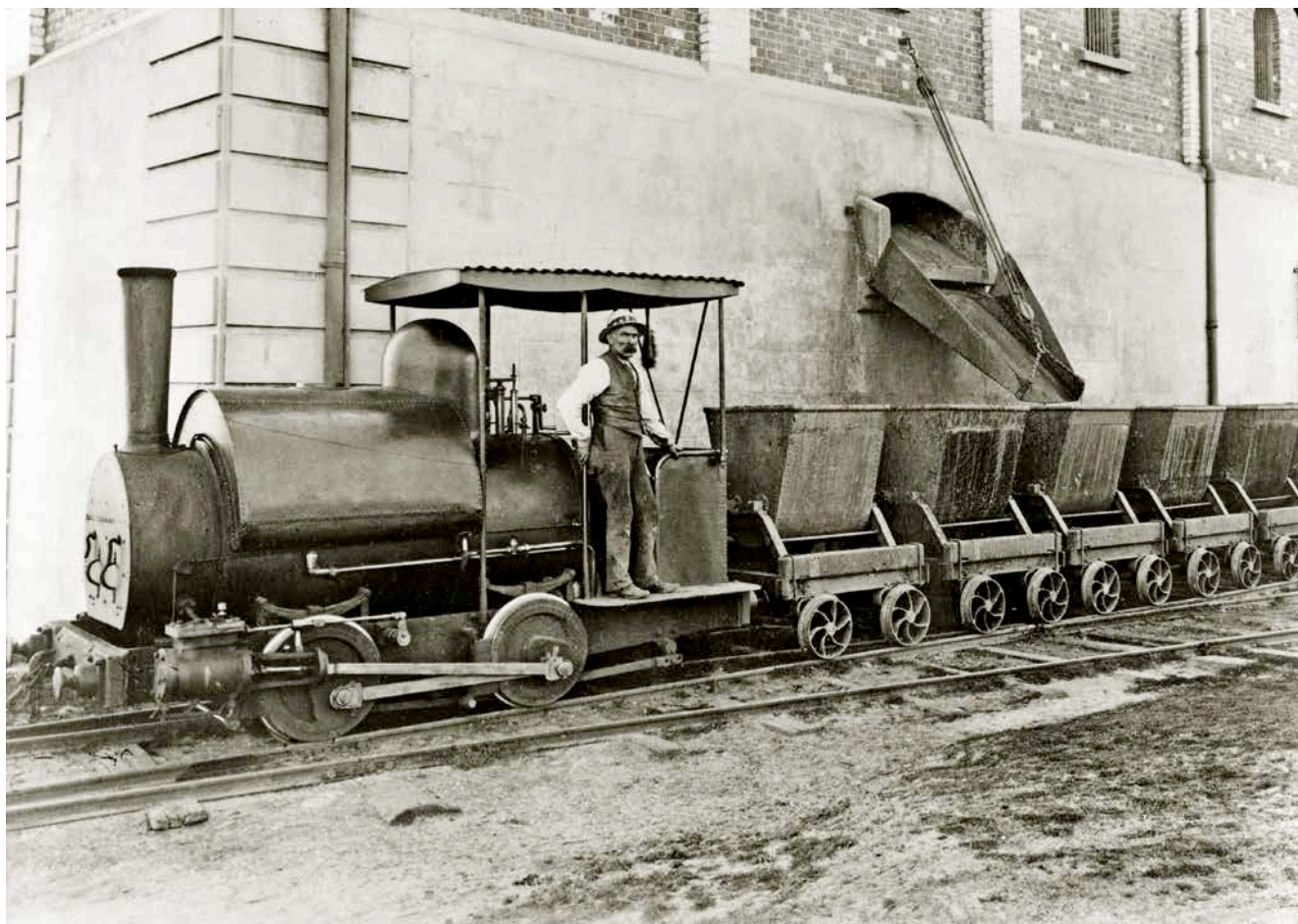
Front Cover: Steamfest was held at the Sheffield Steam and Heritage Centre at Redwater Creek in Tasmania on 11 March 2017 where the 0-4-0WT Krauss was working hard all day with a four-coach train. The trains were well patronised during the day. The workshops were open to the public and the Malcolm Moore was on display. Also of interest were numerous traction engines in steam and moving about the grounds. Photo: Kieran Wright

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

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

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Articles, letters and photographs of historical and current interest are welcome. Contributions should be



*The newly acquired Mort's Dock locomotive and rake of six trucks pose alongside the Inlet House on the then northern bank of the Cooks River.
Photo: Courtesy Sydney Water/WaterNSW Historical Research Archive." negative - X850328 - 2*

The Botany Sewage Farm Railway

Genesis of the Mort's Dock locomotive

by Ron Madden

Introduction

Commencing in either late 1887 or early 1888, a short isolated standard gauge railway operated for some thirty years in connection with the Botany Sewage Farm situated on the shore of Botany Bay adjacent to the then mouth of the Cooks River. The land occupied by the sewage farm now forms part of the extensive grounds of Sydney's Kingsford Smith International Airport. The unusual appearance and hazy background of the small 0-4-0 standard gauge Mort's Dock and Engineering supplied steam locomotive that worked the line until 1906, have long intrigued researchers.

In August 1969, an excellent article on the history of the Botany-Rockdale Sewage Farm Railway by N J Thorpe appeared in the Australian Railway Historical Society *Bulletin*. It provides a wide-ranging and detailed portrayal of the light railway, its locomotives and rolling stock, as well as the workings of the sewage farm.

The passage of time means that aspects surrounding some of the rolling stock and in particular the Mort's Dock supplied steam locomotive that originally operated on the line, require fresh appraisal.

Sydney's Main Southern Sewer

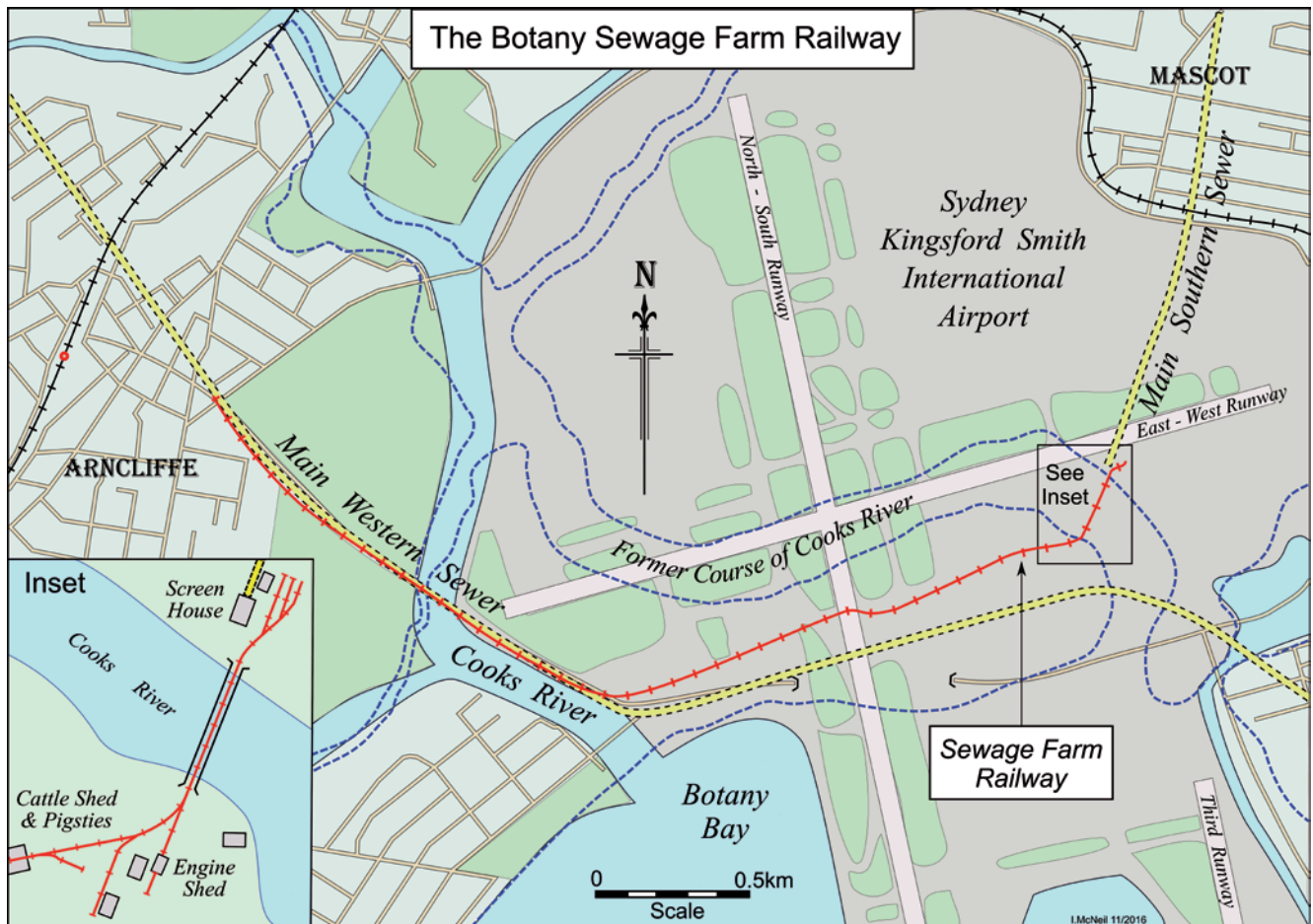
Some four and a half miles in length, Sydney's Main Southern Sewer ran ever so slightly downhill from the inner city suburb of Surry Hills to the then northern bank of the Cooks River, opposite land that had been put aside for the Botany Sewage Farm. It is not clear whether any railway operations were envisaged at the sewage farm when the first contract for building the Main Southern Sewer was let in April 1881. However, it seems unlikely.¹

The land put aside for the sewage farm comprised some 309 acres commonly known as Webb's grant, although, by the time that it was resumed by the New South Wales Government on 3 August 1882, it had devolved into ten separate land-holdings.² Today the 309 acres and since rerouted lower section of the Cooks River to its immediate north, form the south-eastern corner of Sydney's International Airport complex as defined by its runways.

The use of a standard gauge railway at the Botany Sewage Farm resulted from a decision by prominent contractor, John Young to employ standard gauge rail mounted machinery on "temporary staging" that he erected in 1885 to facilitate the construction of a cast-iron syphon some eight feet below the riverbed of the Cooks River. The syphon would run from the inlet building and its screening chambers at the end of the Main Southern Sewer to the outlet house and main carrier on the sewage farm on the opposite bank.

Contractor John Young

With the Main Southern Sewer all but completed by late November 1884,³ the NSW Department of Public Works (PWD) called for tenders on 9 December for the construction of a 'Syphon across Cooks River with Inlet Works, Outlet



Works, Main Carrier, etc.¹⁴ Tenders closed on 20 January 1885 and that of John Young was accepted on 2 February for 'Contract no. 11, Sydney Sewerage, Syphon across Cooks River.'⁵ Mr R. Rothwell would serve as Young's contractor's engineer.⁶

From well to well the length of the syphon was to be 1090 ft.⁷ Its construction saw the erection of "a bridge / temporary staging" across the river and "several tram lines" put down.⁸ The removal and replacement of large quantities of spoil may have seen the use of a narrow gauge locomotive, however, no evidence to that effect has been found, although apparently it was at least considered. Alternatively, a standard gauge 'contractor's engine' may have been used in connection with rail-mounted machinery that Young employed on the standard gauge track on the 'temporary staging,' where interestingly, one of the items employed was a '4-ton Appleby steam travelling crane.'⁹

Whatever the case regarding possible usage of a narrow gauge locomotive, Young did not waste any time. Commencing from the southern bank of the Cooks River, by late April 1885 considerable progress had been made with the temporary staging that would carry the rail mounted machinery 'for fixing the permanent tanking, lowering the syphon pipes into position and dredging the trench.'¹⁰ Less than two months later, it was believed that within only days the staging could be used by drays to deliver night-soil to the sewage farm.¹¹

That particular approach was not adopted, although it is not clear whether the staging was ever used for anything other than rail operations and pedestrian traffic on the catwalk provided on the outside of the downstream row of piles.¹² Young may have used the staging for road in addition to rail, however, the pictorial record is clear that subsequently it was only used in connection with the railway and pedestrian access. Despite

provision of a movable span that would permit river traffic to proceed as normal to and from the Government Wharf at the Cooks River Dam being mooted during Young's contract, it was not installed at the time, the 'temporary staging' effectively closing the river to commercial navigation for several years.

Young's Contractor's Engine

By mid-January 1886, some 280ft of the syphon had been laid.¹³ One of two Sisson endless chain pile-drivers used on the contract was advertised for sale in September that year.¹⁴ The other presumably was offered as part of an auction of Young's contractor's plant scheduled to be conducted at 'the Works, Lord-Road, Botany' on 12 January 1887.¹⁵

Curiously, despite a sub-heading of the auction advertisement mentioning 'Locomotives,' only one locomotive was actually listed for sale. Although Young made extensive use of standard gauge mounted machinery, no gauge was mentioned with regard to the locomotive that was offered for sale in January 1887. The fact that that information (or for that matter any other information about the locomotive), was not provided, probably points to the engine having been of standard gauge.

Unfortunately, no photographs, illustrations, or descriptions of the contractors' engine seemingly used at Botany by Young and advertised for auction in early 1887 are known to exist, and the locomotive's identity as well as its gauge, remains unknown. If it was a typical standard gauge contractor's locomotive, because of its much heavier construction there appears little, if any, likelihood that such an engine was modified by Mort's Dock who then supplied same to the PWD in 1887-8.

If on the other hand, a narrow gauge engine was involved, it is possible that it could have been purchased by the PWD and contracted to Mort's Dock to be regauged to become the

very unusual looking standard gauge locomotive used initially by the PWD at the Botany Sewage Farm before its transfer along with the railway and Sewage Farm to the Board of Water Supply and Sewerage control in late 1889. Alternatively, the locomotive could have been purchased by Mort's Dock and gauge converted by the firm before sale to the PWD, although extensive examination of Mort's Dock records by researcher Mark Langdon failed to unearth any evidence of such activity.

The Public Works Department buys a bridge

Also advertised for auction as part of Young's contractors' plant at Botany, were sixteen muck wagons – steel wheels and axles, 1½ miles of new 18 lb/yd steel rails and ½ a mile of 40 lb/yd steel rails, as well as staging and a punt.¹⁶ The 1½ miles of 18 lb/yd steel rails may have been used for spoil removal. They would have been too light for a run of the mill standard gauge contractor's engine. The staging / temporary bridge was purchased in situ by the PWD and by late April 1888, it had already 'proved very useful to those engaged in carrying out the work at the sewage farm.'¹⁷

In July that year, supplementary estimates tabled in the NSW Legislative Assembly included moneys for 'alterations to the Syphon bridge at Cooks River, including moving span and rolling stock for sewage farm.'¹⁸ Installation of the moveable span finally re-opened the waterway for small coastal trading vessels to again ply to and from the Government wharf at the Cooks River Dam, after a prolonged absence.

It is not known if the PWD purchased any of the other items offered at the January 1887 auction, however, with 40

lb/yd rails regularly employed by contractors using standard gauge track, it seems highly likely that the ½ mile of 40 lb/yd steel rails used by Young both on and presumably near the staging was purchased in situ. A call for tenders in November 1898 for the supply and delivery of some 85 tons of 40 lb/yd steel rails in connection with the extension of the sewage farm railway,¹⁹ points to the PWD having purchased Young's 40 lb/yd rails in early 1887.

Thorpe indicated that in addition to the 4 ft 8.5in gauge track that Young used on the staging, he had apparently originally intended to employ a 2 ft 6 in gauge locomotive for spoil removal, however, after changing his mind, he instead used only standard gauge track on the staging. Thorpe suggested that as a result of that change of heart, Young had a 2 ft 6 in gauge locomotive and tipping skips converted to standard gauge, all of which were subsequently taken over by the PWD.

Thorpe qualified his conclusions regarding a 2 ft 6 in gauge locomotive, and with time and money always critical for any contractor, it is very difficult, if not virtually impossible to envisage Young going to all the trouble and expense of having a narrow gauge locomotive and trucks converted to standard gauge, especially the narrow gauge spoil/sludge trucks which one might think would normally have been fairly readily available in standard gauge format. In addition, PWD acceptance in mid-1887 of a tender from Mort's Dock for the supply of both a standard gauge locomotive and trucks for use at Botany (see below), seems to indicate that no narrow gauge track was used on the staging.

In fact, no evidence has been found that a 2 ft 6 in gauge



Mort's Dock locomotive and ex-Saywell passenger carriage stand at Arncliffe, the end of the line for the extended railway. 'Homemade' metal cab added circa the late 1890s. Note the very low slung appearance and 'wrap-around' saddletank.

Photo: Courtesy Sydney Water/WaterNSW Historical Research Archive. Negative - A399



Mort's Dock locomotive and nondescript flat truck on the works siding near the Inlet House. Note the builder's plate on rear cab wall – the only Mort's Dock small industrial locomotive known to be fitted with one.

Photo: Courtesy Sydney Water/WaterNSW Historical Research Archive. Negative X810908 - 8

locomotive was ever at, or used anywhere near the Botany Sewage Farm. It is possible if seemingly unlikely, however, that Young could have separately operated a 2 ft 6 in gauge locomotive and trucks in moving, storing and disposing of spoil and that such an engine ended up much modified, being used by the PWD at the Botany Sewage Farm after being converted to standard gauge. If, however, that was the case, it is clear that Young did not have the locomotive gauge converted.

It is intriguing that Thorpe introduced Young's possible intention to use a 2 ft 6 in gauge locomotive at Botany into the narrative. Tantalisingly for researchers, mystery still surrounds the fates of the two locomotives of that gauge that Mort's Dock manufactured for the Great Cobar Copper Mining Company in 1883, even to the extent of whether the second of those engines was actually completed, let alone delivered on the mine.

A very unusual looking locomotive

A purpose built typical standard gauge contractor's locomotive would have been far too expensive a proposition for the operations envisaged by the PWD at the Botany Sewage Farm, as well as too heavy for sustained economical use of the 'temporary staging'. As a result, agreement was apparently reached on either the manufacture of a radical lightweight standard gauge locomotive, or modification of an existing design that involved narrow gauge locomotive features being adapted to a standard gauge chassis.

Purported to have weighed six tons,²⁰ the strange looking engine that resulted was at work at Botany by April-May 1888.

With sludge being screened at the syphon inlet house then gravity loaded into rakes of trucks drawn up alongside the building, once all the trucks were full, the rake was 'hurried by the little locomotive over the bridge and on to the farm.'²¹

Although no evidence has been found in the press of the PWD calling for tenders for the supply of a locomotive for use at the Botany Sewage Farm, on 14 May 1887 the department placed an order for a standard gauge engine with Mort's Dock and Engineering Company.²² It was announced the following month that the firm's tender had been accepted for the supply of a locomotive and six trucks for the "sewerage farm" at Botany.²³ As part of its general operations, in mid-August that year Mort's Dock was noted to be working on 'a locomotive for the Government sewerage farm.'²⁴ It would be the last of the five or six small industrial engines, produced by the firm, the others all being of narrow gauge.²⁵

Despite both Mort's Dock records and the PWD's acceptance of the firm's 'tender' seemingly pointing to the engine that was supplied having been a newly built and distinct locomotive, there are apparently some aspects of its design that do not seem to sit very well with that scenario. In addition, there was a four-year gap between the manufacture of at least one, and possibly two, 2 ft 6 in gauge locomotives for the Great Cobar Copper Mining Company in 1883 and Mort's Dock constructing its last small industrial engine, ie, the locomotive that it supplied for use at the Botany Sewage Farm. The gap raises the possibility that the latter could have been a recycled or converted locomotive using a narrow gauge engine, or parts of one lying around the Mort's Dock works, and/or parts of a narrow gauge engine of another make.

So far, however, no conclusive evidence has been found for any of these scenarios, only hints provided by the locomotive's somewhat 'bizarre' appearance. Although the smokebox of the sewage farm engine differed greatly from the tombstone-like arrangement on the 3 ft 6 in gauge locomotive manufactured for Hudson Bros in 1878, the prominent dome on the Botany engine is very reminiscent of that on the narrow gauge locomotive that the firm erected in 1880 for Bolton Molineaux's Perseverance Gold Mining Company at Adelong.

The same also goes for the Botany locomotive's stack and the long 'cab roof' originally fitted, although the latter differed in decorative detail. There can be little doubt that the dome, stack and original cab roof of the Botany locomotive were all Mort's Dock features. Although the Adelong locomotive was not fitted with a saddletank, the first of the small industrial engines that the firm built in 1878 (for Hudson Bros) was clearly initially fitted with one, so there was nothing new with regard to the saddletank on the Botany Sewage Farm locomotive.

The only known narrow gauge Mort's Dock engines that could have been lying idle and/or unfinished at the firm's works in mid-1887, were the Great Cobar Copper Mining Co's 2 ft 6 in gauge locomotives. As already indicated, the second of those may not have actually been completed and/or delivered after the first engine arrived at the mine in the second half of 1883. Alternatively it is possible, that the first could have found its way back to its maker by 1887 if her performance failed to measure up against the four John Fowler locomotives also employed at the Great Cobar Mining Company. Although one of the Mort's Dock built Great Cobar engines could have been in Young's possession in 1885-6 there is no evidence to that effect and no photographs, illustrations or descriptions of either of the Mort's Dock built Great Cobar locomotives are known to exist.

Despite the lack of photos or plans of the Mort's Dock built Great Cobar locomotive/s, although the smokebox, boiler and saddletank of the sewage farm locomotive were all of narrow gauge dimensions, they appear to have been too wide to have come from a small 2 ft 6 in gauge engine, suggesting that they were either obtained from a non-Mort's Dock product or were purpose built. Whatever the case, they were affixed to an unusual standard gauge chassis (possibly a converted narrow gauge chassis), that was fitted with wheels and driving gear that would not have looked out of place on a 2 ft 6 in gauge locomotive. The engine's resulting low profile and 'bow-legged' appearance when viewed head-on, were quite atypical for a standard gauge locomotive.

