

NUMBER 249
ISSN 0 727 8101

JUNE 2016
\$7.95 Recommended
retail price only

LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



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Distributor: Gordon and Gotch Limited.
ISSN 0 727 8101, PP 100002839
Printed by Focus Print Group.

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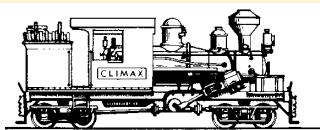
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Imperial to metric conversions:

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



**Light Railway Research Society
of Australia Inc. A14384U**
PO Box 21 Surrey Hills Vic 3127
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double spaced if typed or written. Electronic formats accepted in the common standards.

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No 249 June 2016

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Editorial

In modern management parlance the term "seamless transition" is often used. Hopefully all *Light Railways* readers are now experiencing such a transition from one Editorial team to the next. I have just taken over the role from Scott Gould who has been in the chair for the last two and a half years. On behalf of all readers I would like to say a very big "thank you" to Scott for the wonderful job that he did.

The new Editorial team members are listed in the column to the left and I liken it to the super rock group the Travelling Wilburys, that was made up of a number of rock stars of the time. The team now consists of several luminary light railway researchers and writers and it is my pleasure to lead the team.

There will not be any major changes to the format or content of the magazine and I am pleased to say that I have inherited a very healthy list of articles that are in the pipeline and ready to be published that cover all States and a wide variety of light railway topics.

The next issue of the magazine is number 250 and to commemorate the occasion we plan a special 48 page edition with many varied articles and all the usual features.

Richard Warwick

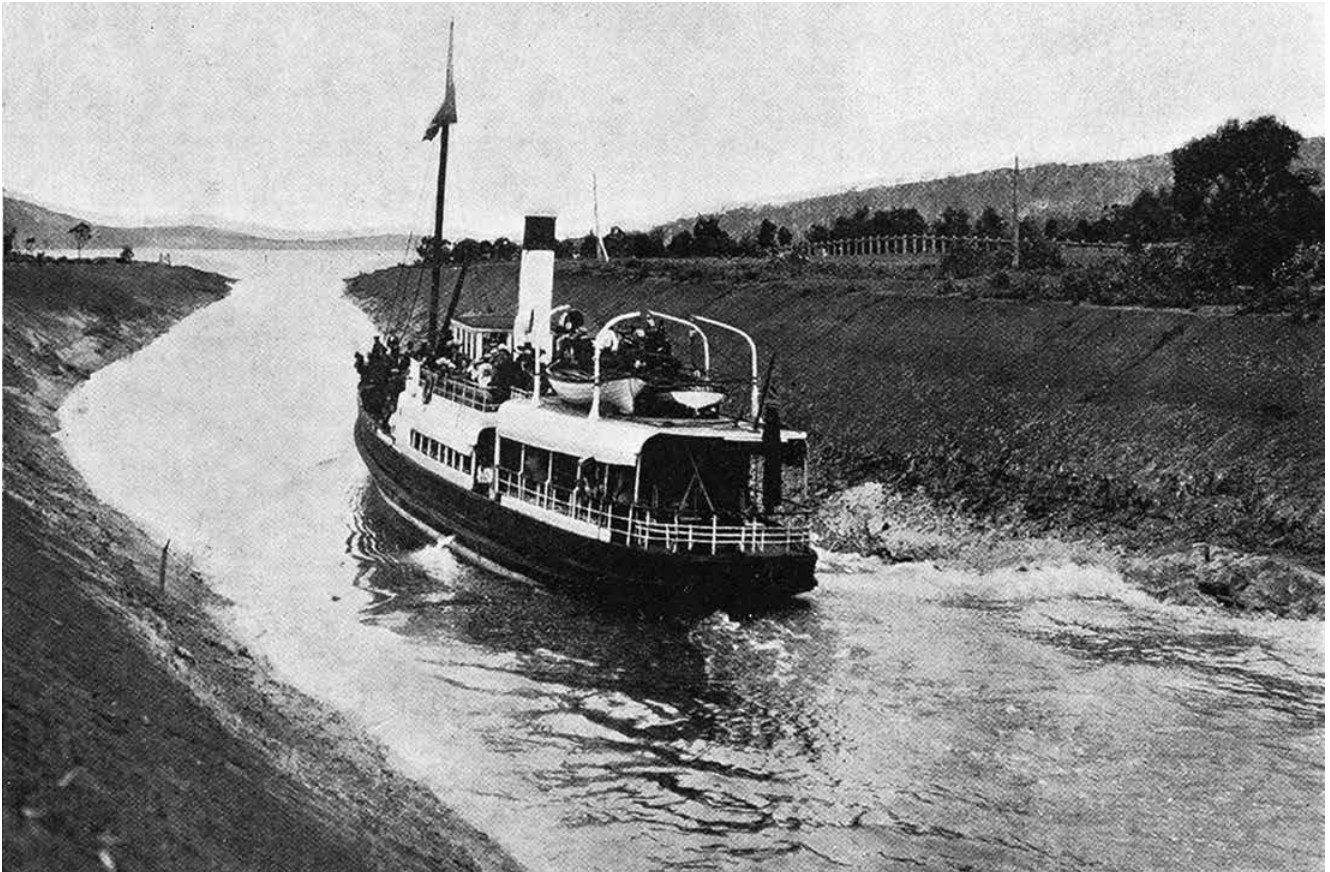
Front Cover: On 19 August 1964 the Officer-in-Charge of the Normanton-Croydon railway (Queensland) poses in front of RM14, a railcar that had been converted from a Panhard-Levassor road lorry in 1918. It had just been rolled out of a shed where it had rested since its last run in 1938. The occasion was a visit by a party of 20 from the Australian Railway Historical Society, Victorian Division. The railcar is now on display at the Ipswich railway museum. The shed contained an amazing variety of items, one of which has been placed on the railcar's running board! Photo: Frank Stamford