In summation, although a 2 ft 6 in gauge locomotive could have been used by Young for spoil removal at Botany, there is no evidence to that effect. Such an engine, however, may have been the inspiration for the unusual standard gauge engine that subsequently worked at the Botany sewage farm. Whether the latter was partly derived from the former, or was an entirely new build, or it involved the conversion of a narrow gauge locomotive of a different make, will take some quite inspired research to resolve.

On 30 September 1889, the Metropolitan Water & Sewerage Act Amendment was passed by the NSW Parliament.²⁶ It transferred to the Board of Water Supply and Sewerage control of all of Sydney's existing sewers as well as the Botany sewage farm, its railway and rolling stock.²⁷ The amended title, Metropolitan Board of Water Supply and Sewerage evidently came into force in 1892, apparently to distinguish the statutory body from a similarly named entity established in the Hunter Valley.

In its 1890 annual report, the Board of Water Supply and Sewerage described its locomotive as a "steam motor," noting that it was in good running order, with what would prove a recurring theme, the only repairs needed over the twelve months having been the fitting of new brasses because of the vast quantity of fine sand that comprised the sewage farm.²⁸

With Thorpe providing excellent coverage of the steam locomotive and rolling stock and their repair and maintenance, far be it for the author to try and improve on same, however, I have provided some snippets of information where they either add to, or significantly alter, aspects of the story.

The road (evidently the railroad) over the 'temporary' staging had to be strengthened in 1891 due to the shifting of some of the piles.²⁹ Along with repair of damage caused by the teredo worm, maintenance of the 'bridge' was already becoming an expensive exercise. To add to the problem, the sliding span was damaged in 1892 by a vessel that was being towed, temporarily preventing any vehicular traffic from reaching or leaving the sewage farm.³⁰ Repairs and alterations carried out included having the rollers of the sliding span bushed with gun metal for easier operation, while fenders were fitted to help prevent further damage to the structure in the event of almost certain future collisions.³¹

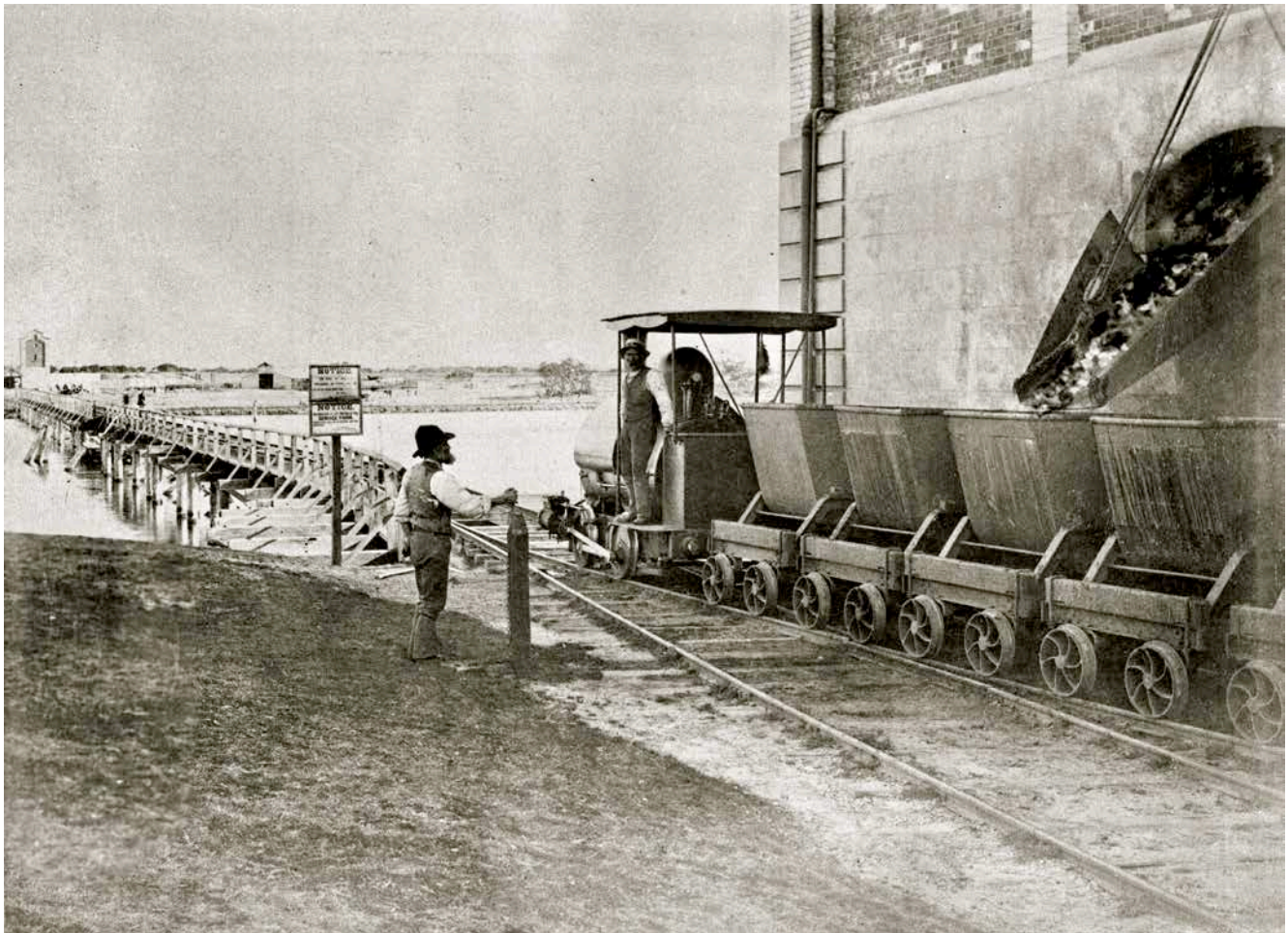
As noted by Thorpe, in 1893 a bogie wagon was obtained, which as well as being useful for conveying livestock to and from the sewage farm, also proved convenient for conveying carts and horses across the river,³² thus providing relatively ready access for small road vehicles.

As also noted by Thorpe, a small standard gauge passenger carriage was purchased in late 1900 from Thomas Saywell. It may still have been used in 1913-14 by farm employees, their families and visitors, with a 'passenger car' alluded to that year in addition to the petrol driven passenger locomotive that had replaced the steam locomotive.³³ It appears more likely, however, that the petrol driven passenger locomotive was quickly found to be adequate for all passenger runs and the line's only passenger carriage was soon retired and/or disposed of.

With the continued use of the 'temporary staging' already problematic, by the mid-1890s a scheme was being examined whereby screened sludge would be forced through a submarine pipe to the sewage farm using compressed air, thus removing the ongoing use of the 'bridge' and railway across the Cooks River.³⁴ It would, however, be some years before the plan could be put into effect.

In late October 1895, Henry Vale and Sons' tender for repairs to the locomotive's boiler, was accepted for £97 - 10s.³⁵ Seven months later it was noted that the locomotive had been fitted with a new boiler and "generally overhauled" and that as a result, it was "in first class running order."³⁶ Four years later, however, seemingly contradicting the earlier advice re the fitting of a new boiler, the rolling stock was stated to be in fair condition except for the locomotive, "the boiler of which gives trouble, and other working parts require renewing. The locomotive has been constantly running for about twelve years, and was not a first-class one at the beginning."³⁷

Although the Board was keen to retire both the bridge and the section of the railway that it carried across the Cooks River, lengthy delays in installing the new sludge system saw the staging continuing to be patched up and repaired and likewise the locomotive. Only twelve months after the pointed criticism of the quality of the build of the Mort's Dock locomotive and following more repairs, it was deemed to have "reached the limit of its usefulness, and should be replaced with one of more suitable type for local conditions of running."³⁸



Mort's Dock locomotive and rake of trucks wait at the Inlet House, while sludge destined for burying on the Botany Sewage Farm slides down the lowered chute
Photo: Courtesy Sydney Water/WaterNSW Historical Research Archive. Negative - 820730 - 2

The annual report for 1901-02 re-iterated the problems being experienced with the locomotive that had been "in use since the inception of the works" and had "gradually reached its limit of usefulness."³⁹ With the sludge handling system at long last brought into action, the Board's report for 1902-03 recorded the demise of the 'temporary bridge' for railway operations.⁴⁰ The structure continued, however, to be used for another five or so years by sewage farm employees getting to and from work by 'Shank's Pony,' before it was so badly damaged by wayward barges in 1907-08, that it had to be removed.⁴¹

In November 1902, the first step towards replacing the Mort's Dock steam engine was made, when tenders were called for the supply and delivery of a locomotive for the "light railway" at the sewage farm, Arncliffe.⁴² Using newly purchased 40 lb/ yd rails manufactured by the Carnegie Steel Co of Pittsburgh, Pennsylvania, the line had been extended in 1898-99 to also cross the Rockdale Sewage Farm established to the immediate west of the Botany Sewage Farm, with the railway as a result then terminating at Marsh Street, close to Arncliffe Railway Station,⁴³ where it provided ready access to both farms.

The Board was unimpressed with the prices quoted in the tenders that it received for the supply of a suitable standard gauge locomotive and as a result the Mort's Dock engine was again overhauled, although any further outlay in that regard was deemed uneconomic.⁴⁴

Conversion of the Mort's Dock Locomotive

As indicated by Thorpe, in 1906 the end of the Mort's Dock locomotive's life as a steam engine was imminent, with tenders being called by early August that year for the conversion of a

steam locomotive to a 12 horse power petrol-driven locomotive.⁴⁵ No record of a contract actually being awarded has been found, however, by early December the Board placed an order for a 12 horse power Hercules cylinder engine, marine type, which was to be fitted in the converted locomotive.⁴⁶ Later that same month, tenders were also called for the supply of sprockets, gear box, standards, levers, etc for the conversion.⁴⁷

The 1906-07 financial year report advised that the steam locomotive had been converted to a petrol-driven locomotive and that it was running satisfactorily.⁴⁸ An advertisement placed by the Metropolitan Board of Water Supply & Sewerage in mid-August 1907 for a sale of Old Stores and Machinery at the Sewage Farm, Botany,⁴⁹ wrote the obituary of the Mort's Dock steam locomotive. In addition to a ten ton weighbridge and sixty sewer trucks that were being offered, were also loco cylinders (presumably two), a useless boiler and a saddle tank which it was advised was in good condition.⁵⁰ Some two tons of mixed scrap iron was also advertised and may have included the remains of the locomotive's enclosed metal cab apparently added in the late 1890s.

Thorpe provides excellent coverage of the petrol powered locomotive; it and eight side-tip trucks were first offered for sale in early June 1918,⁵¹ however, the Construction and Local Government Journal, the weekly supplement to Building and also the Australasian Engineer, tells a different story in early September 1920 about the eventual disposal of the engine.

In response to the Board's invitation for tenders for the "Purchase of one Petrol Passenger Locomotive and eight Side-tip Trucks at present lying at Arncliffe Sewage Farm," a Mr FA Winter offered to pay £85 for the locomotive and trucks,

or £10 for the trucks only.⁵² A Mr C Piggott, however, offered £80 for the locomotive only and his offer was accepted. Both tenders probably reflected intentions to dismantle the engine for scrap.

Acknowledgments

The author would like to sincerely thank John Browning for his rigorous examinations of several of my early attempts to come to grips with the subject. Thanks must also go to Ian Mc Neil for his preparation of the excellent map that accompanies this article.

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34. *Ibid*, Annual Report – 1 January 1895 to 30 June 1896.
35. *SMH*, 30 October 1895, p8. – Water and Sewerage Board – weekly meeting.
36. *MBWS & S, Annual Report – 1 January 1895 to 30 June 1896*.
37. *MBWS & S, Annual Report 1898-99*.
38. *Ibid*, 1899-1900.
39. *Ibid*, 1901-02.
40. *Ibid*, 1902-03.
41. *Ibid*, 1907-08.
42. *SMH*, 29 November 1902, p3.
43. *MBWS & S, Annual Report 1898-99*.
44. *Ibid*, 1902-03.
45. *SMH*, 18 August 1906, p15.
46. *Ibid*, 11 December 1906, p10.
47. *Ibid*, 22 December 1906, p20.
48. *MBWS & S, Annual Report 1906-07*.
49. *Evening News*, 10 August 1907, p10.
50. *Ibid*.
51. *Sydney Morning Herald*, 1 June 1918, p3 – Machinery.
52. *Construction & Local Government Journal*, 6 September 1920, p2.

From 'News, Notes & Comments' in *Light Railways No. 20*, Winter 1967

AUSTRALIAN CEMENT LTD.. Fyansford.

An inspection of the works on 9/7/67 showed that all wagons had been transferred to the quarry, and all engines were in the shed. The last steam train ran on 22nd. December, when the Huswell-Clarke brought in the last workmen's train. Maintenance of locomotives and the track ceased on 31st. May; up to which time the diesel loco had been used each Monday, to inspect the track.

Although the Company has not officially decided as to the disposal of locomotives, it is known that at least 12 people or organizations have indicated their interest in acquiring the locomotives. It seems that all locomotives will be preserved in some way. (M.Plummer).

EZARD'S TRAMWAY, Erica

The tall, and extremely spindly trestle bridge over the South Cascade Creek, on Ezard's tramway from Erica to Bell's Camp, was dismantled in June by the Forestry Commission, as it was considered unsafe. This may have been the highest privately owned trestle bridge in Victoria. (M.Plummer/G.Maynard).

HENRY'S TRAMWAY, FORREST

The last rail trolley used on Henry's tramway was salvaged recently by member Reg Wilson, of Gerangamete, who now has it on his property. It was a Lea Francis, with small disc driving-wheels at the back, and a non-powered bogie

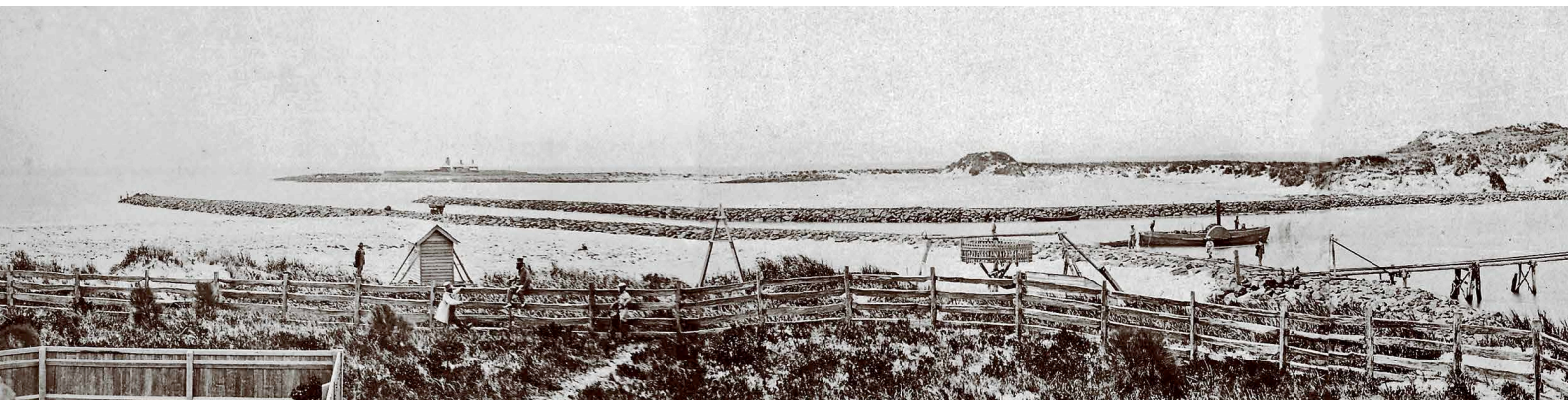
at the front. (2'A wheel arrangement,- or 4-2-0 in steam parlance). (M.Plummer).

STATE ELECTRICITY COMMISSION, Yallourn.

Two new Bo-Bo electric locomotives, (road Nos. 124 and 125), arrived in Melbourne on June 18th. They were built by the Hitachi Co. in Japan, and were transported to Victoria Dock, Melbourne, by ship. Here they were transferred by the ship's 200 ton derrick onto railway wagons for transfer to Yallourn, the bodies and bogies being carried separately.

The new 2'11-7/16" gauge locos each weigh 62 tons, and are of 1,000-h.p. This makes interesting comparison with the V.R.'s 5'3" gauge "T" class diesel-electric locos, which are only 875-h.p. and weigh 68 tons. The new locos are therefore the most powerful narrow-gauge locos in Victoria, and probably the most powerful sub-3'6" gauge locos in Australia. They show the potentialities of narrow gauge when combined with direct electric-traction.

The new engines can be worked in multiple unit with the 16 locos of 800-h.p. which form part of the present motive-power of the S.E.C.'s extensive rail network at Yallourn/Morwell. They will be used for hauling longer coal-trains on the interconnecting railway between Yallourn and Morwell open-cuts. All other electric locos obtained since the second world war were built by Siemens Schuckert Werke, of Western Germany. (ARHS Div.Diary/S.E.C.News/M.Plummer/F.Stamford)



Safe Haven on the Shipwreck Coast: a Harbour¹ for Port Fairy

by Peter S Evans

Port Fairy² was one of the earliest settled areas in Victoria. The bay to its east received its name from the Cutter *Fairy* (commanded by Captain Wishart), which sheltered there in 1828. Over subsequent years Griffiths and Rabbit islands on the southern edge of the bay became home to a semi-permanent colony of whalers from Tasmania engaged in a then-remunerative trade. By 1840 this trade was waning, but the rich soils in the hinterland behind the shallow mouth of the River Moyne promised a rich agricultural future.³

For a brief period between August 1840 and August 1841, large tracts of land located more than five miles from an established settlement were made available under 'special survey' regulations. Irish protestant James Atkinson seized this opportunity to lodge an application for a 'special survey' at Port Fairy of eight square miles (5120 acres) at £1 per acre. This was confirmed in October 1843, and marked the establishment of the settlement Atkinson named 'Belfast'.⁴ Over the next few years the development of the area would depend on the outcome of debates over what was a 'special survey' responsibility and what was a 'government' responsibility. An impending sale of Crown land on the hummocks separating the Moyne from Port Fairy Bay would have the potential to swing that burden more towards the government.⁵ By 1849, with the settlement a mere five years old; it was claimed nearly 10,000 tons of shipping were using Port Fairy Bay annually, but that not one sixpence had been spent in the district by the government (despite it having benefited by land sales valued at £20,000). A meeting at the Merrijig Inn on 6 January 1849, amongst other claims on the government coffers, sought £400 for permanent moorings in Port Fairy Bay, as the bay had already accumulated seven shipwrecks.⁶

Port Fairy was proclaimed a port of entry and clearance in July 1850 and, in October 1852, was brought under the official regulations governing ports within Victoria.⁷ This was just in time to participate in the economic boom of the gold rushes sweeping Victoria. In 1853, a total of 75 vessels arrived at Port Fairy (and 74 departed – another wreck added to the list), assisted only by the harbourmaster stationed at the Port.⁸ By May 1854, sailing directions for the Port had been published and three permanent moorings had been laid down in the bay, each with an anchor of around one ton weight connected by ninety fathoms of heavy chain to a red-painted

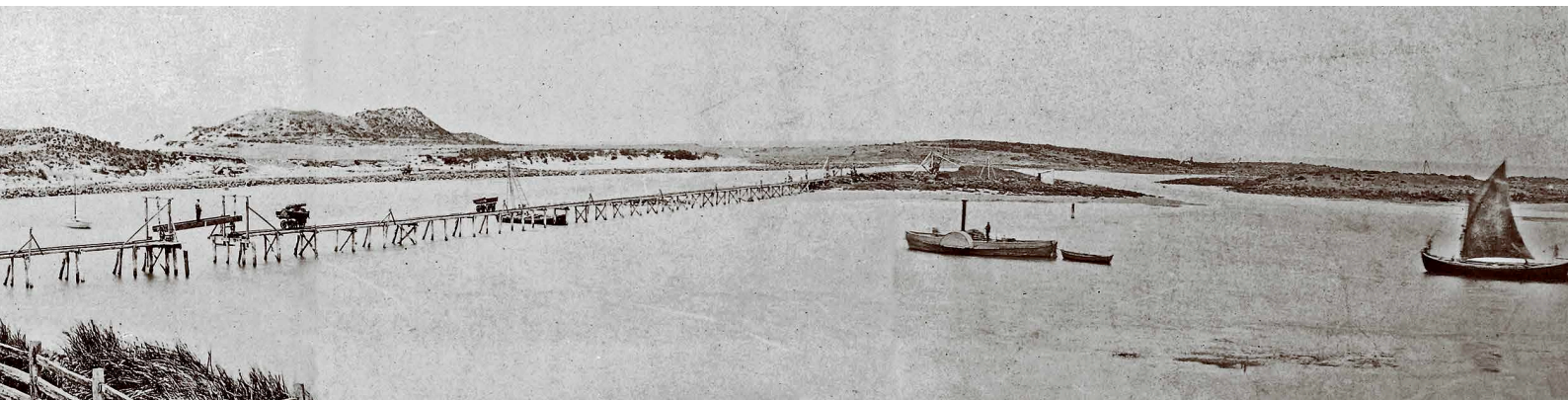
barrel buoy.⁹ Local knowledge indicated that the large expanse of bay at Port Fairy provided fair holding for anchors should the number of ships exceed the moorings available. But, being circumscribed by land, it was considered no place for a first-time vessel to enter unassisted. Although well-protected from the prevailing westerly winds, it was badly exposed to winds from the south east; the months of December, January, February and March being considered the most dangerous.¹⁰

This was proved beyond doubt in the Great Gale of February 1854. In the early morning of Tuesday 27 February a strong south-easterly gale struck three ships moored in Port Fairy Bay. They were the barques *Inellen*, *Dundee* and *Benjamin Elkin*, all in the process of loading wool by lighter for a return voyage to London. *Inellen* and *Dundee* were driven ashore to become total losses; only *Benjamin Elkin* survived, due to an incredible feat of seamanship by harbourmaster John Mills and his boat crew. Miraculously, all aboard the two wrecked ships survived.¹¹

A jetty and a tramway

In May 1855 a petition was got up in Port Fairy to address the danger to shipping using Port Fairy Bay. The petitioners noted that the survey of the bay had long been completed but, despite the large number of shipwrecks (and twice-promised government funding of £3000), nothing had been done to improve the fledgling port. Impatient with the inaction, the petitioners promised to raise £12,000 by subscription if the government would contribute £3 for every £1 subscribed. The largest contributors were James Atkinson at £4000, flour millers Alison & Knight at £1500, and shipping agent William Rutledge at £1500, but amounts down to £10 were promised. It was already realised that the key to removing the bar at the mouth of the Moyne was the potential scour from the South West Passage.¹²