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



Opening day, 13 October 1905. The SS Dover carrying the Tasmanian governor and the official party, traversing the canal. Taken from the bend in the canal, the image shows the Dover heading for East Bay, and beyond that, Blackman's Bay. Vessels of a smaller class had been passing through the canal since August 1904. Note the erosion of the lower banks due to vessels' wash. The canal still requires occasional dredging.

The Weekly Courier, 21 October 1905 State Library of Tasmania

East Bay Neck and its light railways

by Jim Longworth and Phil Rickard

Introduction

East Bay Neck, a narrow isthmus on the eastern coast of Tasmania, is notable in the history of Australian transport for two reasons. Firstly it was the site of a very rare early Australian railway – a portage tramroad and secondly it is the site of one of the very few Australian navigation canals, construction of which was assisted by narrow gauge railways.

An early Australian railway

Readers would be aware that the former Port Arthur penal establishment is on the Tasman Peninsula and that one of the reasons that site was selected was the two, easily patrolled, narrow isthmuses that link it to the Tasmanian mainland; one – Eagle Hawk Neck – between Tasman Peninsula and Forestier Peninsula; the other – East Bay Neck – between Forestier Peninsula and the mainland. These peninsulas also acted as a barrier between the East Coast of Tasmania and Hobart for shipping purposes. This led to a number of schemes being proposed over the years to overcome this barrier.¹ Who, especially in the nineteenth century, without a reliable weather forecast, would want to sail a small vessel thirty-five or forty miles around the southern end of Tasman Peninsula, if a safer short-cut was available?

Hobart Town was established in 1804 and within two decades settlements started along the East Coast. To reach the town, settlers had to either make a long and potentially dangerous sea trip, a lengthy overland trip along virtually non-existent tracks or, an oft-used method – boat to near what is today the town of Dunalley, a short walk across the East Bay Neck, and another boat to Hobart Town. Whilst the transportation of convicts to Van Diemen's Land is considered a 'dark' period in Tasmania's history, it did lead to the development of local industry and infrastructure generally. The Commissariat was always seeking supplies – food, fuel, and a thousand other items for its many penal establishments. The commencement of one such establishment, on Maria Island² off the East Coast, tended to focus the Convict Department's mind on the transport problem and led, in 1842 to the building of a portage tramroad across the East Bay Neck.³

A portage tramroad

In 1825 a penal establishment was opened at Darlington, on Maria Island. It was closed just seven years later, following the opening of Port Arthur – that place being more accessible from Hobart Town. Around 1841, a proposal was made to re-open Darlington, this time as a probation station. Concurrently with this re-opening proposal, Matthew Forster, the recently appointed Director of Probation Services, suggested building a boat haulage tramroad across East Bay Neck, near the present-day town of Dunalley. Forster was no doubt encouraged by the success of a similar portage tramroad across Ralph's Bay Neck on the South Arm Peninsula, opened in March 1839. At Ralph's Bay Neck, boats sat in a cradle that was hauled by oxen, along a tramroad.⁴ A glance at the map makes his reasoning obvious.



The distance from Maria Island to Hobart Town could be dramatically reduced, by around fifty miles, and the journey made much safer, by using both the portages. East Bay Neck is but a quarter-mile wide at its narrowest, about the same as Ralph's Bay Neck.

In March 1842 Forster's suggestion was agreed to by the Executive Council. Captain Charles O'Hara Booth, Port Arthur Commandant, duly despatched a convict work-gang to commence the work. The portage tram's opening date is unknown but presumably it was operational by year's end.