Despite this local knowledge, a jetty in Port Fairy Bay was chosen by the government as the solution to the problem, and the first pile was driven in January 1857.¹³ Before too many more had been driven, the work was stopped, and further work on the jetty was suspended while an enquiry was made. A Select Committee was appointed on 19 February 1857 consisting of Mr Hughes, Mr Beaver, Mr Horne, Mr Henty, Captain Clarke, Captain Pasley, Mr G J Ware and Mr W Rutledge, several of whom could not be described as a 'disinterested party'. Armed with John Barrow's charts of 1854 (and the latest local updates to them), the Committee boarded the steam gunboat *Victoria* on 23 July 1857 to inspect the works and gather evidence. The sitting at Port Fairy commenced on 27 July 1857. The realisation that emerged was that the jetty had been built in the wrong place (180 feet too far south), probably because of a misunderstanding between Captain Alexander Campbell and Mr Thomas Harris of the Public Works Department. A further complication was



A multi-image panorama of work proceeding on the training walls in 1870. Of note is the bridge across the Moyne leading from the quarry on Goat Island (with its complement of stiff-legged derricks) to the northern training wall, the lift span in the middle of the bridge, and the truck-haulage whim opposite the left-hand end of the bridge. Note that the newly fitted-out steam tug Surprise has had time to reposition herself between exposures, so she appears twice in the image, once each side of the bridge. Photographer J Harvey, State Library of Victoria image H9329

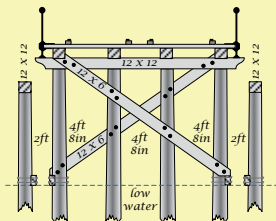
that some of the land on the bay frontage had been sold off, limiting access across the foreshore to a surveyed road. Wherever it was placed, the jetty had to be built at right angles to the beach so that the incoming swell would not push vessels against the piles. A suitable end point for the jetty had been buoyed in deep water by Port Fairy harbourmaster John Mills, but the starting point had not been marked. The starting point eventually chosen was opposite Campbell Street, considered the best landing place for goods, and this took the jetty straight out into the bay along a natural sand spit at the foot of Flagstaff Hill, (well south of Mills' buoy in deep water). As the jetty was constructed, the deposition of sand had followed it out and, even at high water, there was not enough depth for lighters to be moored alongside

with safety. It was pointless to deviate the end of the jetty to its intended location, as that would present lighters on the weather side of the jetty at an angle to the swell, and almost guarantee their destruction. Expert local evidence suggested that the only thing to do would be to demolish the jetty and re-build it further to the north. Unfortunately it appeared that, to make any use of the currently expended money, there was little choice but to complete the contract and continue the jetty out into Port Fairy Bay, and construct a bridge across the River Moyne to connect the jetty with the town. This might facilitate the occasional landing of passengers but, for cargo inwards and outwards, the jetty would always be a white elephant. The removal of the bar at the mouth of the Moyne River would become the more important objective.¹⁴

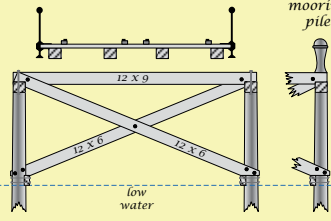


*The earliest known photograph of the jetty and tramway as they were in 1861. Features of note are the ships moored in Port Fairy Bay, the lifeboat shed on the jetty, the shallow cutting through the dunes (with a tramway truck visible), and the long embankment leading to the River Moyne. The only other sign of activity on the sand dunes is the signalling flagstaff to the right of the tramway cutting (later the site for a battery of guns to defend the port).
Photograph by J. S. Adcock, courtesy Port Fairy Historical Society, image 62-09A-001.*

PROPOSED JETTY AND TRAMWAY AT BELFAST

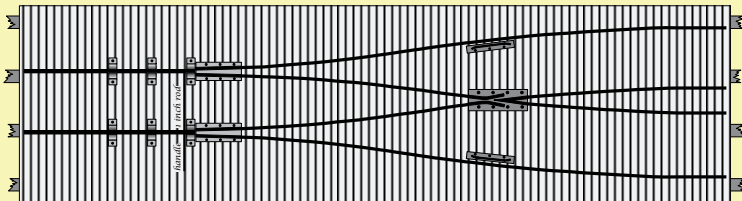


Cross section of Jetty
showing braces

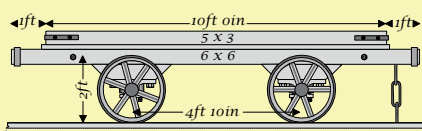


Cross section of Fender Piles
showing braces

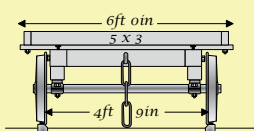
Section of
mooring
pile



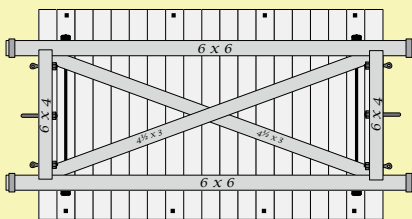
Plan of Part of Top of Jetty showing the arrangement of Tramway Points



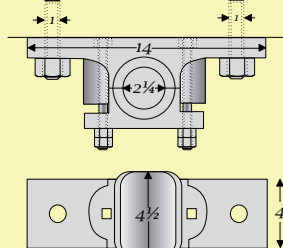
Side elevation of truck



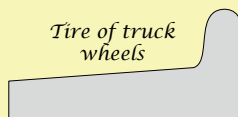
Cross section of truck



Inverted plan of truck



Plan and elevation of pedestals



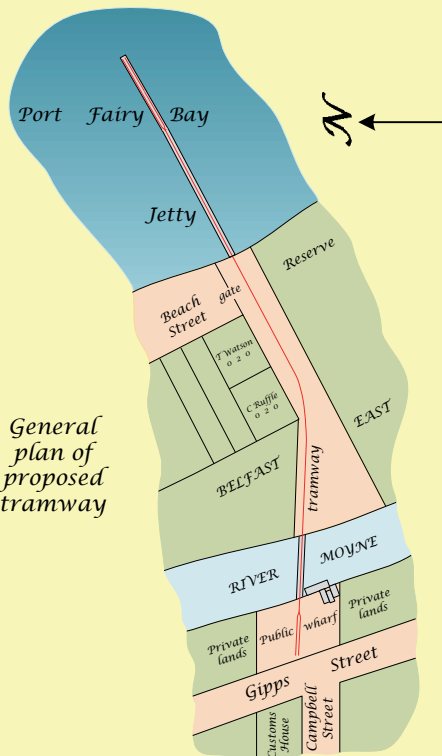
Tire of truck
wheels

HW
J

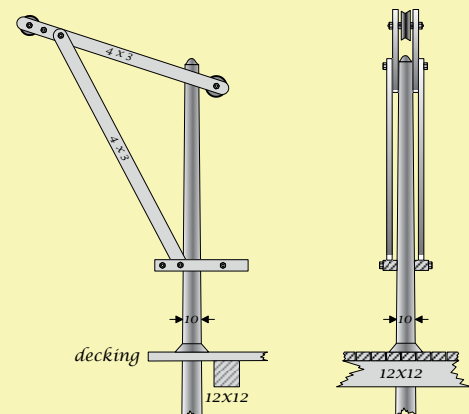
3585 4795

John H. H. H.

Surveyor, Belfast, 3 November 1859

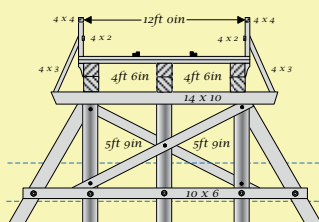
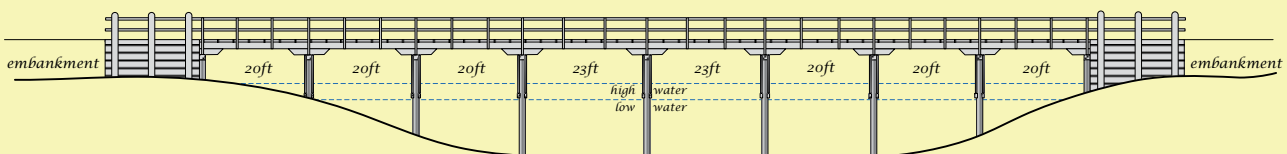


General
plan of
proposed
tramway

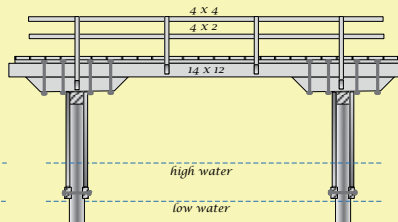


Wooden crane for jetty

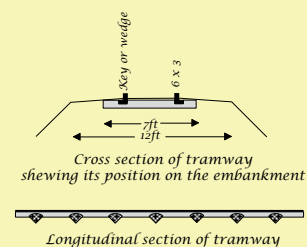
Elevation of bridge



Detail Cross Section of Bridge



Detail elevation of one opening of Bridge



Cross section of tramway
showing its position on the embankment

Longitudinal section of tramway

John H. H. H.

4794

BSG

HW

Redrawn from original PWD plans by Peter Evans September 2015



A detail of the 1870 photograph showing the manually-operated lift span with its twin crab winches, and details of the trucks used on the tramway. Note a third truck on the original south training wall.

Photographer J. Harvey, State Library of Victoria image H9329.

In August 1857 the Select Committee had recommended that the work on the jetty continue according to revised plans drawn up by the Commissioner of Public Works. Further, it recommended that harbour lights be installed as outlined in the inquiry (in Port Fairy's case, a lighthouse at the eastern extremity of Rabbit Island, and a single light on the end of the jetty), and that a more 'minute and careful examination' of the entire coast be undertaken before any future works were recommended.¹⁵

As planned, the jetty was a little over 600 feet long and twenty feet wide (with an eastward extension of 200 feet, cranked slightly northwards, added in 1864 against local opposition).¹⁶ The sole lifting apparatus on the jetty was a simple wooden jib-crane with a reach of about six feet and mounted on a sturdy wooden post ten inches in diameter. The single line of rails on the jetty were of timber, six inches high by three inches wide and capped with an iron strip two inches wide and half-an-inch thick, spiked to the wooden rails at intervals. The rails were to be set to a gauge of four feet nine inches. On the 200 foot extension of the jetty the rails bifurcated into two tracks at a simple stub point (an iron frog and iron check-rails were shown on the plan). The tramway truck shown on the Public Works Department plans was a simple affair: iron wheels on iron axles running in plain (possibly white-metal) bearings, with a wheelbase of four feet ten inches. The frames were inside the wheels, and extended at each end to form dumb buffers. The top was planked, and measured ten feet by six feet. Three-link couplings were fitted at each end. Two trucks were to be provided.¹⁷

However, without a continuation of the jetty tramway to get goods to the western side of the Moyne River, the £9000 spent on the jetty was next to useless.¹⁸ Finally, in February 1862, the sum of £2000 was voted to fund the work,¹⁹ which was completed by Alexander Amos & Co in November 1863.²⁰ As finally built, the tramway linking the jetty with the Customs shed on the west bank of the Moyne River was substantial. On leaving the jetty it crossed through a shallow cutting in the sand dunes (formed by Greg Appleton & Co),²¹ emerging onto a long embankment. This embankment was twelve feet wide at the top and was intersected by four twelve-inch pipe culverts for drainage. The track on this section was laid on split (quartered) rough timber sleepers seven feet long, with six-inch by three-inch wooden rails set vertically and keyed into the top of the sleepers. The tramway plans specified nine inches of metal ballast, although photographs indicate that sand

was probably used. The embankment terminated at a timber bridge with a total span of 166 feet over eight openings; six of twenty feet, and two central spans of twenty-three feet. The bridge was fully decked and fitted with handrails along both sides.²² Photographs show the line terminating directly into a round-top customs gauging shed opposite the court house, with a single stub siding on the south side of the shed. The line was very likely worked by horses. Despite the vast expenditure of public funds, the jetty, its extension and the expensive tramway bridge were all considered useless. Cargo continued to be lightered direct from ships moored in the bay to the wharves on the Moyne. In fact, thundered *The Argus* (quoting the *Belfast Gazette*):

The many thousands of pounds which have been expended on the jetty and tramway have been literally thrown away, as no cargo is ever unloaded there, while the harbour improvements absolutely necessary, viz., the deepening of the mouth of the river by the removal of a portion of the bar is left untouched. The jetty, with its tramway and sheds, exist merely as monuments of folly.²³

The jetty was not the only white elephant: an iron lighter specially imported in pieces by Rutledge & Co. (at a cost of £3000) and assembled at Port Fairy also proved unequal to the task, and was eventually incorporated into the foundations of the Steam Packet Wharf.²⁴

Improving the Moyne entrance

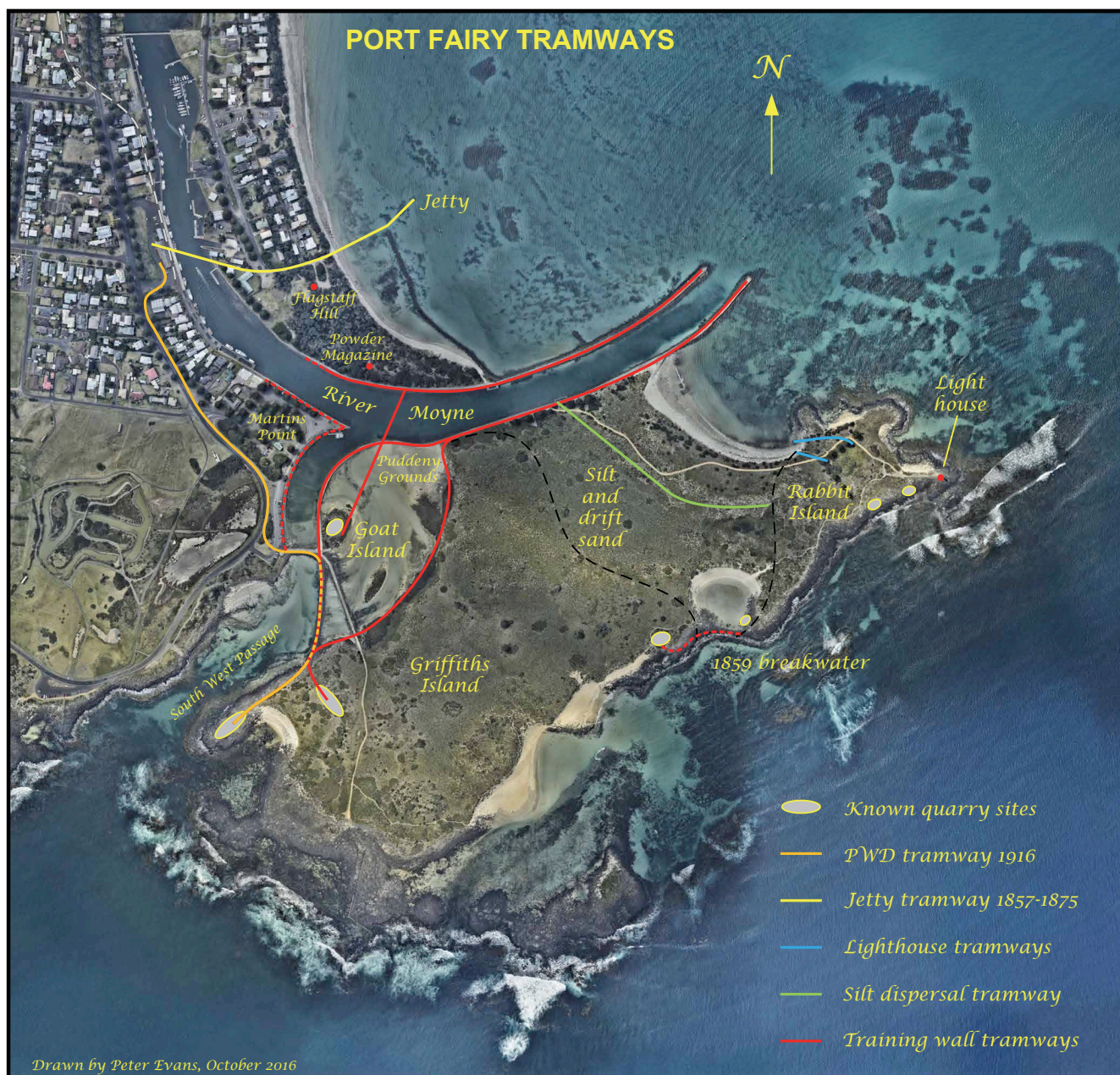
The first work to be done to improve access to the Moyne was a rock wall built between Rabbit and Griffiths Islands by John Griffiths²⁵ in the mid-1840s; Griffiths to receive £5000 and a 50-year lease on the islands for his trouble. Stone was readily available as both islands represented the southern-most flows of basaltic lava from Mount Rouse, dating back around 300,000 to 400,000 years. Before it was partially washed away in a gale in 1849, the rock wall had the effect of shutting off the current between the two islands, and the immediate result was a reduction in siltation of the bar across the mouth of the river.²⁶ It was a start, and showed what could be done.

As an after-effect of the inquiry into the Western Ports in 1857, a contract for £462 was let in June 1859 for the construction of a permanent breakwater between Rabbit and Griffiths Islands, the contractors being Mason, Nicol, Robertson, McKenzie, Aitkin and Walkem.²⁷ It seems likely that tramways were used at this location, although there is no such evidence today, only a large quarry at the western end of the breakwater (with extant footings for a stiff-leg derrick) and a smaller excavation at the eastern end of the breakwater.²⁸ This breakwater improved the depth over the bar sufficiently to allow a specially-designed centre-board schooner, the *Moyne*, to successfully trade to and from the port from April 1865.²⁹ As we have seen, it was already recognised locally that the key to removing the bar permanently was harnessing the power of the current setting through the South West Passage between the mainland and Griffiths Island.³⁰ A visit by Mr Edward Orpen Moriarty (engineer for rivers and harbours to the NSW Government) at the invitation of special-survey owner James Atkinson, brought professional confirmation of the fact.³¹ In early 1867 a new survey was carried out of the Moyne and its mouth with a view to instituting works to remove the bar and at last allow vessels to enter the river itself instead of having to anchor out in the bay.³² At this point the residents of Port Fairy, tired of waiting for the government to do something about the problem, took matters into their own hands and resolved to raise the necessary funds themselves. It was anticipated that one year's savings on lighterage (estimated at £6160) would pay the entire cost of the work.

When the locals had raised £5000, the government would, it was thought, be forced to vote a like amount.³³ However, through political and bureaucratic apathy, the money would take some time to materialise and, even then, only in dribs and drabs.

Moriarty's plan was adopted by Mr William Wilkinson Wardell of the Victorian Public Works Department, slight modifications only having been made after further examination of the prevailing currents. A specification was drawn up by the inspector-general of the Public Works Department, William Heron Steel, in September 1867. It was quickly realised that tramways would be the key to the works – barges would not be able to get close enough to the works to deposit stone. (A gauge of 5ft 3in was specified on the tramway drawings, but photographs suggest something narrower was used).³⁴ Although initial tenders had been called as early as October 1866,³⁵ the work was not begun by contractors Messrs Gibson Brothers until 15 January 1869 but, by May 1869, had already resulted in a noticeable deepening of the water over the bar.³⁶ Rails and trucks to the value of £1000 were used on the project. Photographic evidence suggests that the construction tramway on the southern training wall was probably worked by

horses direct from a quarry on Griffiths Island. Construction of the northern training wall was more complicated; to obtain stone, a quarry was established on what was then Goat Island in the South-West Passage. The quarry was connected with the northern wall by a temporary trestle bridge across the Moyne. The bridge incorporated a lift span (operated by hand-winch and block and tackle – a swing bridge had initially been considered but rejected) to allow the passage of vessels. A horse-operated whim working an endless rope drew trucks backwards and forwards across this bridge to a turntable at its northern end; from here the trucks could be hauled by horses to the tipping point at the eastern end of the northern training wall. The trucks were simple contrivances on four wheels with a timber superstructure. It is presumed they were loaded using stiff-leg derricks at the quarry end, and manually tipped at the delivery point. The vast quantity of stone required cost £4500 to quarry and transport. By May 1870 the northern wall was 18 chains long, 12 feet wide at the top, with a side slope of 2:1, and contained 7230 cubic yards of stone. Its top was seven feet above the low water mark. The southern wall was 27 chains long (its greater length serving the tramway from the quarry on Griffiths Island), eight feet wide at





The steam tug Surprise towing the topsail schooner Elizabeth (62 tons, 64 ft long, built in Tasmania in 1851) upstream through the still under-construction training walls on 29 May 1872. The Elizabeth drew 6 ft 6 in of water and was fully laden with general cargo, so the exercise demonstrated beyond doubt the efficacy of the new harbour works.