In the latter half of 1846, whilst Acting Governor of Van Diemen's Land, Charles La Trobe made an exhaustive survey of the convict system, personally visiting almost every establishment. Writing about Darlington probation station he states:

... the communication between Maria Island and Hobart Town is either carried on by vessels by way of Cape Pillar, or by boats in a more direct line by Ralph's Bay, and East Bay Neck, over which the means of transport are secured by tramroads, or by way of Spring Bay, whence of rough track leads to Richmond'.⁵

The question of how much use was made of the tramroad by the Convict Department, as opposed to the local settlers, however, seems open to debate. A story from 1847, by 'An Officer on the Spot' notes:

... the next point was to get the boat hauled up on the cradle, and transported across the neck. East Bay Neck ... is about four hundred yards across, and along its extent a wooden tram-road has been laid down, thus easily connecting the Pacific with Norfolk Bay. As far as our experience and observation extended, the parties who chiefly benefitted by this convenience, were the men employed in the oyster fishery, at Spring Bay, who supply the gastronomes of Hobart Town ...'.⁶

Presuming that it was similar to the tramroad across Ralph's Bay Neck, it would have had wooden rails, set to a wide gauge, extending into the sea at either end (but further at the shallow, western end), and a four-wheeled boat cradle on flanged wheels. Animal power would be required to haul the trolley and boat. Only small, coastal vessels could be accommodated. In 1850 Darlington station was again closed. The tram-road may have fallen out of use in the years afterwards. A Captain Stoney,

in his book detailing his time in Van Diemen's Land, writes that: 'Over the neck there is a tramroad for the conveyance of boats'. Though not stated, the narrative seems to have been written after 1853. The author also mentions that a proposal has been made to construct a canal across the neck.⁷

It was to be, however, another half-century before the Denison Canal would be excavated across the neck near the town of Dunalley, a kilometre to the north of the earlier portage tramroad. Light railways were to be an important part of that project.

The canal

Australia is widely referred to as the driest inhabited continent on earth. While there are extensive networks of water supply and drainage canals and channels, navigable canals are few and short. One of the more successful ones has been the East Bay Neck Canal which was cut through the neck to join Dunalley Bay on the western side to East Bay on the eastern side. Its intent was to shorten the east coast sea route by a good thirty or more miles. The waterway is now known as the Denison Canal, named after Sir William Denison, who in the 1850s was Tasmanian Governor and an early proponent of such a canal.

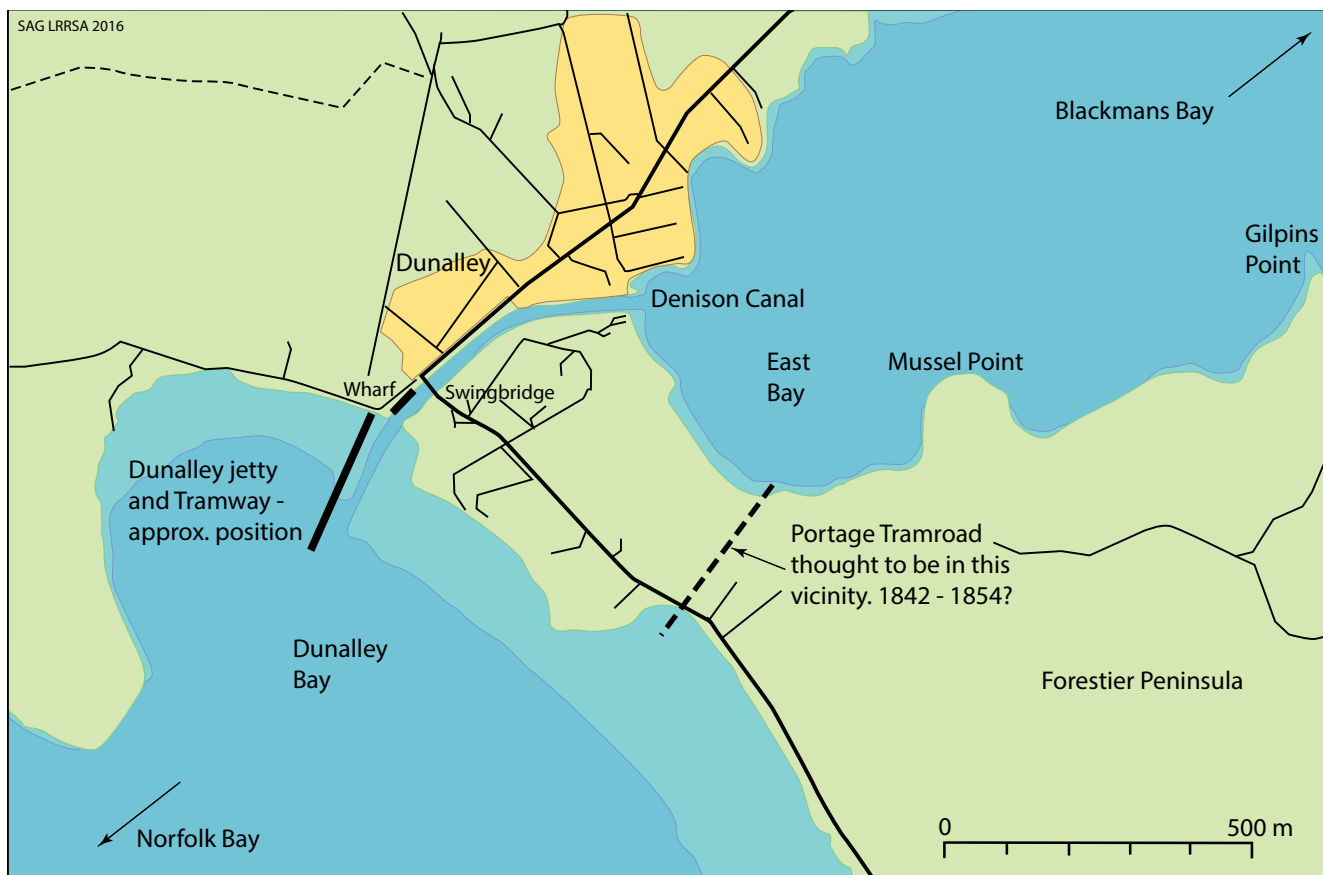
During the latter half of the nineteenth century cutting a canal through the neck had been discussed many times. However opinions differed on whether the revenue derived from it would pay a fair rate of interest on the cost. One gentleman was so satisfied that the work would be a success that he offered to the government of the day to carry it out at his own cost if allowed the right to collect tolls. The offer was refused.⁸ In 1901, prominent politician and entrepreneur, King O'Malley, whilst campaigning in the north of Tasmania, said he thought that the canal would be more useful as a shortcut for sharks to Hobart than anything else!⁹ By the turn of the twentieth century most of the fishing boats along the east coast brought their loads up to the Neck in East Bay, the southern extension