Painting by Frank Emery (1859-1881), University of Melbourne Archives, Grainger & Special Collections, gift of Justice Harry Emery.

the top, and contained 5750 cubic yards of rock. It rose five feet above low water mark. By this time, it was clear that the walls were already doing the job for which they were designed. The flow of the Moyne was too low to prevent the build-up of sand and silt at the bar at the entrance to the river, but wave action through the South-West Passage drove the river water before it, producing a scouring action that would effectively keep the sand and silt at bay. This scouring action was aided by a strong current running along the coast from west to east, assisted by the reefs at the opening of the South-West Passage, which tended to act as a 'non-return valve' on the water flow. The long training walls helped to confine the flow of water so as to produce the maximum scouring action over the bar.³⁷ In 1871 the bridge across the Moyne was widened and decked and the whim abandoned, so that direct horse traction could be used all the way from the quarry to the working face of the north training wall.³⁸

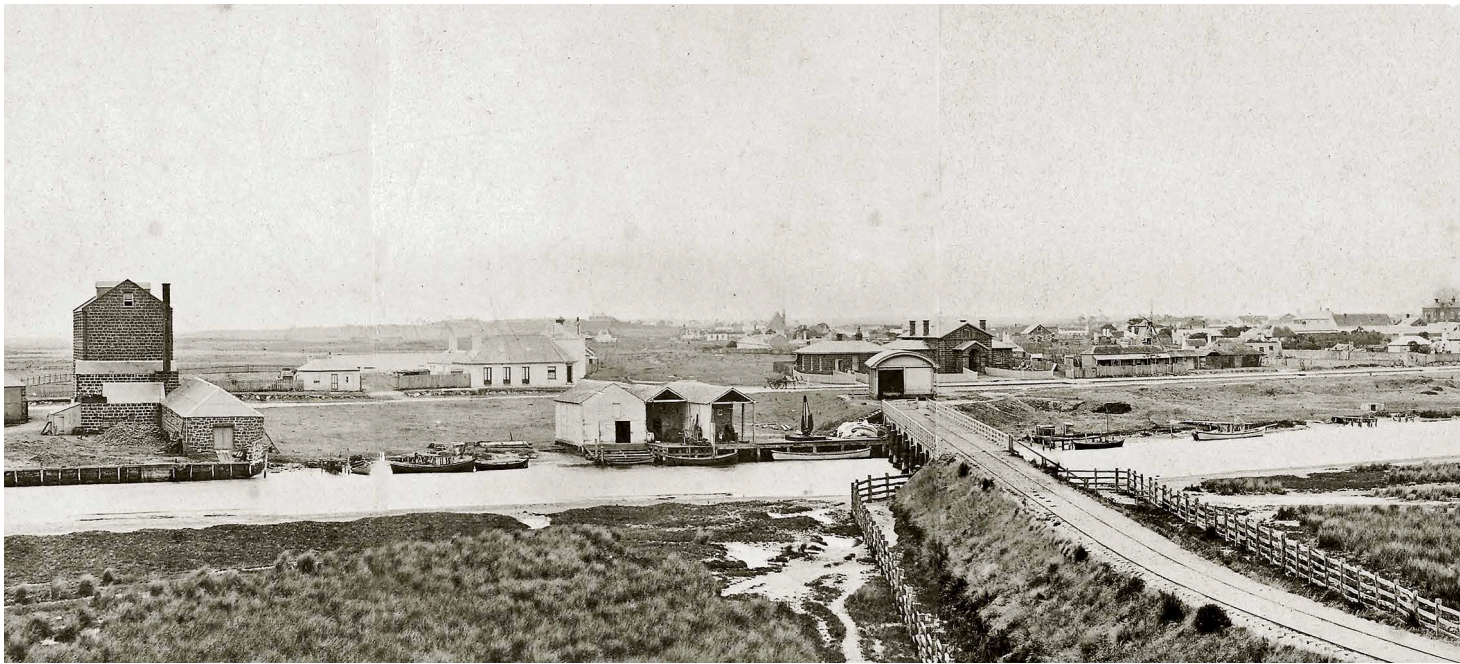
In an effort to secure further funding (beyond that already promised), a deputation from the Town Council took Mr O'Grady, Commissioner of Public Works, on a tour of the harbour improvements in July 1871, pointing out the positive effect of the work already undertaken, with a depth of 11 to 12½ feet now over the bar, and the bar reduced to one fifth of its former extent out into Port Fairy Bay. Extending the training walls would only increase this effect. With 48,000 tons of cargo to be moved inwards and outwards that year, the reduction of 5 s per ton to do away with lighterage would be a huge boon of £12,000 a year to the district.³⁹ By November 1872, vessels drawing seven feet were arriving at the wharves in the town. Delighted by the success so far, the residents of Port Fairy petitioned the government for the work to be continued.⁴⁰ In 1877 the dredge *Wombat* left Melbourne (towed by the government tug *George Rennie*) for a voyage to Port Fairy, where it would be employed in further deepening the river channel, the spoil being dumped behind the new training walls. To date, the government expenditure on the project totalled £19,400,⁴¹ and had resulted in great savings in shipping for almost every type of goods.⁴²

The only drawback to the river improvement scheme was the now stronger flow of water through the mouth of the river, and the cross-current from the South West Passage could affect

vessels heading to the wharves.⁴³ This was especially difficult for sailing vessels. By the time the improvement works were underway, a solution had already been found. The steam paddle tug *Surprise* was constructed for Captain Lewis Grant in 1869, using an 1847-built 42 ft-long lighter converted to steam power with a pair of 12 nhp horizontal engines and a tubular boiler (built in Melbourne by the Atlas Company of Engineers) driving paddle wheels seven feet in diameter.⁴⁴ Grant had first visited Port Fairy in 1842 and, from 1852, established himself as a shipping agent and wool merchant, operating a fleet of lighters on the Moyne River.⁴⁵ These lighters would be towed by the *Surprise* after she was completed in November 1869. She was also used to tow sailing vessels into the river (until she was worn-out in 1886) but, increasingly, the vessels trading to Port Fairy were powered by steam.

The success of the river training walls drove the last nail in the coffin of the long and exposed jetty jutting out into Port Fairy Bay. The lifeboat shed (added to the jetty in 1861) was dismantled and moved to the east bank of the Moyne River in 1873. With new private and government wharves erected on the Moyne, the tramway was pulled up and its obstructive bridge removed by mid-1875.⁴⁶ (The tramway rails were taken to Sandridge [Port Melbourne] in September 1876, and the bridge materials were retained in Port Fairy for wharf construction).⁴⁷ With the bridge gone, the Customs shed was no longer of use in its current position and, in July 1877, it was reoriented parallel to the river where it would better serve the wharf.⁴⁸ By this time the jetty had already been cut-off from the beach, and the only benefit derived from the total expenditure of £13,000 was its use as a platform to repaint the harbour buoys when required. It was an embarrassment to the government, and slated for removal for the sale of whatever its timbers would fetch. (By 1885 it would be reduced to a line of rotting piles).⁴⁹

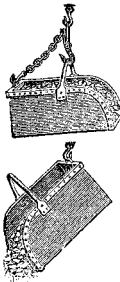


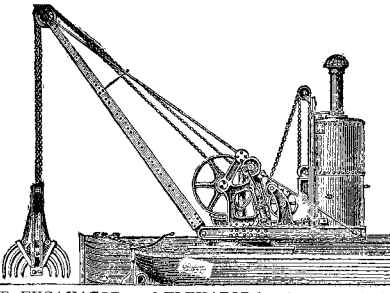


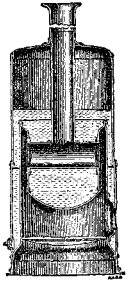
By 1877 the population of Port Fairy was 2400 and the value of its annual imports and exports had rocketed to £979,000, with wool and potatoes figuring prominently in that amount. With the harbour works well on their way to completion and vessels drawing up to eight feet now comfortably accommodated at the wharves (and protected from the weather of the Southern Ocean),



This photograph taken looking west shows the tramway embankment and the tramway bridge across the Moyne, with the round-topped customs gauging shed at the termination of the tramway. Behind the customs gauging shed are the customs building and court house. To the far left of the bridge is Dr Alexander Russell's Moyne steam flour mill and, to the right of the bridge, the main wharves and warehouses of Grant & Co., rather inconvenienced by the obstruction of the tramway bridge. This photograph is said to have been taken in 1875, so it must have been just before the tramway and bridge were removed. Unattributed, but possibly Joseph Soden or Henry Merlin, State Library of Victoria image H6301.

it was time that attention be turned to the defence of these valuable assets. While Melbourne would make a juicier target, the Heads guarding the narrow entrance to Port Phillip made it relatively easy to protect, but it was considered that the western ports would be extremely vulnerable to attack by an armed raider or privateer. The vast expanse of water off the East Beach at Port Fairy ruled out the use of stationary torpedoes or moored mines so, instead, a battery of rifled guns bearing on the anchorage and the approaches to the Moyne River was recommended. (Port Fairy already had two elderly guns, but they were in unprotected positions below Flagstaff Hill). Colonel Jervois, in making his report in 1877, recommended that four or five 80-pounder muzzle-loading rifled guns be installed. These would be manned by volunteers under the command of a non-commissioned officer and two or three men of the permanent forces of the Colony.⁵⁰ In the end, only two of the 80-pounders were installed. The Volunteer Corps manning the guns was disbanded in 1904 and, today, both guns remain in their concrete emplacements above the old tramway cutting, while another four smaller guns used in the defence of the port (and for training purposes) grace Cannon Park on the eastern bank of the River Moyne.⁵¹

In 1878 Sir John Coode, the English harbour expert, visited Melbourne to advise on improvements to the Yarra River. Port Fairy residents raised the necessary 100 guineas to extend that visit to their own port. Sir John came, was treated to the customary banquet, made his inspection, and left. When no report was forthcoming, the government (reluctantly) refunded the local donations that had made the visit possible. However, in August 1879, Sir John's report finally arrived⁵² (at a cost of 200 guineas), approving of the work already done, and recommending further extension of the training walls at the mouth of the Moyne and a further narrowing of the South-West Passage by a new training wall embracing Goat Island to increase the scour (with the possible addition of sluice gates to stop the increased flow of water while ships were passing). Several reefs of rock crossing the river would have to be removed, and a swinging basin to turn larger ships would also be required at the wharves. The work was estimated to cost £22,500.⁵³ At this point the government gleefully demanded (and got) its 100 guineas back, but had no money to prosecute further work at Port Fairy, having just spent £246,000 on a new exhibition building.⁵⁴

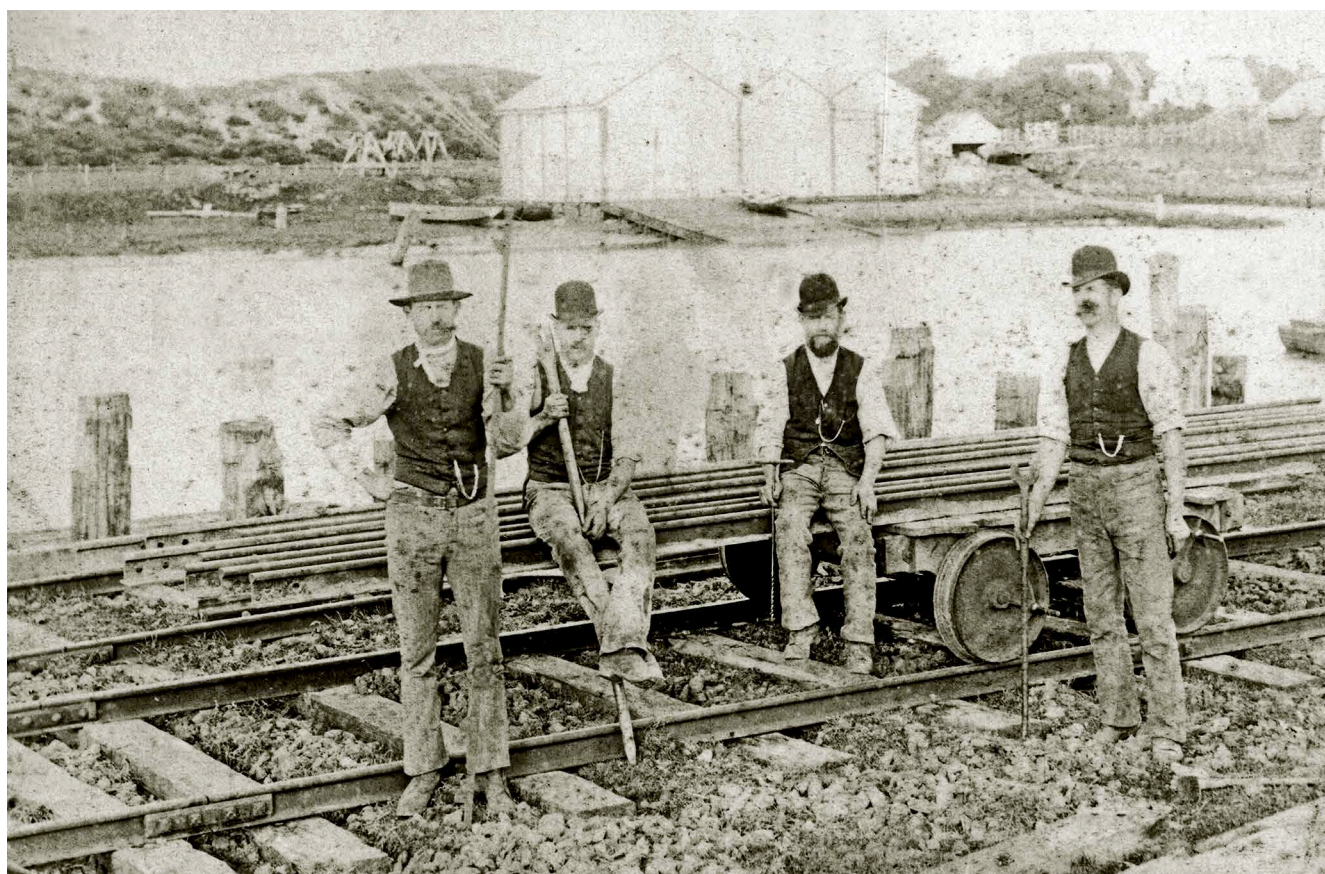
PRIESTMAN BROTHERS.				
 PARIS  SYDNEY  AWARDED for PATENT DREDGER, & BROWN'S PATENT TUBS BEING SELF-TIPPING, Effect Great Saving in Discharging Cargo.		MELBOURNE.  ADELAIDE.  AWARDED for PATENT DREDGER, & KEABLE'S PATENT BOILER, EFFECTS Very Great Saving in Fuel, and having greatly increased Heating Surface, Steams very Rapidly.		
WORKS: Holderness Foundry HULL. LONDON OFFICE: 52, Queen Victoria St.	Excellent references given by those who have used them. THE PATENT DREDGER, EXCAVATOR, and ELEVATOR has been supplied amongst many others to:- English Government, Cape Government, Danish Government, Chinese Government, Chilean Government, South Australian Government, Queensland Government, Spanish Government, Victorian Government, New South Wales Government, Dutch Government, New Zealand Government, The Admiralty, London and North Western Railway Co., North-Eastern Railway Co., Liverpool Dock Bd., Caledonian Railway Co., North British Railway Co., Hull Dock Co., Greenock Harbour Bd.			Keable's Patent Boiler has been supplied to the following amongst many others:- The Admiralty, the Danish Government, the Dutch Government, the L. & N. W. Railway Co., the Westport Harbour Commrs., the R. Ties Conservancy, the Caledonian Railway Co., Anstruther Harbour Commrs. C1757A-3

Priestman Brothers advertisement featuring their grab dredge of the type used at Port Fairy. The Engineer, 29 September 1882, page iii.



In order to provide additional accommodation for shipping, a proposal was made in 1876 to construct wharfage near Goat Island and construct a tramway along Gipps Street and over to the island to connect the new wharf with the town. Objections were raised to this tramway because of the cost of construction, operation and maintenance; the removal of a sand spit opposite the powder magazine being considered a better use of the money.⁵⁵ Consequently, no permanent wharf was ever installed at Goat Island, nor was the suggested tramway built at this time.

From 1878 the government dredge *Wombat* was occasionally stationed at Port Fairy. It was a spoon-type dredge; not very efficient, but faster than a diver filling a bucket. However, it was unable to keep pace with the accumulation of silt, and something better was required.⁵⁶ In mid-1884 a new dredge arrived in Port Fairy primarily for use at that port. Built by Priestman Bros in the UK and purchased by the Victorian Government in 1883, it consisted of a coal-fired steam-powered bucket-grab mounted on a pontoon, and was to have a long working life.⁵⁷ Funding for the work was provided by the government, and



Laying the railway on the Port Fairy wharf, probably in early 1890. Michael Hanlon on the left and Alex Patterson on the right.

Courtesy Port Fairy Historical Society, image 62-09A-010.

In 1887, tenders for the construction of a railway linking Warrnambool with Port Fairy (via Koroit) were advertised, Buscombe & Chappell winning the contract. Construction started from the Port Fairy end of the line, with the first sod being turned on 8 December 1887. The starting point was determined by the ease with which sleepers and rails could be delivered, and there was a brief burst of additional shipping activity. This included the largest sailing vessel ever to enter the river, the 350-ton *Lord of the Isles*, loaded with sawn timber from Grafton for the railway contractors. The first through train from Melbourne (a railway commissioners' 'special') arrived on 12 November 1889.⁶⁰ Thereafter, while the long-awaited railway would provide a great aid to fishermen wanting to get their catches quickly to Melbourne and Ballarat,⁶¹ it was in reality a Trojan Horse, and hastened the end of Port Fairy as a shipping centre. The railway commissioners did their bit to speed this along by imposing an additional charge of 6 d per ton on all freight travelling the few hundred yards between Port Fairy railway station and the wharves.⁶² With the ever-ready pockets of the tax-payer to subsidise unrealistic long-haul railway freight rates, shipping goods by sea became increasingly uneconomic and, much as some Port Fairy businesses might have wished to support their port, few could afford to do so. The depression of the 1890s further hindered the utility of the port, as the only money made available by the government was for periodic dredging of sand being washed in through the South West Passage during westerly gales.⁶³ Eager to help, the Borough Council purchased the quarries on Griffiths Island in 1899 and offered them to the government *gratis* in order to assist with the new training walls then being constructed along the South West Passage.⁶⁴ In 1900 a bridge was erected across the passage to improve pedestrian access to the southern training wall and the lighthouse⁶⁵ (the abutments can still be seen today).

PROPOSED PORT FAIRY WHARF RAILWAY c1888

Bank Street
Gipp's Street
Cox Street
Wadart Street
Campbell Street

John Graver (occupier)
J. Meagher
J. Moyle
J. Moyle (occupier)
J. Moyle (occupier)
J. Moyle (occupier)
J. Moyle (occupier)

End of line 1954
End of line 1950

River Moyne

Tracks shown by dotted lines added after railway opened in 1888 and not retained after the 1946 flood

Dismantled jetty tramway (1863-1875)

Wharf buildings on line of railway to be removed by PWD

Redrawn from original VR plans by Peter Evans September 2015

LIGHT RAILWAYS 256 AUGUST 2017



An excursion train from Terang on the Port Fairy wharf circa 1908, emphasising just how close was the access for the fishermen to load their catch. However it would be the railway and, later, improved road transport, that eventually killed-off the port. Photograph: Stan Evans collection

men working on the project being dismissed because of the 'financial situation') but, overall, continued for at least six months. Unfortunately, it was a total failure: rather than decreasing the siltation of the Warrnambool harbour it actually increased it and, by December 1917, there was already talk of trying to remove the dumped stone.⁷² Perhaps Port Fairy was finally wreaking some revenge for all the years of sniping in the *Warrnambool Standard* against Port Fairy's harbor facilities (sometimes disparagingly referred to as 'a muddy ditch')! This short-lived line represented the last major use of a tramway at Port Fairy.

In 1922 the Victorian government instituted a Royal Commission to enquire into the administration of the outer ports. By the time of the Commission's report in 1925, Port Fairy, Western Port and Port Welshpool were very much small fry compared to the 'big' three outer ports: Warrnambool, Portland and Lakes Entrance. At all these ports expenditure outstripped revenue but, in Port Fairy's case, the difference was massive: £7503 spent as against £947 earned, the worst performer of the three smaller ports.⁷³ Despite this, the Royal Commission could see a future for Port Fairy: decentralisation and the encouragement of industries like the Glaxo powdered milk factory, a proposed cement factory and potential to grow sugar beet would provide both extra inward and outward freight, and might even encourage wool and potatoes off rail and back into coastal vessels. To achieve the required wharfage capacity and economies of scale would require new works. These included shifting the focus of the port downstream to Crown land at Martins Point, building new wharves and warehouses there, and further dredging the channel to 16 feet to allow larger vessels to enter. The Commissioners recommended the work, totalling £95,000.⁷⁴

No-one foresaw the great depression of the early 1930s, which effectively put a stop to all but maintenance activities at Port Fairy. By 1934 the Moyne training walls had reached their present length of 1500 feet long, providing a safe passage with a width varying from 200 to 350 feet, and a depth of water of from 10 to 12 feet. There was accommodation at the wharf for two vessels drawing 10ft of water.⁷⁵ In 1939 the regular steamer service to Port Fairy ceased with the sale of the *SS Wannon* and the subsequent winding-up of the Belfast & Koroit Steam Navigation Company after 57 years of service to Port Fairy.⁷⁶ From then on, Port Fairy would be reduced to a fishing port, but even that trade was dwindling. In 1945 only seven railway trucks of fish were consigned from the wharf in a six month period, as most of the fish was being chilled in the two freezing chambers on the wharf and dispatched by road.⁷⁷ Following devastating floods in March 1946, the Port Fairy wharves were destroyed and the wharf railway lines undermined and twisted. A new main wharf was re-built in concrete at a cost of £17,000.⁷⁸ Only the main railway line was re-laid on the new wharf, and that portion was used solely for the fish trade until 1948. After 1948 all fish was transported by road and, in 1950, the wharf line was cut back to a short stub terminated with a baulk. The last train to use this section was in October 1952 (for the delivery of a few trucks of timber), and the line was dismantled back to the western side of Gipps street in October 1954.⁷⁹ What track remained south of the Port Fairy railway station remained in use for shunting until 1977, when the entire line beyond Warrnambool was closed and lifted, eventually becoming a rail trail. Tourism now dominates the region, and the historic port sees little use apart from pleasure craft.

South-West Passage, Port Fairy



Above: Silt pontoons moored in the South-West passage. One is loaded with tramway track panels for use with silt dispersal between Rabbit and Griffiths islands.