of Blackman's Bay, whence the fish were carted in drays across the narrow strip of land to the lengthy Dunalley jetty, and re-shipped on to Hobart. This was more cost-effective than sailing around the peninsula, which involved a great waste of time and, often, danger.¹⁰

During the lead up to construction, one newspaper correspondent suggested adopting a Danish designed portage railway. A special steamboat would be built equipped for navigating the land as well as the water. It would be provided with wheels on either side of the hull, connected with the motive power. The rails would connect the two sides of the neck, extending well out into deep water, to facilitate the boat leaving and re-entering the water bodies.¹¹

The length of the canal at high water between the two bays was to be about 44½ chains. The total length of the canal, including approach channels, was to be about 1½ miles. Width was to be 16ft at the bottom, with slopes of 2 to 1. The bottom of the canal and approach channels were to be 10ft below low-water level. A swing-bridge would be provided near the then Dunalley jetty to enable road traffic to pass over the canal, and to allow water craft to pass through without inconvenience. A new wharf was to be erected between the swing-bridge and the jetty.¹² Instead of running straight across the neck, the course of the canal was to be slightly curved in order to avoid some rising ground, which would have significantly increased the volume of excavation required.

In mid-June 1901 the Public Works Department called tenders for construction of the East Bay Neck Canal, closing on 21 August,¹³ a date later extended to 25 September.¹⁴ Eight tenders were duly received for the work and that of Henrickson and Knutson, with a tender of £17,074 3s 9d; and an alternative tender of £17,871 13s 9d were the lowest.¹⁵ The contract was signed at the end of November, with a stipulated completion date 30 months hence – the end of May 1904.



Henry (Harry) Henrickson and John Lund Knutson were experienced contractors from Western Australia where they had undertaken numerous public works, including various bridge, jetty, railway and electric tramway contracts.¹⁶ In April 1901 they won the contract for various Devonport harbour works, the first of several Tasmanian contracts.¹⁷ They were subsequently involved in a partnership with Smith and Timms constructing electric street tramways in South Australia,¹⁸ before doing railway contracting in New South Wales.

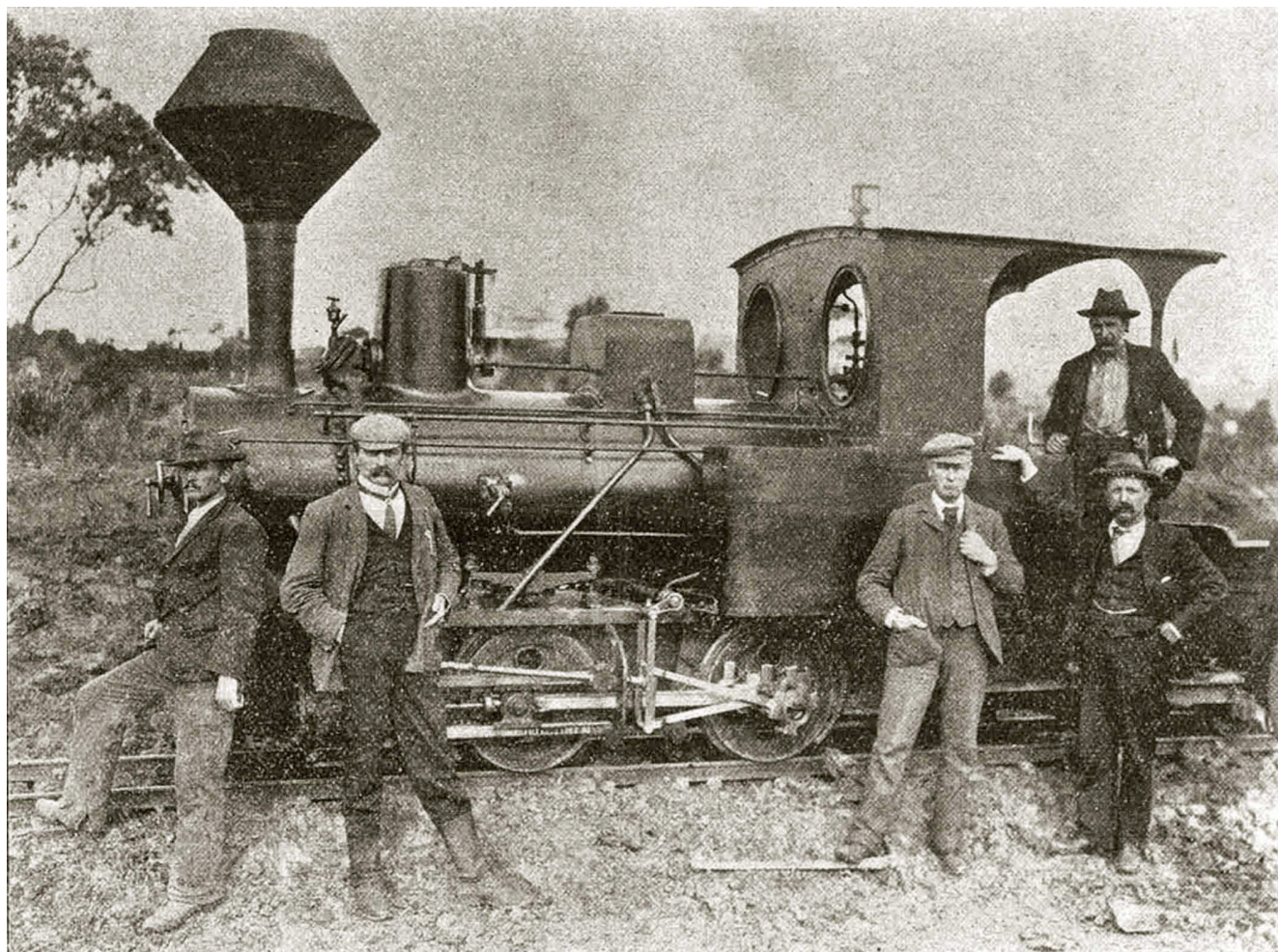
Canal construction

In May 1900, the eminent civil engineer, C Napier Bell, M Inst CE, reported to Parliament on the proposed canal and its engineering. He suggested that construction should be let by contract, the contractor to find its own means of doing the work. For costing purposes he suggested excavating the material in a dry condition with carts or rails and trucks, the water, if any, being pumped out between times of high water. The entrances at both ends would then be dredged by bucket dredge, which would also deepen the channel. The dredge could be hired for the purpose.¹⁹ An alternate proposal for a more powerful plant and for the government to subsequently acquire the plant and use it elsewhere came to nothing²⁰ and Napier Bell's original suggestion was largely followed.

Excavating the canal was a formidable undertaking, involving an enormous amount of spoil that had to be excavated and

shifted, totalling 171,864 cubic yards, plus 30,000 cubic yards at the Dunalley Bay approaches, and 19,000 cubic yards at the Blackman's Bay end. The material consisted of red clay, gravel, pipeclay, and some rock. Contrary to expectations, the contractors found the material, in places, much stiffer to shift than was anticipated. They struck a bar of ironstone rock towards the Blackman's Bay end; but it fortunately proved to be a narrow and not very deep stratum. Removing about 2,000 yards of it became necessary. The highest part of the excavation was about 18ft above low water mark.²¹

The earth, which was more like chalk than anything else, was first loosened with a heavy single furrow plough drawn by sixteen or eighteen bullocks. The loosened material was then shovelled from the furrow into tramway trucks, which were removed to either beach, and placed where there was no chance of it washing back again. In some parts rock was encountered which required blasting. For several chains the excavation was taken down below the water level, consequently, a little seawater seeped in; but was pumped out as fast as it entered. Work was at times considerably retarded by adverse winds, and the weather was a potent element throughout the construction. John Knutson was in charge of the Dunalley works; his partner, Harry Henrickson was usually in north-west Tasmania supervising the Stanley breakwater construction.²² The government's resident surveyor and engineer-in-charge was Arthur Wherrett²³ who, with his wife