State Library of Victoria image H90.160/235

Below: Haldane Brothers' Dolphin on her rail-supported launching cradle in 1939. In the distance above the vessel is a long embankment of material of a lighter colour than the surrounding dunes – the only known pictorial evidence of the silt dispersal tramway. The dark line above it is probably the original shore line of Griffiths Island. These features can still be made out on modern aerial photographs. Photo courtesy Ross Haldane





Above: The newer rubble-stone jetty of the lighthouse tramway in the 1940s. Hugh Haldane, the lighthouse keeper is in the dingy and his son Alan is on the jetty. The motor boat in the background was used for travel to and from the township of Port Fairy and would have towed the dingy with it. A holidaying child tries out the tramway truck. Photo courtesy Rob Haldane

Right The tramway from the rubble-stone jetty in the 1950s, looking abandoned and overgrown. Photograph by Lillian Powling, State Library of Victoria image H2008.75/166

Below: An upturned tramway truck adjacent to the lighthouse keeper's cottage (which was demolished in 1957). Photograph Lillian Powling, State Library of Victoria image H2008.75/165



Griffiths Island tramways

As an after-effect of the inquiry into the Western Ports in 1857, a contract was let to Mason, Nicol, McKenzie, Aitkin and Walkem for £85 for the construction for a jetty leading to the lighthouse site.⁸⁰ The lighthouse was built the same year at a cost of £1730, and lighthouse keepers' quarters added by contractors McKenzie & McCowan the following year at a cost of £2000.⁸¹ (It would seem from evidence on the ground that the stone was quarried very close to both the lighthouse and the keeper's quarters,⁸² but it would be unusual for the era if some short temporary tramways were not involved in the work). Early photographs indicate that there was no tramway laid on this first jetty, and it was only a short distance from the jetty to the lighthouse keeper's quarters, so one was probably not needed. However, the jetty was somewhat exposed to easterly winds so, at some later date, a new rubble-stone jetty was built in a sheltered bay on Rabbit Island, and a tramway was laid on a slight upgrade from the jetty to curve and terminate just inside the north-east corner of the fence surrounding the lighthouse keeper's quarters. The tramway was certainly there when keeper Hugh Haldane arrived to take up his post in 1929. The main purpose of the tramway was to service the keeper's quarters. There was a small sandy beach beside the rubble-stone jetty where a boat could be beached to unload. Firewood and stores were then transported to the keeper's quarters on a single wooden truck built on an old skip frame. The woodshed (and bails for milking the keeper's cows) were situated at the terminus of the tramway. Photographs and field measurements indicate that the gauge was somewhere in the order of 914 mm. Parts of this tramway were still extant in the mid-1950s, as was a truck dumped near the light-keeper's cottage.

The materials for this and other tramways on the Island probably came from the temporary tramways laid for disposal of the silt raised by the Priestman dredge. Photographs indicate that the dredge was accompanied by pontoons loaded with

temporary track panels. A lot of the silt dredged from the Moynes was dumped in the gap between Griffiths and Rabbit islands. The vegetation in this 'filled' area is different to that elsewhere on the islands, the soil being deeper and containing organic materials from the river silt. The track panels presumably allowed the tramway line to be lifted and repositioned as required to fill the old channel. When the Haldanes arrived in 1929, such track panels were scattered over a wide area.⁸³

These track materials could also account for temporary tramways laid to launch the two fishing boats built by the Haldane brothers near the lighthouse keeper's quarters in 1934 (*Amaryllis*) and 1939 (*Dolphin*). Photographs of *Dolphin* under construction show two tramways under the vessel, one on each side, and neither is much longer than the boat. She sits on a cradle made up of four old skip frames joined with baulks of timber, with braces up to the hull – a very stable arrangement, with the weight spread evenly over all four trucks. It seems fairly clear that, when the time came to launch the boat, a section of new tramway would be laid behind her, the boat moved onto it, and the original section taken up and laid behind her again, with the process being repeated until she reached the water just south of the rubble-stone pier. The arrangement was probably the same as that used for launching *Amaryllis* a few years earlier, except that six trucks were used.

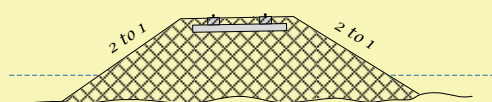
Remains today

In 1946 there were still ten or so flat wagons scattered around the Port, some with a steel and some with a wooden chassis, but most of the rail had gone.⁸⁴ The only major changes to date have been the levelling and concrete capping of the training walls to provide for vehicular access for maintenance activities. This had the added advantage of providing easy pedestrian access to the island system. Today, there is very little to show that any of the Port Fairy tramways existed at all, apart from the cutting through the sand dunes near



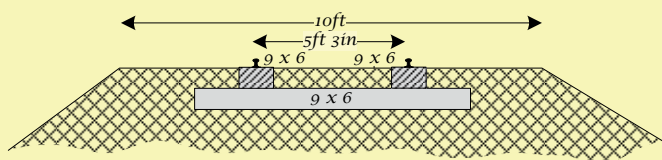
The tramway formation along the eastern wall of the South West Passage, showing the timber sleepers intact under the concrete capping. Photo: Peter Evans

PROPOSED TRAMWAY FOR IMPROVEMENTS TO THE RIVER MOYNE AT BELFAST

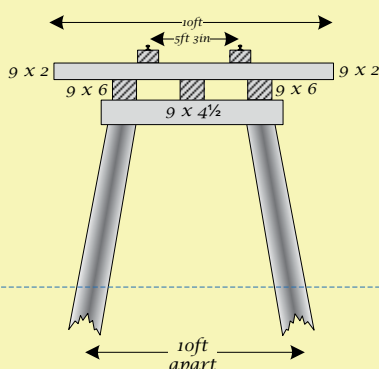


The Trucks to be loaded by Cranes

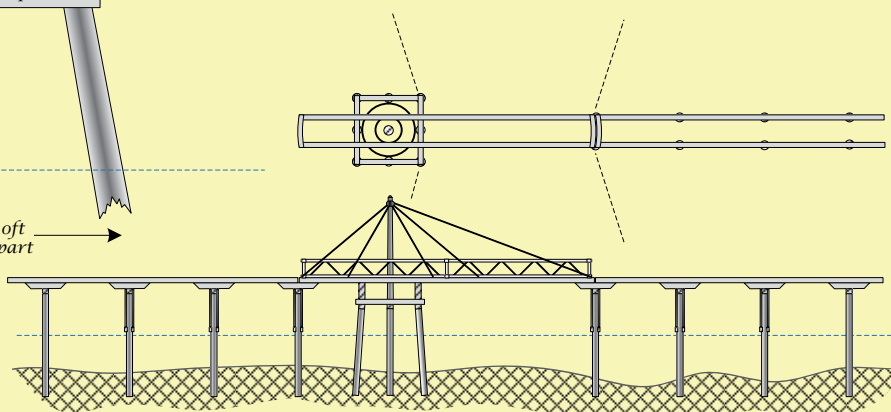
The trucks to be filled to the satisfaction of the Superintending Officer



The contract to be at per truck or per cubic yard of stone



The Tramway to be erected to the satisfaction of the Superintending Officer and to be taken up at value at the end of the works



Redrawn from PWD specification dated 3 September 1867 in VPRS 967/Po unit 28, Peter Evans, October 2015

the battery and a remnant of the tramway embankment (recently partially-removed by the Port Fairy Yacht Club for a new shed and additional parking space). There is one tramway wheel visible at low tide in the Puddeny Grounds, and the concrete capping along the eastern wall of the South West Passage delineates the gauge of the 1916 tramway and covers remnant sleepers below.



A tramway wheel abandoned in the Puddeny Grounds.

Photo: Peter Evans

(Of interest are the bolts spaced every 5 m or so and used to fix the tramway to the rock to prevent its loss during storms). At the later of the two lighthouse jetties lie the remains of truck frames and bearings. The remains of Goat Island and quarries on Griffiths Island betray the source of the stone used to construct the training walls.⁸⁵ However, major evidence of the tramways lives on in the long training walls and the modifications to the maritime landscape which have occurred. What were once separate islands (Rabbit and Griffiths) are now one, and Goat Island has been quarried almost into oblivion and incorporated into the 'Puddeny Grounds' by the deposition of dredged sand. The reserve at Martins Point was also reclaimed by the deposition of spoil from the river. Today, Port Fairy is primarily a tourist destination, and very little remains to remind visitors of a century-long struggle to create a safe haven on the shipwreck coast.

Acknowledgement: The writer gratefully acknowledges his debt to his late father, Stan Evans, for access to his Port Fairy newspaper notes, and for the many times spent together at Port Fairy exploring and talking about the history of the port. Also thanks to Des Jowett for suggesting some references regarding the Port Fairy Wharf railway extension; to Ross and Rob Haldane for their personal recollections of Griffiths Island; and to Marten Syme, Angela Syme and the Port Fairy Historical Society for constructive comments on the early drafts of this article and for access to information and photographs. All errors of interpretation are the author's alone.

References

1. 'Harbour' is the accepted spelling today. Where archival documents use 'Harbor' this has been retained in the references for the sake of accuracy.
2. Today's township of 'Port Fairy' officially became 'Belfast' in 1877, and became 'Port Fairy' a decade later in 1887; for the sake of clarity, it will be referred to as Port Fairy throughout this article as this was always the name of the port. See *Victorian Government Gazette (VGG)*, Gazette 65, Friday, 22 June 1877, pages 1179 and 1242; Gazette 46, Friday, 27 May 1887, page 1388.
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8. *Victorian Parliamentary Papers (VPP)*: Returns, Pilotage. 31 January 1854. John Ferres, Government Printer, Melbourne, page 129; personal communication, Marten Syme, 15 January 2016.
9. VGG, Gazette 39, Friday 12 May 1854, page 1169.
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11. *The Argus*, Monday 20 March 1854, page 5; Wednesday 22 March 1854, page 5; Wednesday 5 April 1854, page 5.
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17. PWD Plan 4795: Belfast Jetty. Dated 5 August 1859.
18. *Banner of Belfast*, Tuesday, 16 June 1857; Friday, 19 June 1857; Tuesday, 23 June 1857; Tuesday, 7 July 1857; Friday 10 July 1857.
19. *The Age*, Friday 31 January 1862, page 5; Saturday 15 February 1862, page 6.
20. VGG, Gazette 116, Friday 20 November 1863, page 2609.
21. Earle, W. (1896). *Port Fairy: A History* by William Earle. Facsimile edition by Olinda Public Relations P/L, 1975, page 21.
22. PWD Plan 4793 and 4794: Proposed Tramway at Belfast. Both dated 31 July 1859. Note that one of these plans gives the tramway gauge as three feet eight inches.
23. *The Argus*, Monday 12 December 1864, page 5.
24. Earle, W., *op. cit.*, page 17.
25. John Griffiths' name terminated with an 's' and this is the current terminology for the Island today, although the generally accepted maritime terminology is 'Griffith Island' without the 's'.
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27. VGG, Gazette 94, Friday 17 June 1859, page 1272.
28. Site inspection by the author, Sunday 25 October 2015.
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30. *Geelong Advertiser*, Wednesday 3 August 1864, page 2.
31. *The Argus*, Friday 18 May 1877, page 6.
32. *Portland Guardian and Normanby General Advertiser*, Thursday 2 May 1867, page 4.
33. *The Argus*, Tuesday 9 February 1869, page 4; Saturday 15 May 1869, page 5.
34. PROV, VPRS 967/P0 unit 28, specification dated 3 September 1867.
35. *Geelong Advertiser*, Monday 8 October 1866, page 2.
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37. *Illustrated Australian News for Home Readers*, Saturday 21 May 1870, page 101.
38. *Belfast Gazette*, Thursday 2 March 1871.
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42. *Banner of Belfast*, Tuesday, 11 June 1872; Tuesday, 25 June 1872
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57. PROV, VPRS 967/P0 unit 28 file GV 16/898.
58. *VPP: Loan Act No. 717, and the Application Act Thereto No. 735; Also Loan Act No. 805*. Ordered to be printed 28 July 1885. John Ferres, Government Printer, Melbourne.
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67. *Port Fairy Gazette*, Friday 21 September 1906; Tuesday 12 February 1907
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69. *Port Fairy Gazette*, Monday 1 November 1915, page 2; VPRS 7854/P2 unit 35, BIA 3472. BIA 3631 (unknown maker) and BIA 3632 (Hampson & Halliday of Footscray), both vertical boilers inspected at Port Fairy were also registered to M. Walsh. Newspaper reports and photographs indicate that the Priestman dredge was still in use at Port Fairy until at least December 1918 and still on site in November 1921, and the boiler records indicate that the boiler eventually ended up with Port Melbourne engineering firm A. Harman & Sons.
70. *Port Fairy Gazette*, Monday 18 October 1915, page 2; personal communication from fisherman Ron Artis to Stan Evans (undated).
71. *Port Fairy Gazette*, Monday 6 September 1915 page 2, Thursday 30 September 1915, page 2; Monday 13 December 1915, page 2; Thursday, 29 January 1916, page 2; Thursday 27 April 1916, page 2; Thursday 29 March 1917, page 3; PROV, VPRS 967/P0 unit 28 file GV 15/717; VPRS 12623/P2 unit 10 folio 98, correspondence No 20731, 21 October 1915; VPRS 967/P0 unit 28 file 15/717; Powling, J. W., *op. cit.*, page 273; Sayers, C. E. (1969). *By These We Flourish: A History of Warrnambool*. William Heinemann, Melbourne, page 143.
72. *Port Fairy Gazette*, Thursday 20 January 1916, page 2; Thursday 30 March 1916, page 2; *The Age*, Monday 18 September 1916, page 9; *Warrnambool Standard*, Wednesday 8 March 1916, page 3; Thursday 10 August 1916, page 2; Saturday 16 September 1916, page 2; Monday, 10 December 1917, page 3.
73. *VPP: Royal Commission on Victorian Outer Ports; First Progress Report dealing with Classification and Administration of the Outer Ports; Regulation of Transportation Systems and Outward Wharfage Rates etc.* (1925). H. J. Green, Government Printer, Melbourne, page 12.
74. *VPP: Royal Commission on Victorian Outer Ports; Fourth Progress Report; Port Fairy Harbour* (1925). H. J. Green, Government Printer, Melbourne, *passim*.
75. Kermode, G. (1934). *The Outer Ports of Victoria*. In *One Hundred Years of Engineering in Victoria*, Journal of the Institution of Engineers Australia, 1934, page 375.
76. *Port Fairy Gazette*, Thursday, 30 March 1939; Thursday 6 April 1939; Thursday 13 April 1939; Monday, 17 April 1939; Monday, 24 April 1939.
77. PROV, VPRS 425/P0 unit 886 file 1944/12670; unit 946 file 1945/9660.
78. *The Argus*, Thursday 21 March 1946, page 11; *The Age*, Monday 18 March 1946, page 1; Saturday 11 May 1946, page 3.
79. PROV, VPRS 425/P0 unit 1125 file 1955/13499.
80. VGG, Gazette 94, Friday 17 June 1859, page 1272.
81. *Port Fairy Gazette*, Monday 15 April 1918, page 3.
82. Site inspection by the author, Sunday 24 October 2015.
83. Personal communication, Ross Haldane, 13 January 2016, Rob Haldane, 15 January 2016 (grandsons of the last Port Fairy lighthouse keeper Hugh Haldane); and Marten Syme (Port Fairy historian), 15 January 2016.
84. Ctercteko, D. (1967). *Port Fairy Lighthouse Tiamuwy*. In *Light Railways* No.19, pages 17 and 18. Light Railway Research Society, Surrey Hills. Note that this report is in error – there is no documented evidence for a tramway extending all the way to the lighthouse.
85. Personal inspection by the writer, 1 March 2008.

Fyansford reminiscences

Photos by John Phillips

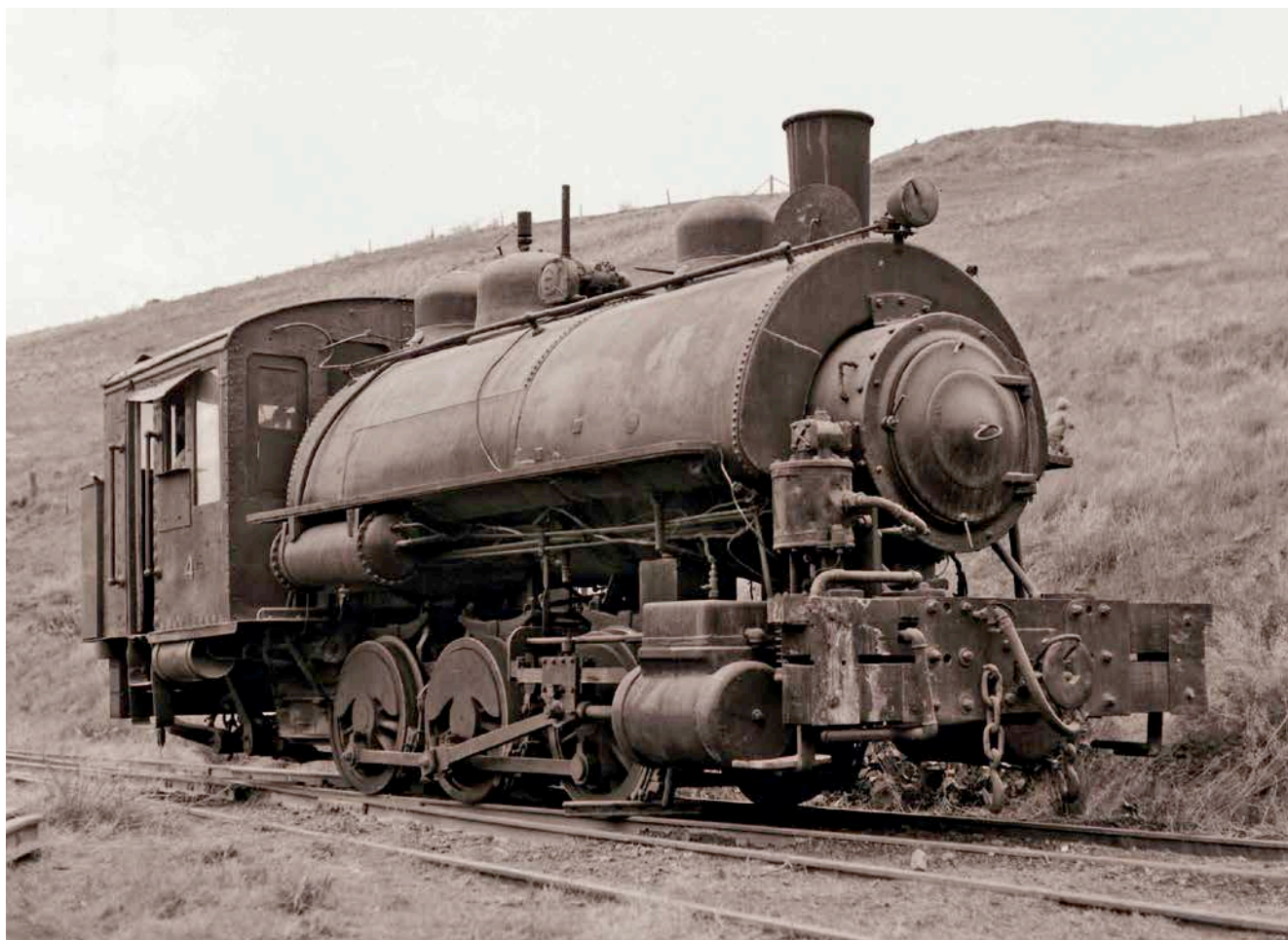


Victoria's largest industrial steam locomotive fleet was that of Australian Portland Cement Limited near Geelong. Cement production had started at Fyansford in 1890, using limestone from a quarry at Batesford. Initially transported by dray, then partly by a horse tramway, then an aerial ropeway.

In 1924 a 3ft 6in-gauge railway was introduced which, in turn, was superseded by conveyor belt in 1966. Over the years a total of 11 steam locomotives plus a Diesel-electric were used. The last normal steam use was December 1966.

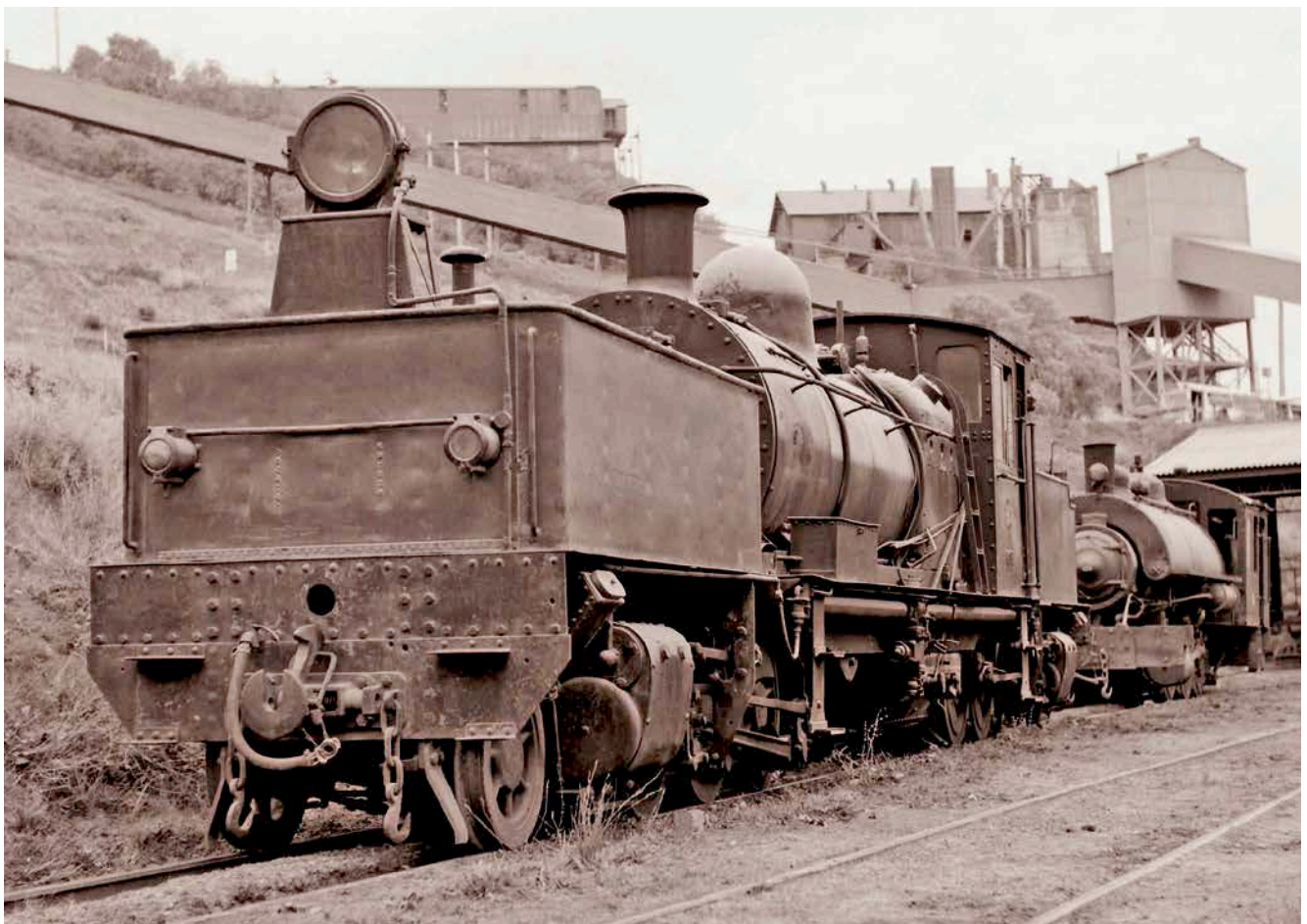
During its final years of operation, Fyansford was visited by many railway enthusiasts, including John Phillips in mid-1968. Thank you John for making these photos available to mark 50 years of the railway's closure. Readers are referred to LR 222 and LR 120 for detailed Fyansford articles.

Phil Rickard



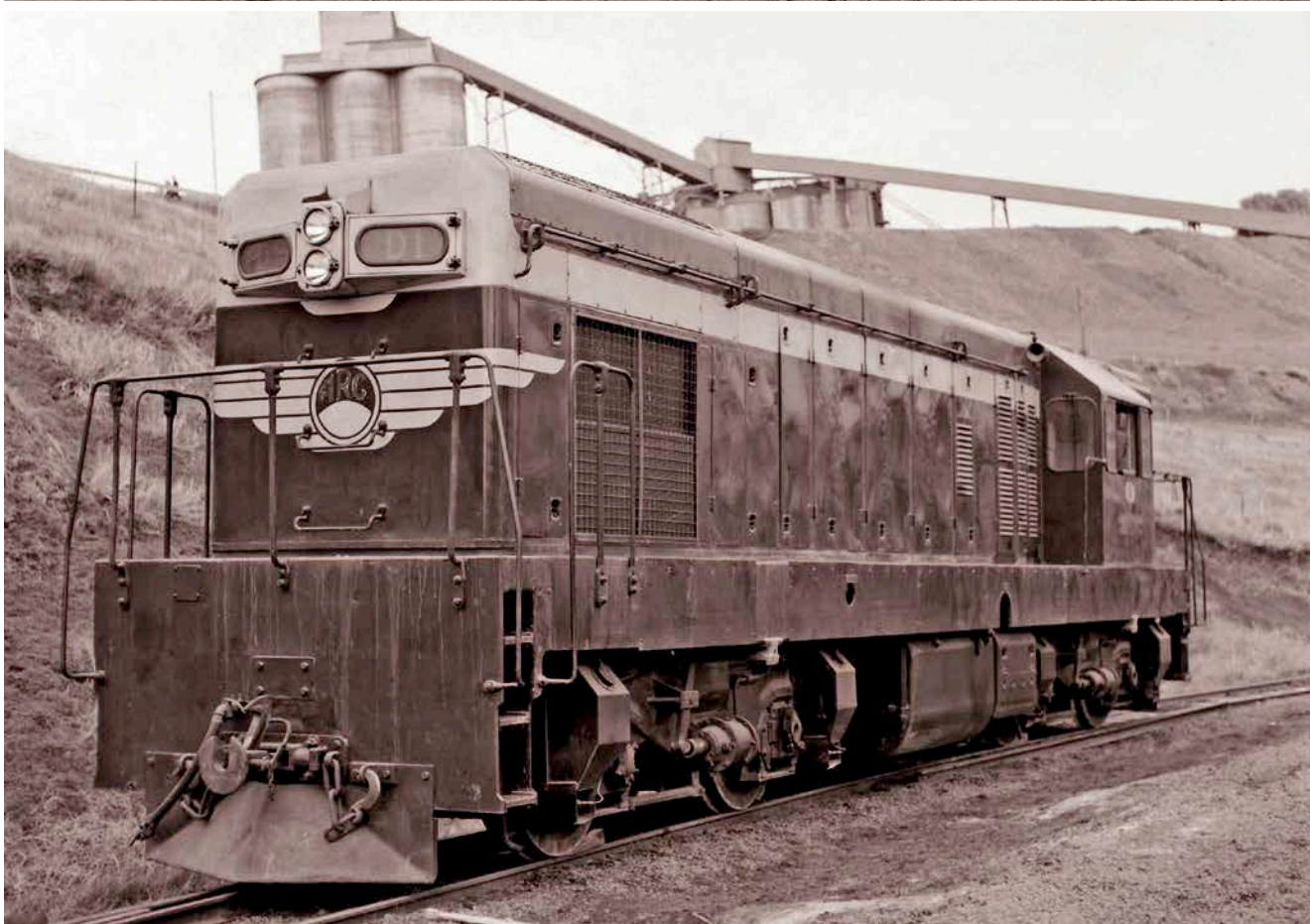
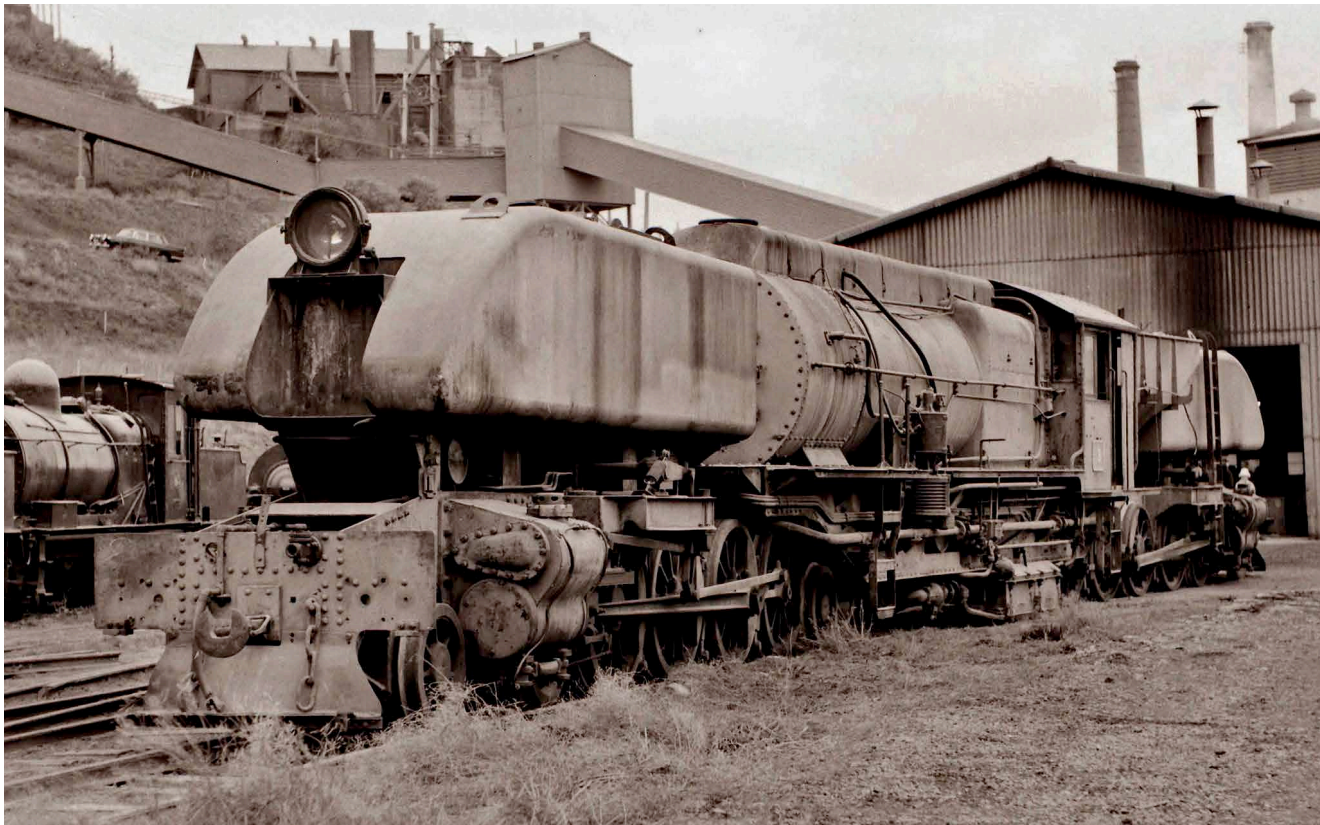
Top: First locomotives at Fyansford were four Hudswell Clark 0-4-2ST's, ex-Wallaroo & Moonta Mining and Smelting Co., in 1924. They were used initially in the Batesford quarry, to supply the aerial ropeway before the direct line to the works was finished.

Above: One of a pair of chunky 0-6-0ST's from Vulcan Ironworks, USA, No.4 was built in 1916 for use at Henderson naval base in WA. They came to Fyansford in 1926 for haulage on the new line from Batesford quarry to the Fyansford works.



Top: Two third-hand Perry Engineering 0-4-0T's arrived in 1946. They were built in 1926 for work at Hume Reservoir. No. 11 (B/N 267) is under restoration at the Bellarine Railway, Queenscliff.

Above: One of APC's two 2-6-0+0-6-2 Garratts built by Beyer Peacock, No. 2 (B/No. 6935/1938) is a copy of one of the earliest Garratt classes, the Western Australian Ms-class of 1912. It is currently stored at the Bellarine Railway, Queenscliff.



Top: APC's No.3 was a striking-looking Australian Standard Garratt. The 4-8-2+2-8-4 was built by the VR's Newport workshops in 1945 and was acquired by APC in 1946 to assist the other Garratts on main line haulage. One of the largest steam locos in Australian industrial service, it is now being restored by the Bellarine Railway (donations always gratefully received!).

Above: After ten years pounding the 3½ miles from the quarry to the works, hauling the load against the 1:37 grade through a ¾-mile-long tunnel, the ASG was put on standby with the arrival of D1, a Bo-Bo Diesel-electric from Clyde Engineering, and similar to the Victorian Railways' T-class. It is fitted with dynamic braking and was sold to the VR in 1969 to become T413.



Industrial Railway NEWS

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

QUEENSLAND

BUNDABERG SUGAR LTD, Bingera Mill

(see LR 254 p.30)
610 mm gauge
Malcolm Moore 4wDH 'Hydro' (1025 of 1943 rebuilt Bingera 1969), last known to be at the Fairymead Mill site, was seen on a private property near Bundaberg during April. With it was a rake of mainly wooden items of rolling stock. Jo Menich 4/17

DOWNER EDI, Maryborough

(see LR 255 p.26)
1067 mm gauge
Walkers B-B DH DH73 *Hugh Boge* (718 of 1974) was seen in use on 26 April and was shunting wagons between the factory and Maryborough West. Paul Bailey 4/17

GYMPIE ELDORADO MINING PTY LTD

(see LR 212 p.26)
610 mm gauge
EM Baldwin 4wDH (4661.1 7.72 or 4661.2 7.72 of 1972) and the Bermagui Foundry 4wDH of 2002 which were last reported at the company storage site in Gympie in January 2010 were seen at the Gympie Mining and Historical Museum on 22 May. John Browning 5/17

ISIS CENTRAL SUGAR MILL CO LTD

(see LR 255 p.26)
610 mm gauge
EM Baldwin B-B DH 11 (10130.1 6.82 of 1982) has been fitted with an Allison transmission this slack season. Isis has three stages of development for new lines. The first stage will be a line built using the ex QR rail corridor from Cordalba to Booyal. The second stage will be along an as yet unmapped route from Booyal to Wallaville. The third stage will head from Booyal towards Gayndah, possibly using the ex QR rail

corridor. Stacks of bridge girders were seen at the mill early in June and these are probably for the line to Booyal.

Brian Bouchardt 6/17; *NewsMail* 9/6/2017

MACKAY SUGAR LTD, Mackay mills

(see LR 255 p.26)
610 mm gauge
During the slack season this year, some new 5 tonne bins for Racecourse Mill were assembled at Farleigh Mill. The exact quantity is unknown but is apparently somewhere between twenty and fifty bins. EM Baldwin 4wDH 57 "Little Baldwin" (5/774.1 2.64 of 1964) was seen at Marian Mill on 14 May. Farleigh Mill's Barron line diamond crossing with the QR at Calen North was reinstated on 22 May. Scott Jesser 5/17; Arthur Shale 5/17; Mitch Zunker 5/17

MSF SUGAR LTD, Mulgrave Mill

(see LR 255 p.26)
610 mm gauge
A visit to the locoshed and navvy shed areas on 7 May produced the following items of note. Com-Eng 0-6-ODM 2 (A1001 of 1955) in the

shed formerly occupied by Fowler 0-4-2 *Nelson* (20273 of 1934). The frames of Com-Eng 0-6-ODM 4 (A1004 of 1955) and Clyde 0-6-ODH 15 (58-190 of 1958) were still on site. Basically complete and unused locos still on site were Motor Rail Simplex 4wDM (10450 of 1954), EM Baldwin 4wDM 10 (6/881.1 6.64 of 1964), Clyde 0-6-ODH 14 (56-86 of 1956) and the 4wDM "Pie Cart" built by the mill in 1962. Reportedly, 10 has not been used for around fifteen years. Clyde 0-6-ODH 25 *Cucania* (63-289 of 1963) has been fitted with the Mulgrave style hood from Clyde 0-6-ODH 18 *Barron* (64-379 of 1964). The recently painted frame of Clyde 0-6-ODH 19 *Redlynch* (65-435 of 1965) was outside the locoshed. Outside and looking a little forlorn is Com-Eng 0-6-ODH 3 (A1003 of 1955). This loco used to be an 0-6-ODM and its conversion to hydraulic transmission and Mulgrave style hood may have gone unreported. It now has the appearance of being out of use. Bogieless Walkers B-B DH DH47 (629 of 1969) was grounded outside and appears to have become a parts reservoir. Bits and pieces seen outside were the hood nose from 25 *Cucania*, four Walkers wheelsets and final drives which have obviously returned from refurbishment



Top: Mackay Sugar's EM Baldwin 4wDH 57 "Little Baldwin" (5/774.1 2.64 of 1964) at Marian Mill on 14 May. **Photo:** Scott Jesser **Above:** Farleigh Mill's EM Baldwin B-B DH Inverness (10123.1 5.82 of 1982) at Palms 5 on 23 June. **Photo:** Mitch Zunker



Top: Farleigh Mill's Clyde 0-6-ODH Palms (70-708 of 1970) at Palmyra 4 on 10 June. Photo: Mitch Zunker **Centre:** Mulgrave Mill's Com-Eng 0-6-ODH 3 (A1003 of 1955) near the locoshed on 7 May. Photo: Christopher Hart **Above:** Mulgrave Mill's EM Baldwin 4wDM 10 (6/881.1 6.64 of 1964) next to the locoshed on 7 May. Photo: Christopher Hart

elsewhere, the low profile cab from Clyde 0-6-ODH 19 *Redlynch* and a pair of used Mulgrave style cabs. On the same day, the navy loco, Com-Eng 0-6-ODM 5 (A1005 of 1955) was seen with a train of track materials on a job south of Aloomba. The previously reported sale of Fowler 0-4-2 *Nelson* was actually to railway enthusiast, John Morris and CEO of the Port Douglas Steam Train Company, Alan Johnstone. Luke Horniblow 5/17; Editor 5/17; Andrew Sues 5/17; *Mulgrave News* May 2017

MSF SUGAR LTD, South Johnstone Mill

(see LR 255 p.27)

610 mm gauge

A sad looking Com-Eng 0-6-ODM 28 (AA1544 of 1960) was seen stored in the navy area on 7 May. The body work on this loco has become very badly rusted and is starting to collapse. Stored with it were the old poison spraying wagon and the former "*Turtle's Express*" passenger wagon. Parked outside the navy area was Clyde 0-6-ODH 14 (63-288 of 1963) with the two ballast hoppers and ballast plough. EM Baldwin B-B DH 26 (7244.1 8.77 of 1977) was fitted with a Mercedes Benz V8 motor and Allison transmission during the slack season. Com-Eng 0-6-ODH locomotives 38 (AH4695 of 1965) and 39 (AH4688 of 1965) were rebuilt during the slack season with this including new Mulgrave style cabs and hoods, probably Mercedes Benz motors and probably Allison transmissions. As well, they have been mated up as a multi-unit pair and have been fitted with RSU remote control gear. The navy loco, Com-Eng 0-6-ODM 27 (A 157111 of 1975) has not yet returned to service following an external make over which included fitting of a cab and a hood from one or both of Com-Eng 0-6-ODH locomotives 8 (AA1543 of 1960) and 9 (AH3979 of 1964). During the latter half of June, the hood was then removed for fitting to Com-Eng 0-6-ODH 1 (A1821 of 1957) which had suffered some damage. The *Josephine* nameplates have been removed from this loco at some time. Some of the bins here are painted in distinctive colours. Yellow bins are for Bartle Frere road transport with pink and white bins being for Goondi and Mourilyan road transport. Editor 5/17; Luke Horniblow 5/17; Jason Sou 6/17; Bill Horton 6/17

SUGAR TERMINALS LTD, Lucinda

(see LR 255 p.27)

610 mm gauge

Com-Eng 0-6-ODH (G1023 of 1958) returned from refurbishment at L&W Repairs in Ingham between 25 May and mid June. It has been fitted with a Mercedes Benz motor and Allison transmission and repainted in a changed livery. The cab and front end are yellow, hood top and rods are orange, frames are black and headstock stripes are red and white. The little reported Motor Rail Simplex 4wDM (4159 of 1926) here was seen moving the tare weight wagons around on 24 May. Reportedly, it had not been out of the workshop building for some years and was being used on this job owing to unavailability of the Com-Eng. Luke Horniblow 5/17; Editor 6/17

TULLY SUGAR LTD

(see LR 255 p.28)

610 mm gauge

Tully Sugar has spent \$1.6 million this year to purchase one hundred new 10 tonne bins.

North Queensland Register 26/4/2017

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills

(see LR 255 p.28)

610mm gauge

By the end of the slack season, approximately two hundred and fifty new 11 tonne bogie bins had been assembled at Macknade Mill and all are now in use at Victoria Mill. Assembly of the remaining fifty of the batch is expected to continue into the crushing season. Owing to the dropping of one loco shift at Macknade for this year's crushing, Clyde 0-6-0DH 16 (DHI-1 of 1954) has become a spare loco but is expected to see as required usage by crews on overtime. Macknade Mill's EM Baldwin B-B DH 19 (7070.3 4.77 of 1977) was fitted with new bogies during the slack season. The frames and sand boxes were manufactured by Bradken at Boogan, the AD6A final drives by Ontrak and the wheel centres came from the discarded original bogies of EM Baldwin B-B DH *Darwin* (6171.1 9.75 of 1975). 19 and EM Baldwin 6 wheeled brakewagon *BVAN 2* (7065.5 6.77 of 1977) were exchanged for Victoria Mill's EM Baldwin B-B DH *Wallaman* (6400.3 4.76 of 1976) and Solari bogie brakewagon *BVAN 3* built in 1994 overnight of 17 and 18 June. By 22 June, these two locos had swapped brakewagons with *BVAN 2* returning to Macknade and *BVAN 3* returning to Victoria. 19 has been fitted up as an RSU remote control loco for some years but the system has been difficult to implement in the Macknade yard so better use can be made of it at Victoria. With Victoria Mill's Clyde 0-6-0DH Centenary (64-381 of 1964) out of action, Clyde 0-6-0DH *Canberra* (65-433 of 1965) has started the crushing season as the empty yard shunting loco at that mill. Victoria Mill's Clyde 0-6-0DH *Perth* (69-682 of 1969) went on loan to Macknade Mill on 19 June and had returned by 22 June. The EM Baldwin cab of Clyde 0-6-0DH 18 (DHI-5 of 1955) had reappeared behind the loco where it is stored at Macknade by 7 June. This cab had been at the Victoria Mill locoshed for some years where thought had been given to using it as a driving simulator. A new Chinese built bogie brakewagon appeared at Victoria Mill in early June. It is from the same builder as the unit previously built in China and has to be fitted out at the mill before entering service.
Editor 6/17

WILMAR SUGAR (KALAMIA) PTY LTD, Kalamia Mill

(see LR 255 p.28)

610 mm gauge

Com-Eng 0-6-0DH *Delta* (FD5094 of 1965) is back in service after being fitted with a Mercedes Benz motor and Allison transmission during the slack season. The dual gauge 610 mm and 1067 mm line between the mill and Ayr has been relaid

with concrete sleepers at the Ayr end back to the Bruce Highway level crossing.

Luke Horniblow 5/17; Arthur Shale 5/17; Cameron Cislowski 6/17

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

(see LR 255 p.28)

610 mm gauge

During ballasting operations south of Koumala on 27 May, a 23 year old woman fell and her leg became caught under a ballast hopper causing multiple fractures. Photos from the scene show what appears to be one of the mill's Com-Eng 0-6-0DH locomotives with a rake of 4 wheeled ballast hoppers.

Daily Mercury 27/5/2017

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill

(see LR 254 p.32)

610 mm gauge

Com-Eng 0-6-0DH *Oakenden* (FB3169 of 1963) was still here on 28 May. Owing to the effects of Cyclone Debbie, this mill will start later and

have a smaller crop than normal. The later start will give more time for damaged track infrastructure to be repaired.

Tom Badger 5/17; *Daily Mercury* 11/5/2017

NEW SOUTH WALES

BLUESCOPE STEEL, Port Kembla Steelworks

(see LR 255 p.28)

1435 mm gauge

During April and May, Pacific National, the rail operator here, cut up eight of its locos for scrap at the Boat Boom siding between Port Kembla Station and the harbour. These were English Electric Australia Bo-Bo DE locomotives D29 (A-054 of 1961), D30 (A-083 of 1964) and D33 (A-089 of 1964) and General Electric Australia Bo-Bo DE locomotives D39 (A-240 of 1972), D41 (A-269 of 1974), D42 (A-270 of 1974), D43 (A-271 of 1974) and D44 (A-272 of 1975). PN has owned these locos since August 2007 when Bluescope Steel outsourced the operation of its rail network.