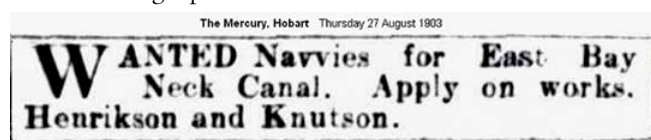


Krauss B/N 4526 of 1901. The photographer noted three person's names in the above photo – Mr Wherrett, Government Engineer-in-Charge of the Works; Mr Henrickson, the Contractor, and Mr Dorman, of the Dunalley Hotel. Presumably the man at the left, and the engine driver were not considered important enough to have names recorded. The presence of Harry Henrickson is unusual as he was usually at other works that Henrickson & Knutson were executing in Tasmania. The occasion seems to be a very early run of the locomotive, judging by its pristine condition. This dates the photo to mid-April 1902.
Tasmanian Mail, 2 June 1902 State Library of Tasmania.

Alice, took up residence in Dunalley for almost 2½ years. A much respected couple, their departure in July 1904 was a loss to the village – the local church, particularly, was sad to lose the musical talents of Alice Wherrett.²⁴

Late in 1902, with the arrival of a Ruston, Proctor & Co 'steam navy', the dry excavation work was considerably mechanised – some 172,000 yards being dug this way. At every 'bite' the steam shovel lifted a cubic yard of earth, weighing nearly 25cwt. Three hundred tons constituted a good day's work.²⁵ For dredging the canal approaches a Priestman Brothers steam grab dredging plant was obtained²⁶ but it proved unable to cope with some of the more tenacious material encountered – particularly the pipe clay. Subsequently the contractors mounted its Ruston Proctor steam shovel on a barge, which was found to act very effectively.²⁷ Dredging seems to have started at the western end of the canal, working through the shallow flooded canal forming the bottom, and out into East Bay by May 1904, where the eastern approaches were dredged over the next couple of months. Following this, the western approaches received attention. The dredged material was deposited into punts for disposal in the bays at locations previously marked by the Hobart Marine Board's harbourmaster.²⁸

Commencement of construction work transformed the quiet little township of Dunalley into a scene of varied activity. Additions and several small buildings, including two new stores, suddenly sprang up. Not surprisingly, Alfred Dorman, long-time proprietor of the Dunalley Hotel was reported to be most happy with the construction!²⁹ The works provided employment for an average of about sixty men, many of them having commenced with the work. Considering they were navvies, a word that derives from navigators (in the sense of canal builders), their behaviour taken all through was very good. No more striking proof of this can be afforded than the fact that by April 1903 the lockup, adjacent to the works, had not held a single prisoner.³⁰



Just inside the Dunalley, western entrance of the canal was a hand-operated swing-bridge with an opening span of 30ft. The bridge opened and closed by rotating on a pivot, which sits on a central concrete buttress or pier, the lot costing about £1300. The whole of the ironwork in the swing span of the bridge was manufactured in Launceston by the Salisbury Foundry Co, who also erected it in position.³¹ It was replaced with an electrically-powered swing bridge in 1965.

As early as August 1904 the contractors were allowing fishing boats and firewood barges through the canal in order to reach Hobart. The contractors' main work was finished by early December 1904;³² thereafter various ancillary works needed completing, some via an extra contract. Included in this was the dredging of a channel through the large sand spit in Blackman's Bay to aid shipping between the canal and the Narrows – the point where Blackman's Bay joins the Tasman Sea. For this work it is believed they used a sand pump, thought to have been converted from the Priestman grab dredge, and said to be able to remove 23 punt loads per day.^{33 34} This plant and a punt were subsequently offered to the Hobart Marine Board.³⁵

Other works required included beacons, channel markers and a wharf at Dunalley – all had been completed by the end of September 1905 when the Minister of Lands and Works advised a somewhat reluctant Hobart Marine Board

that it would be responsible for the canal.³⁶ Finally, on 13 October, the Tasmanian governor, His Excellency, Sir Gerald Strickland, GCMG, officially opened the canal in a ceremony at Dunalley.³⁷ In his opening speech he conferred the name 'Denison Canal' on the waterway, replacing East Bay Neck Canal by which name it had been hitherto known.

Light railways

At the end of November 1902, within days of the contract being signed, Henrickson and Knutson advertised in Melbourne for a dredging plant, 2 miles of 30lb rails, a locomotive (12 to 16 tons) plus side-tipping trucks of about 4-yard capacity.³⁸ Over the next couple of months one or both of the contractors, assisted by a consulting engineer, Andrew Currie, visited Melbourne to inspect and purchase plant. During the first week of March 1902 John Knutson and his senior staff arrived at Dunalley, the bulk of the various plant arriving during the following weeks.