General Electric Australia Bo-Bo DE D38 (A-239 of 1972) was seen at Steelhaven on 10 and 16 May. General Electric Australia Bo-Bo DE D40 (A-



Top: South Johnstone Mill Com-Eng 0-6-0DH multi-unit locos 9 (AH3979 of 1964) and 8 (AA1543 of 1960) on the North Johnstone River bridge on 13 June. Photo: Tony McIlwain **Above:** Clyde 0-6-0DH 14 (63-288 of 1963) in the South Johnstone Mill yard on 7 May. Photo: Christopher Hart

241 of 1972) was seen at Steelhaven on 16 May. English Electric Australia Bo-Bo DE D27 (A-040 of 1960) was shunting at Cringila on 12 May. Seen working at Cringila on 2 June were National Railway Equipment Bo-Bo DE locomotives PB1 (209-PB1 of 2014), PB4 (209-PB4 of 2014) and PB6 (209-PB6 of 2014). Seen working there on 24 June were sister locos PB2 (209-PB2 of 2014) and PB5 (209-PB5 of 2014). The Bluescope Steel Plasser 79.800W tamping machine 234 was sighted at Cringila on 16 May. Michael Duley 4/17; Ben Koperberg 4/17; Brad Peardon 5/17; Bradly Coulter 5/17, 6/17; Chris Stratton 5/17

EDI RAIL, Cardiff

(see LR 158 p.16)

1435 mm gauge

A hi-rail tractor was seen shunting here on 2 May. Stephen Lee 5/17

VICTORIA

QUBE HOLDINGS LTD, Horsham

(see LR 254 p.33)

1435 mm gauge

After some years laying idle here, Walkers B-B DH 7334 (696 of 1972) left by road transport on 24 April. Later seen at Warracknabeal, it was reportedly heading for Broken Hill. Stuart Cray 4/17; Steve Kite 4/17

SOUTH AUSTRALIA

GENESEE & WYOMING AUSTRALIA, Whyalla

(see LR 251 p.27)

1067 mm gauge

Goodwin Co-Co DE 901 (G-6016-03 of 1969) was seen shunting hot metal wagons at the steelworks on 24 May. Clyde Bo-Bo DE 1301 (56-109 of 1956 rebuilt MKA 93-BHP-004 of 1995) was at Iron Knob on 25 May. Scott Mitchell 5/17; Reg Harris 5/17

OVERSEAS

FIJI SUGAR CORPORATION

(see LR 255 p.29)

610 mm gauge

CEO Graham Clarke has stated that FSC is looking to restore the cane railway system by investing in new locos, rail trucks, cage bins, rails, bridges and culverts. 80% of cane used to be delivered by rail and now it is less than 20%. It is hoped to bring that figure back up to 60%. FSC hopes to acquire land from the government on behalf of farmers to increase the amount of land under cane and increase yearly production from 2 million tonnes to 4 million tonnes. Additional to the three existing mills, it is hoped to construct a new mill with a capacity of 1.5 million tonnes of cane per season. FSC has forty-one mechanical cane harvesters this year and is hiring them out to farmers who cannot secure cane cutters. Changing lifestyles have made manual cane cutting unfashionable and Corrections inmates have been called in to help get the crop off in recent years. The only cane now grown beyond the Sigatoka rail bridge

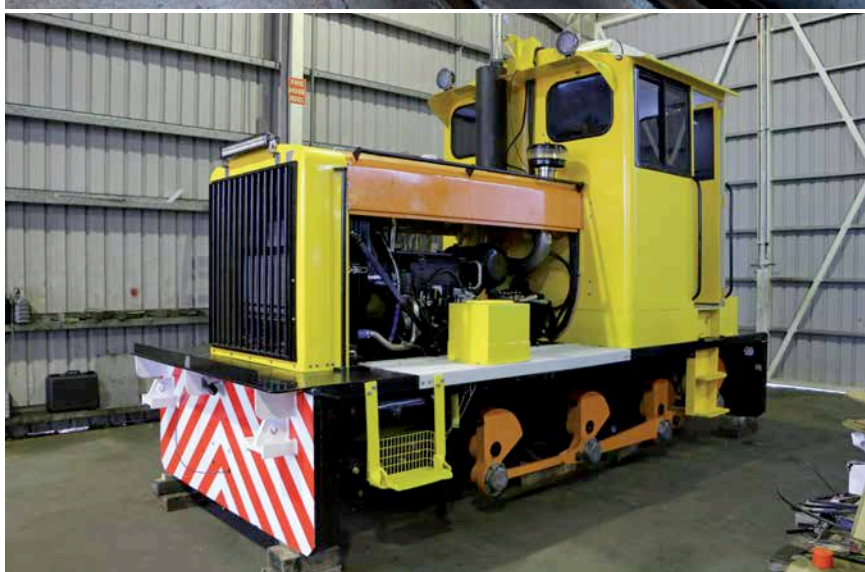
which was partially washed away in January 2009 is at Nadrala.

The \$30 per tonne charged by lorry operators for road haulage to Lautoka Mill has forced the rest of the cane growers out of the business. Rail haulage used to cost them \$10 per tonne. Farmers in the closer areas to Labasa Mill are claiming that the lines into their areas are poorly maintained and becoming disused at their extremities causing them to haul cane longer distances and at a greater cost. FSC is looking into the situation. Some of the machinery from the closed Penang Mill has been installed at Rarawai and Labasa Mills. Labasa Mill started crushing on 1 June with the two EM Baldwin 0-6-0DH locomotives 12 (5995.1 1.76 of 1976) and 14 (4413.3 9.72 of 1972) not ready to commence service.

A couple of tourist train operations are set to start up using FSC trackage. Sigatoka River Safari will be launching an apparently self drive "electric velocipede experience" under the Eco Trax Fiji name on 1 July which will operate on FSC trackage between Cuvu and Sigatoka. Their base appears to be at the FSC Cuvu depot. Images on Facebook depict electric powered bicycles

mounted two each on 4 wheel trolleys with the rear bicycle wheel providing propulsion and the trolley providing guidance. More substantial is Farer Group Pty Ltd's plans to operate tourist trains under the Farer Train name. They will be based near Nadi International Airport and travel from there to Lautoka in one direction and towards Natadola Beach in the other. They will pay a levy to FSC to use their trackage. Operations are expected to commence by July using two locomotives and two carriages which were on site by 26 April. Images online depict what appears to be dummy 4-4-0 American style locos with powered tenders. One of the dummy locos is painted black with red and gold trim while the other is white with red and gold trim. Suspected manufacturer is MODERN AMUSEMENT GROUP CO LTD, 12 Business Outer Ring Road, Zhengdong New District, Zhengzhou, Henan, China.

The Fiji Times Online 24/4/2017, 19/5/2017, 6/6/2017, 17/6/2017, 21/6/2017, 23/6/2017, 24/6/2017; *Fiji Sun online* 27/4/2017, 28/4/2017, 16/5/2017, 10/6/2017, 12/6/2017; Fiji Broadcasting Corporation 2/6/2017; Eco Trax Fiji Facebook page; Ravendra Venktaiya 6/17



Top: The elusive and little seen Motor Rail Simplex 4wDM (4159 of 1926) of the Lucinda Bulk Sugar Terminal at the receiving station on 24 May. Photo: Luke Horniblow **Above:** The Lucinda Bulk Sugar Terminal's Com-Eng 0-6-0DH (G1023 of 1958) with refurbishment by L&W Repairs in Ingham nearly complete on 17 May. Photo: Luke Horniblow



LETTERS

Please send letters to:
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Mystery item from Narbethong (LR 255)

Ian Cutter's paperweight found on a tramway near Narbethong, appears to be an oil cellar from the axle-box of a locomotive. The cellar would have contained an oil soaked pad that rubbed on the journal to evenly distribute a film of oil across the journal as the axle rotated. The 'tunnel' through the bottom of the cellar would have been for a retaining pin that held the cellar in the axle box. An oil hole on top of the axle box would have been used to oil the journal itself and at the same time oil ran down into the cellar.

Bill Hanks
Via email

Re Ian Cutter's 'Mystery object' in issue No. 255, this looks to me to be part of the lubrication system of a locomotive axle, possibly called an 'oil pan'. I have reviewed a Japanese book on the constructional details of steam locomotives, which has diagrams of the loco axle boxes. Whilst it is written in Japanese, from these drawings one can see that the axle boxes have an upper semi-cylindrical part which is the bearing, of anti-friction material, on which the journal bears, whilst the lower part has an oil pan in which there is padding which sits in the oil and transfers the oil to another pad, possibly felt or some such material, which, spring loaded, contacts the lower half of the journal and so transfers oil to it. Ian's object has of course lost all the bits and pieces such as springs, pads, etc. shown on the diagrams.

Bill Pearce
Via email

Norfolk Island Pier Tramways (LR 255)

As a regular visitor to Norfolk Island since 1984 and having just returned from Bounty Day [8 June] celebrations I would just like to make a couple of comments re the Norfolk Island pier tramways article in Field Reports [LR 255].

The 'Museum of Transport and Technology' is owned by Ric Robinson, a friend of mine. I had a look at his collection during my

recent visit and do not recall any rail related artefacts. The museum houses a number of stationary engines in working order, WW II military vehicles and the largest item is a retired fire truck from the Norfolk Island Airport.

As for the 8 inch wheels mentioned in the Field Report I would suggest they may have come from a rail mounted cradle used to move and store the lighters used in the ship unloading.

Clive Plater
Via email

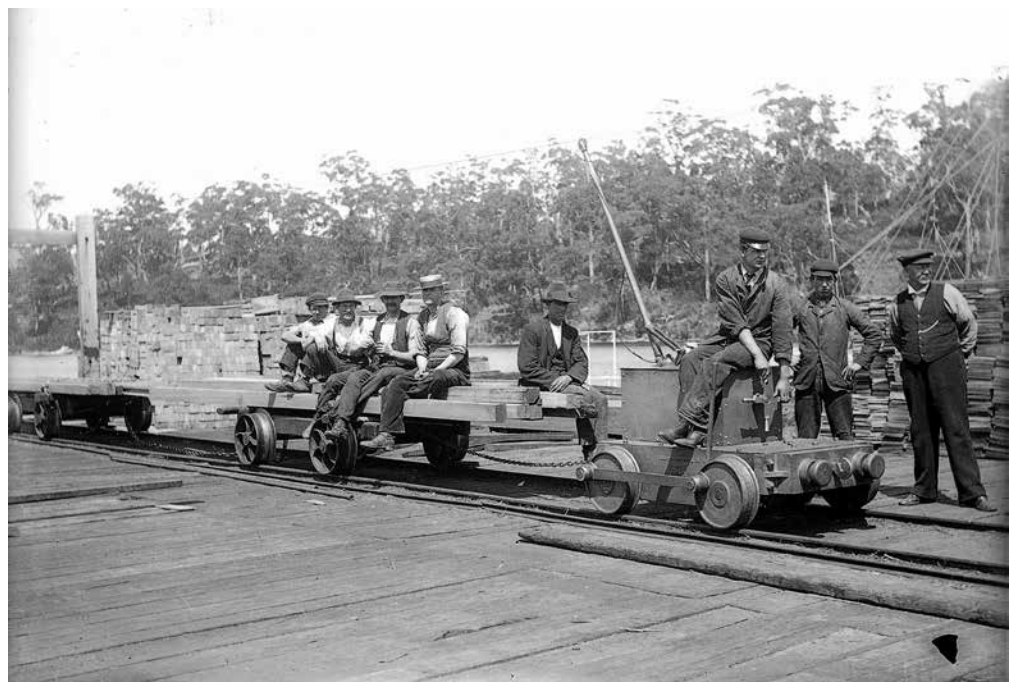
Russell Allport Electric Locomotive (LR246, 248, 249, 250)

In LR246 Tony Coen provided a photo of a Russell Allport 4-wheel overhead-wire electric locomotive on a wharf somewhere in

southern Tasmania. It was generally accepted to be on a wharf or jetty belonging to a sawmill, probably down the D'Entrecasteaux Channel or up the Huon River. Following an initial flurry of suggestions as to exact location, correspondence has gone quiet in the last twelve months and to date nothing definite has been confirmed.

One possible location that was not mentioned in despatches was Strathblane, presumably because it had a wooden-railed tramway system. Recently, examining (yet again) the various photos in the *Weekly Chronicle's* pictorial pages (20 Sept 1902) I was struck by the similarity of the attached photo, on the Esperance River "Narrows", with that in LR246.

The rails on the wharf are clearly not wooden – maybe the wharf was the only part of the Strathblane system that was steel



W. Williamson, Photos.]

LOADING TIMBER AT STRATHBLANE JETTY ON THE ESPERANCE NARROWS.

railed. The background, particularly the distant shoreline, tree growth and land height seemed not dissimilar. I have never been to Strathblane so cannot comment further but maybe some more knowledgeable Tasmanian reader would care to ponder or even go and stand where the Strathblane mill's wharf was situated and have a look?

Phil Rickard
Via email

Clarence River Breakwater Story - Part 3 (LR255)

My congratulations to Ian McNeil on his continuing and interesting history, unravelling the mysteries of the Clarence River breakwaters and their quarries. In the Angourie quarry photos shown in the last LR, the large steam crane, seen on pages 3,

9, 10 and 13 is a Ruston, Proctor & Co Ltd (Lincoln, England) 'steam navvy' of the same type depicted on page 31 of LR252.

Interestingly, it has been converted from steam excavator to steam crane by removing the bucket and bucket arm, and adding a new, longer, supporting beam under the existing boom. This conversion would certainly have been done in Australia, maybe even at Angourie quarry following initial overburden removal.

(As an aside it is interesting that the spelling of the the place was Angowrie until the local paper introduced the current spelling in 1888 - was it a typesetter's error? Both spellings were then used interchangeably for at least the next seventy years.)

Phil Rickard
Via email

OBITUARIES

Stephen J Martin

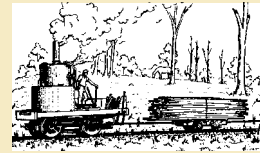
We are very sorry to report the recent death of Stephen Martin, who was very active in the LRRSA in the 1970s and 1980s. Steve was made an honorary life member of the Society at the 1983 Annual General Meeting in recognition of the valuable work he had done in running the Society's Sales Department for many years. He had been a member of the Council for twelve years and had held the position of Sales Officer through much of that time. He built the Sales Department up from virtually nothing, and single-handedly looked after wholesale sales, mail-orders, and pre-publication sales of the Society's books. It was largely due to the efforts of Steve that the Society was able to finance many of its early publications. He held the position of Vice-president from 1971 to 1974, and again from 1981 to 1982, and was a committeeman from 1975 to 1980. He retired from the Sales Officer position in 1982. He was also an active volunteer in the Puffing Billy Preservation Society at that time. Steve also contributed to the light railway interest with the writing of the book *The Magnet Tramway, Tasmania* (1982), along with co-writing *Climax Locomotives of Australia* (1982) and the *Victorian Tramway Register* (1982) with Arthur Winzenried - all published by APW Productions - and assistance with the production of many APW Research Reports from that era.

Frank Stamford, Peter Medlin

Alan Watson

It is with much sadness that we report the recent passing of Alan Watson. Alan played an important role during the early years of the LRRSA NSW Division. He was the treasurer of the NSW Division for about five years from its foundation in 1976. He was actively involved in supporting the aims of the LRRSA, and attended the LRRSA National Conference at Booth Lodge, Kallista in 1986. His special interest was the Wolgan Valley Railway at Newnes, in the Blue Mountains. For a long period of time Alan worked behind the counter of the hotel at Newnes on weekends, relieving the owners. He was involved with the publishing of a tourist brochure for visitors to the Wolgan Valley, and particularly, the oil shale works. He also contributed to a book of photographs showcasing the scenic splendour of the area.

Frank Stamford, Ross Mainwaring



LRRSA NEWS

MEETINGS

ADELAIDE: "History of light railways in SA"

A sketchy history of light railways in South Australia. Note that this item was deferred from the last meeting. News of any other light rail matters will be welcome from any member.

Intending participants would be well advised to contact Les Howard on 8278 3082 or by email lfhoward@tpg.com.au, since accommodation is limited.

Location:

1 Kindergarten Drive, Hawthorndene.

Date: Thursday 3 August 2017 at 7.30 pm

BRISBANE: "South African Railways"

David Rollins has recently been to South Africa and will show his adventures in that Country.

Location: BCC Library, 107 Orange Grove Road, Coopers Plains.

Date: Friday 18 August 2017 at 7:30pm

MELBOURNE: "AGM and From the Ray Graf collection - part 2"

Following the Annual General Meeting, a range of colour slides will be shown utilising our vintage steam-powered slide projector (celebrating its 41st birthday). The slides will cover an eclectic mix of locations both within Victoria and the Greater Victorian Economic Zone of Influence (i.e. southern NSW) including a number of tunneling, tourist and industrial operations, now all long-gone.

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

Date: Thursday 10 August 2017 at 8:00 pm

SYDNEY: "Industrial tramway systems in NSW"

Jim Longworth has been a long time contributor, book author and member of LRRSA. He will present a photographic essay and talk detailing the many and varied industrial railway and industrial tramway systems once used in NSW. In their heyday these rail systems served all manner of industries throughout the State. Jim's presentation will be sure to be of great interest to members.

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

Date: Wednesday, 23 August 2017 at 7:30pm



Field Reports

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

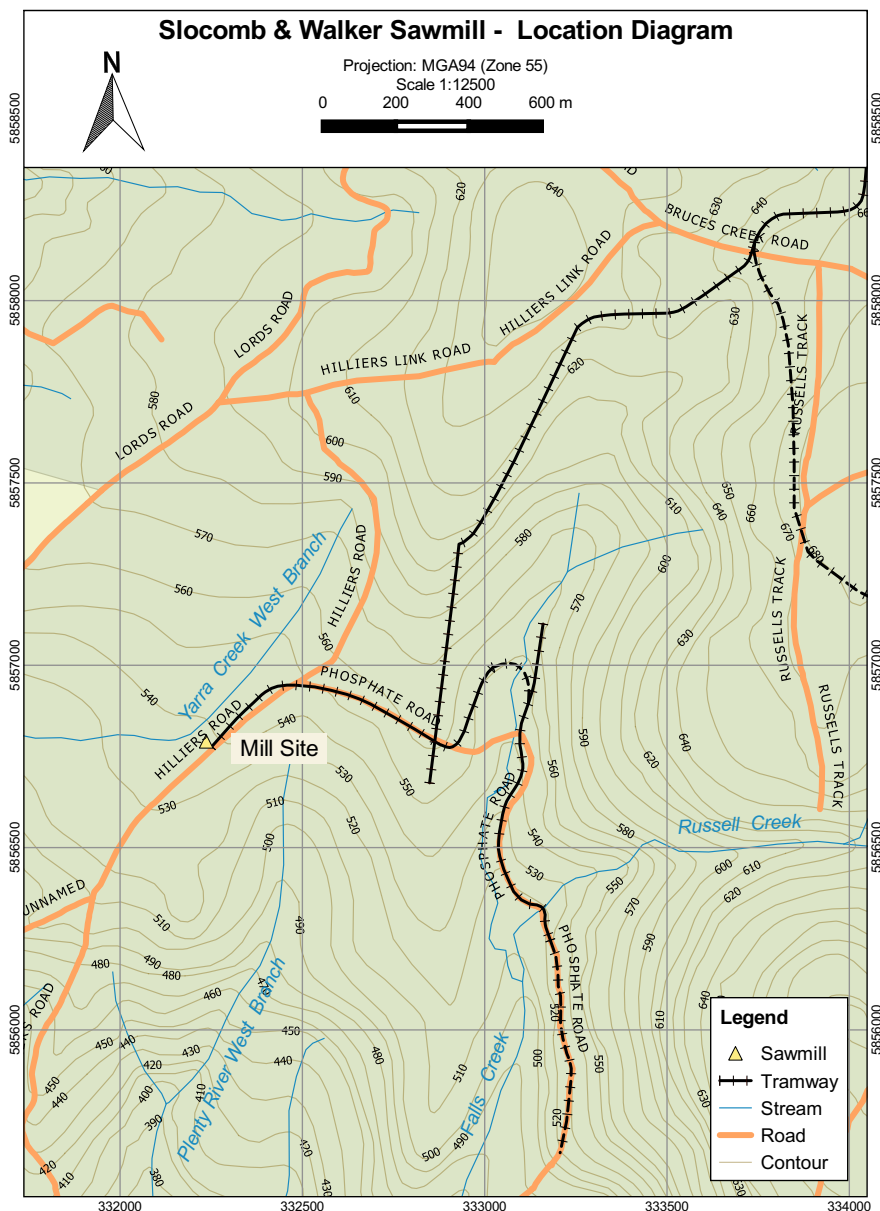
Slocumb & Walker sawmill and tramway, Mount Disappointment, Victoria Gauge 1067 mm

This site report forms part of the LRRSA post-2009 bushfire survey.

This mill was originally part of an extensive integrated sawmilling and timber processing operation operated by the Australian Seasoned Timber Company Ltd based at Wandong and Comet Mill during the period 1884 – 1903, and probably reused equipment from the Company's Planet Sawmill. The mill was installed late in the Company's life, probably about 1901, after all logs that could readily be extracted through Wandong had been depleted. Unlike other mills operated by the Company, sawn timber was despatched by road to the Whittlesea railway station. When the Company ceased operations the mill was sold to Reuben Slocumb (the mill manager) in partnership with Peter Walker. The mill was demolished by the explosion of the boiler on the morning of Monday 23 May 1904. The following day *The Argus* (page 6) reported:

A boiler explosion occurred this morning at the sawmill of Messrs Slocumb & Walker, eight miles from Whittlesea. On Saturday the engine was washed out. The certified driver, Charles Patten, fired up at twenty minutes to seven. The gauge glass then showed half full. He then retired for breakfast. A number of sawyers live in huts around the mill, the nearest being three chains off. At three minutes to seven the explosion occurred. One man was thirty yards off, and a sheet of metal flew past him. On cold mornings the men assemble around the boiler before starting work. Had they been two minutes earlier a dozen persons would have been killed. The engine, which was of sixteen horsepower, has given satisfaction, and has been regularly tested. It is surmised that the safety valve was screwed down too tightly. Not only the engine, but all the works were demolished. Mr Slocumb estimates he has lost £600. The mill has been working for eighteen months. Twenty men were thrown out of employment through the accident.

The mill was not rebuilt after the explosion and Slocumb & Walker relocated their operations to a new site three kilometres to the south-west. This mill had a relatively short life and consequently there are limited domestic



These firebars probably indicate the position of the boiler when it exploded.