Twenty-five side-tipping trucks, half the number purchased, arrived in Hobart on 13 March aboard the coastal steamer *ss Mahinapua*. Interestingly, the trucks did a bit of a 'Cook's tour' to reach Hobart. An unknown vessel from Melbourne to Devonport, transhipped to the *ss Wareatea* from Strahan, trans-shipped again to the *ss Mahinapua* for Hobart.³⁹ The Union Steam Ship Co of New Zealand's *Mahinapua* and the *Wareatea* shared the Tasmanian West-Coast run at the time – Launceston to Hobart via Devonport, Burnie and Strahan and one can only presume the Strahan transfer happened to suit the vessels' scheduling. Another 25 trucks arrived via the West Coast run ten days later.⁴⁰ One suspects they were again trans-shipped in Hobart, to a local boat (probably *ss Nubeena*) for the trip to Dunalley – their fourth vessel from Melbourne!

Actual construction quickly started, initial works including the formation of roads and laying the 2 ft-gauge tramways. The contractors were complimented on the excellent road they made. The metal, consisting of basalt boulders, was as hard as Aberdeen granite, and a liberal amount was used.⁴¹

As mentioned, the excavation commenced with the ground being broken by ploughing. The resultant spoil was then loaded manually into standard four-wheel side-tipping V-skips. A small steam locomotive drew the trucks carrying the excavated material, amounting to nearly 172,000 cubic yards, to dumping grounds on the shores of each bay.⁴² At the eastern, Blackman's Bay end, the spoil was dumped into a huge mole which reclaimed an area of land from the sea.⁴³ The trains ran along a set of rails that were moved without much trouble when the progress of the work demanded.⁴⁴

The locomotive has been identified as Krauss B/N 4526 of 1901, a 30hp class-IV engine weighing around seven tons – not quite the size of engine they had originally sought, but one more suited to the required purpose. The small 0-4-0WT was purchased new from Diercks and Son, the Melbourne agents for Lokomotivfabrik Krauss & Company, of Germany. Imported via Melbourne, the loco arrived in Hobart on the *ss Mokoia* on 21 March 1902 in ten packages.⁴⁵ By late March it was at Dunalley together with the other railway plant.⁴⁶ In early April, the contractors were advertising for a 'competent locomotive driver and fitter'⁴⁷ and by the middle of April the engine and tramway had been 'fixed up' – presumably assembled, tested and ready for use.⁴⁸

The loaded trucks were drawn by the locomotive a certain distance along the line, and then dragged the rest of the way by a horse onto the spoil heap. One day something went wrong with the trucks, either one of them got stuck or got off the rails. The horse was vainly trying to drag ten trucks loaded with clay. A passer-by reported that it could be seen that the

horse was straining every nerve and pulling with all its might, but only succeeding in moving the load a few inches at a time. The driver, according to a witness, began to thrash the animal unmercifully. Another man, who was pushing from behind, yelled at the driver, with a laugh 'You'll kill him'. Another witness called out 'You're got too heavy a load on.' Upon this the driver stopped beating the horse, but still urged it on. A man further along the line ran up and uncoupled five of the trucks, whence it was able to proceed.⁴⁹ Hopefully this was just an isolated incident.

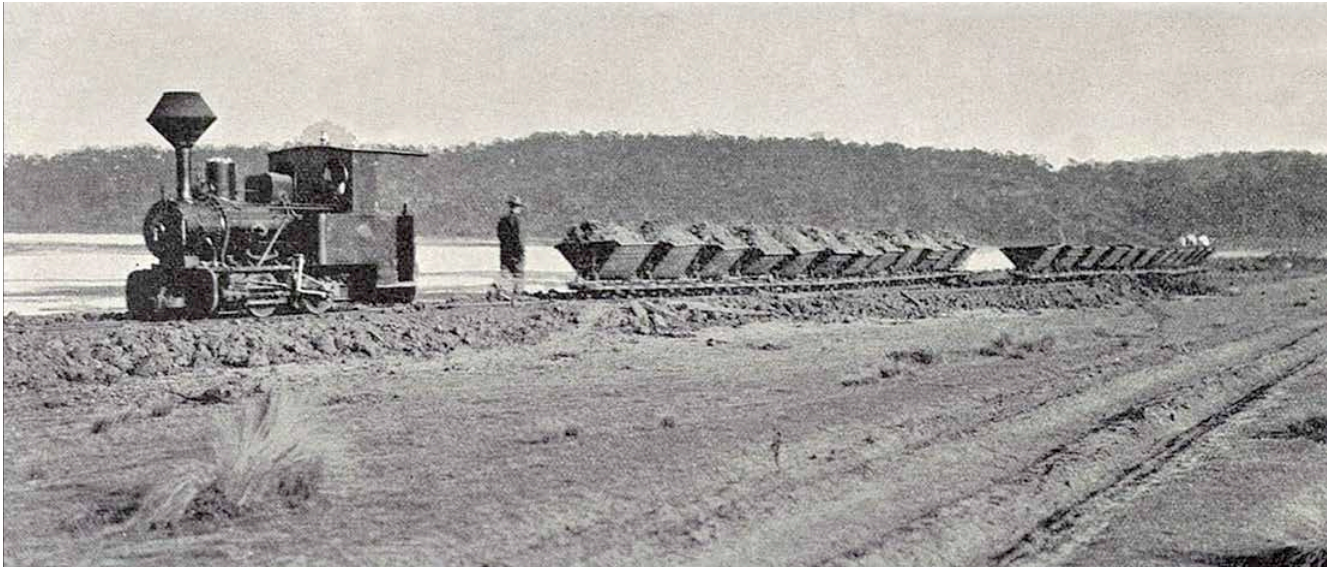
The chief difficulty with the railway was in wet weather when working in the 'gullet', the area at the bottom of the cut and nearest the sea. Equinoxial gales and snow at the end of September 1902 saw work much delayed,⁵⁰ a similar situation to that in June 1903 when the works were at a virtual standstill for most of the month.⁵¹