Photo: Colin Harvey, 15 September 2009.



Clockwise from above: Colin Harvey contemplates a portion of the outer wrapper of the boiler firebox with its oval inspection door and angle-iron wheel mounting bracket, indicating a portable engine. Photo: Phil Rickard, 15 September 2009. • Portion of boiler sheeting showing extensive tearing. Photo: Phil Rickard, 15 September 2009. • Another view of the extensive tearing showing partial lamination of the plate, possibly indicating that the boiler was of wrought iron and fairly old when it exploded. Photo: Phil Rickard, 15 September 2009. • Tramway route on the east side of Falls Creek, looking north. Photo: Phil Rickard, 5 October 2009.



remains. When the mill boiler exploded, damaged equipment that was not worth salvaging was abandoned on site. In particular large sections of the boiler shell remain where they fell and provide a rare opportunity to study an accident of this type. These parts are about thirty metres south west of a pile of firebars that are at the probable original location of the boiler. Although the log yard has been destroyed by roadworks, significant evidence remains of this mill in the form of the sawdust trench, earthworks for the saw benches and mill components (pulleys etc.)

The remains of the tramway to supply logs can be identified running north-easterly around the head of the Plenty River to a landing on the ridge between the Plenty River and Falls Creek, and then into the head of Falls Creek. Some sleepers remain in position on the west side of Hilliers Road. Evidence was located of the continuation of the tramway south along the east side of Falls Creek, but details of the connection across Falls Creek were not located. (It is conjectured that there was a low, curved timber bridge in the head of the valley.) A log landing was located just south of Russell Creek. Although no evidence was seen that this tramway continued further, this seems probable given the alignment of Phosphate Road.

Colin Harvey and Phil Rickard, 9/2009





Heritage & Tourist NEWS

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

QUEENSLAND

ATHERTON-HERBERTON HISTORIC RAILWAY INC. Atherton

1067 mm gauge

Some progress has finally been made with the Peckett, 1069. The frame has been sandblasted, primed and top coated with black paint. The wheels and axles have been primed and the axle boxes fitted and the wheels and axles are in place in the frame.

The red and green paint, which is being specially made for the railway, has now been received. The wheels and axles can be painted (although with some difficulty) from underneath the frame. Once the suspension springs and hangers are painted, they can be fitted in place and the frame dropped back to the track from the flat-tops on which it is currently resting.

The cylinders are being bored and honed to remove the score marks and pitting and when returned by the contractor, can be fitted back onto the frame. Oversize piston rings will be manufactured once the finished size of the cylinder bores is established. New high tensile studs are being made for the cylinder covers and steam chest covers. The piston rods are being cleaned up to remove the worst of the pitting so that ripping of the gland packing is prevented.

New slide valve rods are being made as the old ones were found to be bent and in very poor condition. Once returned, the cylinders will have to be accurately measured and quotes obtained for the casting of new end covers as these are missing. Also missing is one of the steam chest end covers with gland and rod bearings. It will not be a great problem as the Railway has the other one and can lend it to the selected foundry as a pattern.

The somewhat pitted cab sides, front and back have been filled with bogging and sanded to a good finish. The boiler has been prepared for sandblasting and once the new smokebox has been fitted, will be sent away for repair. The railway now has a magnetic base drill that

will be essential for drilling the holes in the smokebox.

Once the cylinders and steam chests are fitted workers can assemble the pistons, piston rods, drive rods and connecting rods along with the slide valves and rods, eccentric sheaves and rods with the reversing gear. At that point very careful measurements will be taken as the connecting rods between the reversing quadrant and the valve rods are missing and will have to be made from scratch. This measurement is critical for the operation of the slide valves.

The top of the frame has to be measured and drawings produced for the side plates. These will be laser cut by a local steel merchant. By the time the next newsletter comes out, there should be a pile of bits and pieces starting to look more like a locomotive.

Atherton-Herberton Historic Railway Newsletter
April 2017 Issue 4

BOTANIC GARDENS RAILWAY, Bundaberg

610 mm gauge

Operating here on Sunday 30 April was ex-Moreton Sugar Mill (Nambour) diesel 0-4-0 *Valdora*. The steam loco operating on Monday was the Bundaberg Fowler No. 3.

Bob Gough, 2/6/17

FRIENDS OF ARCHER PARK STATION AND STEAM TRAM MUSEUM, Rockhampton

1067 mm gauge

The refurbishment of the Boardwalk is now complete with concreting and installing new planks across the rear apron of the station which used to hold all the signal control rods and wires. This work has taken around five years from planning stage to completion. It makes quite a difference in the appearance of the area and is also safer.

With the loss of the Work for the Dole Scheme (Neato), the Museum is exploring other ways to



EM Baldwin 0-4-0DH Valdora, ex-Moreton Sugar Mill, at the Botanic Gardens Railway, Bundaberg, 30 April 2017.
Photo: Bob Gough



Bundaberg Fowler 0-4-2T No.3 working at the Botanic Gardens Railway, Bundaberg, on 1 May 2017.
Inset: The builder's plate, and a sixtieth anniversary plate fitted to No.3.
Photos: Bob Gough

get assistance with the restoration of CWM21. They have approached the Gracemere Men's Shed which is hoping to help with some of the woodwork. The work of replacing sleepers has also been affected by the loss of Neato and the Museum is looking at approaching another organisation for assistance. Neato was providing an excavator and around ten workers for two sessions per year and over the last 18 months had replaced around 200 sleepers in the track. Museum volunteers will continue to work on the other projects that were in the process of being done when Neato pulled out. The second A frame for the LSR wagon is now being built. Once it is complete the Catalogue Officers will sort out the layout for placement of the fettlers' tools on them. The A Frames will sit up on the LSR wagon and will have tools on both sides, one side facing the platform and the other facing the visitors as they stroll down to see the section cars. The Purrey Steam Tram is operating very well at present but some maintenance has still to be carried out. Perspex slides have been made for the middle part of the doorways of the tram on one side which replace the rope that was previously there; this is a safety measure preventing children from falling out of the tram. The Billard Loco Tractor is also working well and has just had its three monthly service. Donations of rail items continue and the Museum often finds that it receives a lot of the same items. With space getting hard to find to store them, some of the items the Museum does not require will be donated to the Mt. Morgan Rail Museum and other rail groups in the area if they are of benefit to their displays.

Tram Tracks Volume 11 Number 3, June 2017

GOLD-COAST MONORAIL, Broadbeach

Reports have been received that the Monorail has finished running at Broadbeach, Queensland and that it is now being dismantled. The cars have been removed to storage or scrap and have been advertised for sale. There were no interested bidders. Tracks and beams have been removed and the loop through the Casino is gone.

Bob Gough, 23/6/17

GYMPIE MINING AND HISTORICAL MUSEUM, Gympie

Various gauges

The EM Baldwin and Bermagui Foundry diesel locomotives last reported in *Industrial Railway News* on page 26 of LR 212 are now on display at the Gympie Mining & Historical Museum. I have no further details but imagine that they must have come here in 2010 or shortly after.

John Browning 22/5/17

MILITARY JEEP CLUB OF QUEENSLAND, Bundaberg

1067 gauge

Member Bob Gough reports that the Military Jeep Club of Queensland held its bi-annual Military Swim on the Burnett River, using amphibious WW 2 machines, over the weekend Saturday 29 April to Monday 1 May. Involved were two Army DUKWs (commonly known as Ducks), four GPAs (General Purpose Amphibious



Broadbeach monorail, Gold Coast. This has now been closed and dismantled. Photo: Bob Gough



4wDH built by Bermagui Foundry in 2002, and 4 wDH built by E M Baldwin (B/No.4661.?.7.72) of 1972 at the Gympie Mining & Historical Museum, 22 May 2017. Photo: John Browning



Ex WW2 Jeep on 1067 mm gauge track on private property near the Burnett River, Bundaberg, April 2017. Photo: Bob Gough

vehicles), and one WW 2 Jeep on railway wheels running on several hundred metres of 3 ft 6 in railway. All of this occurred on private property in Bundaberg along the banks of the Burnett River. There were also many other military vehicles. Bob Gough, 2/6/17

NEW SOUTH WALES

RICHMOND VALE RAILWAY PRESERVATION CO-OPERATIVE SOCIETY LTD, Kurri Kurri

1435 mm gauge

J&A Brown 2-8-0 locomotive No.23/ROD 2004 has been cosmetically restored as close as possible to its World War One condition as a tribute to the men from all the railways of Australia who volunteered to serve in the Railway Operating Division of the Royal Engineers in the First World War. The cosmetic overhaul slowly progressed until it was realised that one hundred years ago in July 1917 the first Robinson designed 2-8-0 ROD arrived in France.

So it was decided that the locomotive would be unveiled in its World War One condition on 10 June 2017, the same day, 34 years ago, when steam finished on the nearby South Maitland Railway.

The week before this date the head shunt at Richmond Main station was split, slewed over and a track laid up onto the prepared display location. X 217 diesel then moved it in to position, the track removed, and the head shunt reinstated all in four days.

Saturday 10 June 2017 dawned a cold and wet day, possibly like many days on the Western Front. A small ceremony was held with many surviving railway men from the Richmond Vale Railway, local dignitaries, Coal & Allied, who had donated the locomotive, and Port Waratah Coal Service representatives and Dick Smith attending (Dick Smith flew his helicopter over 200 miles to be at the presentation) The Australian Armed Forces Re-enactment Heritage Unit and the 12th Light Horse Brigade Re-enactment Group acted as a "Guard of Honor".

Graham Black, 20/6/17

VICTORIA

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge

Carbon, 0-4-0T (Couillet B/No.986 of 1889), the ex-West Melbourne Gasworks Locomotive, is now in the Puffing Billy Museum, Menzies Creek. It has recently been fitted with a new boiler, but some problems had occurred in connecting fittings to this. These problems have now been resolved, and work is underway at the museum to get it back into service.

Work is continuing on the ex-South African Garratt NG-G16 No.129, and is currently mainly concentrated on the valve gear, cylinders, pistons, and associated valves and fittings.

The Board authorised the signing of a contract for the conversion of NA locomotive 14A to oil firing when final negotiated arrangements with the contractor are completed, and a contract for the purchase of 32 new Fox bogies. Eight of these will be used as spares for replacements, and 24 will be used for 12 new passenger cars.

Narrow Gauge June 2017, *Monthly News* June and July 2017 No. 527

WALHALLA GOLDFIELDS RAILWAY, Walhalla

762 mm gauge

Acceptance testing has commenced for the Greenbat electric trolley (ex-Orica explosives factory Deer Park) to determine battery duration under load conditions. This trolley will be a great unit for yard works.

DH72 has now been moved to a new position at Yallourn. On completion of the move, the temporary tracks were dismantled and returned to Platina where they are stored in a well-disguised location. The bogies which had been stored outside the facility, were relocated inside the Yallourn building and were then stripped and the bogie frames lifted off the wheel sets. The bogie frames and wheelsets will now be contracted out for conversion from 3 ft 6 in to 2 ft-6 in gauge when finances allow.

With the X1 Tram/Rail Motors, the ADRA Group

which has been commissioned to provide concept drawings based on the agreed Technical Specification, requested additional dimensional information comparing bogie centre distances with other WGR vehicles, which has now been provided. The drawings will now include the new Deutz diesel engines and ex-Z2 tram bogies. In pursuit of the requested change, WGR met representatives of TSV at Yallourn on 12 May in company with ADRA Group's Senior Engineer and their CADD expert, to discuss safety related engineering aspects of the proposed modifications. The TSV representatives expressed concern about the Rail Motor roll-over strength, however, they were assured that this has been taken into account in the specifications and can be readily accommodated.

Discussions continue with Yarra Trams and PTV to acquire four more bogies (trucks in tram terminology) from the Z2 trams which are being retired. These first pair of bogies have been acquired and were picked up by a WGR truck from Footscray and returned to the Yallourn Facility. These bogies are suited to gauge conversion from standard gauge to narrow gauge. They offer a bogie which is meant for motor driven axles and come with disc brakes, package bearings and air suspension.

Dogspikes and Diesel April and May, 2017

TASMANIA

TASMANIAN TRANSPORT MUSEUM, Glenorchy

1067 and 610 mm gauges

The repairs to the suspension of C22's tender last year highlighted the inadequacies of the work areas at the museum to allow repairs such as this to be undertaken in a safe and timely manner and in a clean environment. Plans were subsequently made to convert roundhouse storage road 1A to a servicing and repair area for rail vehicles, which would include a concrete jacking pad and service pit between the rails. An



J&A Brown No.23 (ex Railway Operating Division No.2004) standard gauge 2-8-0 locomotive at the Richmond Vale Railway Preservation Co-operative Society, Kurri Kurri, on 10 June 2017. This was the day of its official unveiling after many years of restoration as a static exhibit. Photo: Graham Black



Ex-West Melbourne gasworks Carbon at the Puffing Billy Menzies Creek Museum, 2 June 2017. It is being prepared to re-enter service following the fitting of a new boiler. Photo: Frank Stamford

infrastructure grant application was made for \$50,000 to go towards the project and Minister Matthew Groom advised on 15 May that the application was successful. This new facility will allow the rail vehicles to be worked on away from areas accessed by the public. The running of trains at the museum is essential for income for the Society and the improved maintenance facilities will be welcomed by the members involved with working on the vehicles.

Tasmanian Transport Museum Newsletter, June/August 2017

SOUTH AUSTRALIA

MILANG RAILWAY MUSEUM, Milang

610 mm gauge

Volunteers have now laid the 2 ft gauge track from the Light Railway Centre to the turntable. At the time of writing, work has paused while waiting for Alexndrina Council to send a promised crane to lift the turntable on to its spindle. Workers can then complete stage one by laying the track onto the turntable and adding two short sidings. Volunteers are allowed to drive trains on the new track for the purposes of positioning displays and carrying out maintenance runs but the transport of the public is not permitted.

The Lakes Railway News, Newsletter of the Port Milang Historical Railway Museum, May 2017

OVERSEAS

FIJI

610 mm gauge

Farer Group PTE Limited, has ventured into a new business, operating tourist trains from near Nadi airport. The tourism venture will be a new

way for tourists to experience Fijian traditional culture. Guests will have the choice to either travel to Lautoka or towards Sigatoka. The trains will be using the Fiji Sugar Corporation tramlines and they will pay a levy to the FSC.

The company is looking at employing around ten staff including four drivers (two at one time), two tour guides, and two engineers, which could double if the demand is high. The group has shipped in two diesel engines and two passenger carriages and hopes to open in two months in May.

Passenger train travel in Fiji is not new. Former sugar miller CSR operated free passenger trains on its tracks back in pre-independence days and The Coral Coast Railway based opposite Shangri-La's Fijian Resort, operates to Natadola Beach and also has shopping trips into Sigatoka. The new trains are expected to carry 27 passengers on board at a time. A mandatory schedule will be put in place to ensure a programme between the two companies to avoid any clash on use of the tramlines.

The Nadi Chamber of Commerce and Industry has backed the initiative of Farer Group Pty Ltd. to venture into tourist train tours suggesting that the train tour in Nadi, with a base near the entrance of Nadi International Airport, will add to many other tourist attractions Nadi has to offer.

This project is reminiscent of the free train services that once existed in the Western Division. Because they will be using the existing railway lines and paying a levy to FSC, hopefully the railway lines will be well maintained for this purpose apart from carting cane during the harvesting season.

The two trains are undergoing assembly and will soon be trialed. One is expected to travel to Vuda up to newly-opened Nila Beach Resort and

the other towards Momi up to the newly opened Marriott Fiji Resort.

The company intends to extend the train tours up to Lautoka City, depending on the success and demand and in the opposite direction towards Natadola Beach, provided the train tracks are intact and well maintained. (Photographs on the Fiji Sun website show an incredibly crude looking steam-outline locomotive reminiscent of a two-year old's first toy train!)

Waisea Nasokia, Nadi, *Fiji Sun On-line*, 27 & 28 April 2017

UNITED KINGDOM

HUNSLET 4-6-0 locomotive No. 1215

The boiler has been in and out of the frames several times. It is currently in but has to come out again for the steam test. However its time in the frames is not being wasted, as there are all manner of tweaks and fine tuning to be done. When the smoke box saddle was repaired in Poland, they left plenty of extra metal on it so it could be ground off to a perfect fit.

To do this grinding, the tanks had to come off to enable workers to get closer and actually see the fit. First the boiler was lifted into the frames. Then the bolt holes were checked for alignment at the firebox end. They are slots rather than holes because the boiler expands as it gets hot so there has to be room for it to move. Calculations were done and the slots opened up to suit.

If the smokebox saddle is a poor or uneven fit and the bolts are tightened down to bolt the smokebox to the saddle, it puts undue stress and strain on the saddle casting and with the vibration of the loco when it moves, this can break lumps off the casting, which is exactly the state the loco was in four years back when restoration was commenced.

The procedure to get an exact fit is to lower the smokebox onto the saddle and measure the gaps, lift the smokebox again and grind. This means that the smokebox end of the boiler has to be raised and lowered repeatedly during the measure and grind sequence. This in itself is a problem as the boiler weighs about five tons. Most of this is at the firebox end, and the overhead crane only has a safe working load of one ton. The answer to this came in the form of two five ton jacks acquired from the Barrow Hill Roundhouse.

The problem with this procedure is that once the boiler has been lowered so that the smokebox sits on the saddle, you can only see the fit round the edges; you cannot see the middle of the casting. Eventually workers resorted to the use of plasticine. When the boiler was next lowered, it landed on a number of small pyramids of plasticine and when raised again, a quite accurate measurement of the hidden gaps could be taken. From that, workers can ascertain the various points that need to be ground down to fit. It is tedious work but it had to be done. Eventually the job got done and the smokebox has now been bolted to the saddle with a perfect fit.

Killamarsh Chronicle, Issue No 38 March 2017

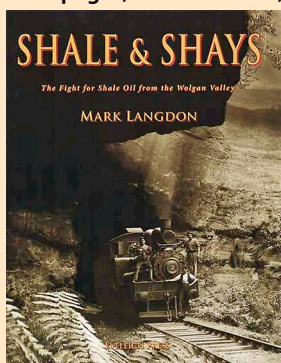
Books from LRRSA Sales ...

Shale & Shays

The Fight for Shale Oil from the Wolgan Valley
By Mark Langdon

Published by Eveleigh Press.

300 pages, 279 x 215 mm, hard cover, many photographs.



A new history of the famous standard-gauge Wolgan Valley Railway, New South Wales. With five chain curves and 1 in 25 grades in spectacular scenery, it used four three-truck Shay locomotives. Includes some original hand-coloured photographs, detailed maps, and rolling stock diagrams.

Price \$78.00 plus postage
(\$70.20 to LRRSA members)

Mountains of Ash

A History of the Sawmills & Tramways of
Warburton and District

By Mike McCarthy

Published by the LRRSA.

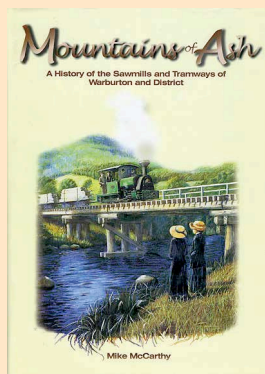
Hard cover, 312 pages, A4 size

Describes a complex network of over 320km of tramways serving 66 sawmills in a mountainous area.

Over 280 photographs, 50 maps and diagrams, references, bibliography, and index.

Price \$59.95 plus postage
(\$44.96 to LRRSA members)

Weight: 1,650 gm



Simsville and the Jarrah Mill

Myall River State Forest, New South Wales

By Ian McNeil

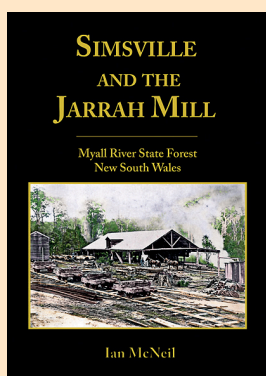
Published by the LRRSA

Soft cover, 96 pages, A4 size
55 photographs, 12 maps and diagrams, references, and index.

The history of a 3ft 6in gauge tramway and sawmilling operations at the village of Simsville, near Stroud. The tramway used three Climax geared locomotives.

Price \$29.00 plus postage
(\$21.75 to LRRSA members)

Weight: 490 gm



The McIvor Timber & Firewood Company

Tooborac, Victoria

By Frank Stamford

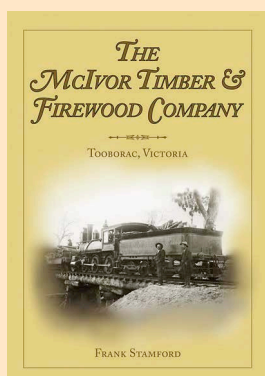
Published by the LRRSA

Soft cover, 104 pages, A4 size
104 photographs, 23 maps and diagrams, references, and index.

The history of a 5ft 3in gauge tramway from Tooborac to Mitchell's Creek, Puckapunyal, Moornbool West and Cherrington.

Price \$30.00 plus postage
(\$22.50 to LRRSA members)

Weight: 490 gm



Postage and packing: Within Australia, up to 250gm \$3.50; 251 to 500gm \$6.60, 501 gm to 3 kg \$15.00, over 3 kg to 5 kg \$18.70

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- If joining in October or November, pay \$32.00 (\$43.33/\$51.33 overseas) and receive 4 issues of *Light Railways* (Nos 258-261).
- If joining in December or January, pay \$24.00 (\$32.50/\$38.50 overseas) and receive 3 issues of *Light Railways* (Nos 259-261).

- If joining in February or March, pay \$16.00 (\$21.67/\$25.67 overseas) and receive 2 issues of *Light Railways* (Nos 260-261).
- If joining in April or May, pay \$56.00 (\$75.83/\$89.83 overseas) and receive 7 issues of *Light Railways* (Nos 261-267).

Join easily on our website: www.lrrsa.org.au

Application for membership of Light Railway Research Society of Australia Inc. P.O. Box 21, Surrey Hills Vic 3127

I, _____
(full name of applicant)

of _____

(address)

(postcode)

desire to become a member of the Light Railway Research Society of Australia Inc. In the event of my admission as a member, I agree to be bound by the rules of the Society for the time being in force. I enclose cheque/money order for \$48.00, or please charge my Visa/Mastercard No.

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