In mid-January 1904 use of the locomotive and railway was discontinued as shifting of dry spoil was complete. Henceforth the steam dredge was used to break through to the sea at each end and excavate the approaches.⁵² In early October Henrickson and Knutson sold the loco to the recently-formed Sandfly Colliery Company Limited to be utilised in developing its coal mine south of Hobart. The purchase included the 2ft-gauge Krauss locomotive, forty-seven trucks, and about thirty-four tons of 20 lb/yd rails and fastenings, together with a number of sleepers. The colliery company considered itself fortunate in securing the lot for £1000, made up of £300 in cash, and the balance to be paid by four promissory notes of £175 each, payable at three, six, nine, and twelve months.⁵³ As the loco was used in construction of the Sandfly tramway in 1905, one presumes it was moved immediately to Margate although exact dates are hard to determine.



An interesting pair of photographs, taken a few minutes apart. In the top one a bullock team is approaching the camera, breaking the earth with a large single-furrow plough. The shovel-men are on the high side of the track, loading the broken earth (from the plough's previous pass) into side-tipping skips. The loco can just be seen at the far right. In the lower picture the plough has passed behind the photographer, and crossed to the high side of the tramline and is breaking the earth. The shovel-men have swapped to the lower side and are shovelling the latest lot of loosened earth into the skips. When full, the loco will bring back the other set of emptied skips, and collect the lot in the the photos. Judging by the loaded skip at the left, the loco is overdue! When the easier-to-work upper soils had been removed, a Ruston Proctor steam-powered shovel was introduced.

Tasmanian Mail, 2 June 1902 State Library of Tasmania.



On the shores of Dunalley Bay. The loco has drawn forward from the rake of loaded skips, and will soon back into the siding to pick up the waiting empty rake and return to the cut. It is thought a waiting worker will tip the dozen skip-loads onto the growing embankment and place each skip into the siding to await the next rake of loaded skips.

Tasmanian Mail, 2 June 1902 State Library of Tasmania



The Denison Canal in the 1970s, looking east, with the small town of Dunalley scattered along its northern side. Much of the town was devastated by bushfires on 4 January 2013.

Tasmanian Archive and Heritage Office, refAB713-1-11611A

As an aside, the completion of the canal saw greatly reduced use of the Dunalley jetty. It had been built in 1885 and, at 1740 feet, was said to be one of the longest jetties in Tasmania.⁵⁴ It was equipped with a tramway running the full length to facilitate the movement of cargo. By 1913 the jetty had fallen into some disrepair and the Marine Board proposed that the tram rails be removed for re-use elsewhere.⁵⁵

Acknowledgement

This article was only possible through the pioneering light railway research of many people, and the newspaper digitising project, Trove, of the National Library.

References and Notes

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8. *The Mercury*, 30 May 1900
9. *The Examiner*, Launceston, 6 Feb 1901. O'Malley was clearly trying to keep his audience entertained; pointing out that the government in Hobart wasted money in the South, instead of doing useful things with it in the North! By 10 Feb 1905, *The Mercury's* fishing correspondent is attributing the increased presence of sharks in the Lower Derwent to the canal's opening. West Coast papers were also critical. *The Zeehan and Dundas Herald* (4 Apr 1902) said "How any set of men possessed of commonsense could advocate the construction of the East Bay Neck canal and refuse to build the Mount Farrell tramway passes all comprehension."
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Tipping to spoil, Norfolk Bay, viewed from the land side' was the photographer's caption. After being excavated, dry material was removed by rail to both ends of the canal cut and dumped along the shoreline. This picture shows operations at the western end as seen by The Tasmanian Mail's special photographer. It is thought this scene is to the south of the existing canal swing bridge, on the shores of Dunalley Bay (part of Norfolk Bay).

Tasmanian Mail, 2 June 1902 State Library of Tasmania



The tramway between the first (temporary) mill and the middle mill. Fred Marsden and his family pose for a photograph in the early 1920s. Photo courtesy Jim Coulston

A fine lot of timber fit for the saw

The story of Dumbrells' timber tramway and sawmills in north-east Victoria

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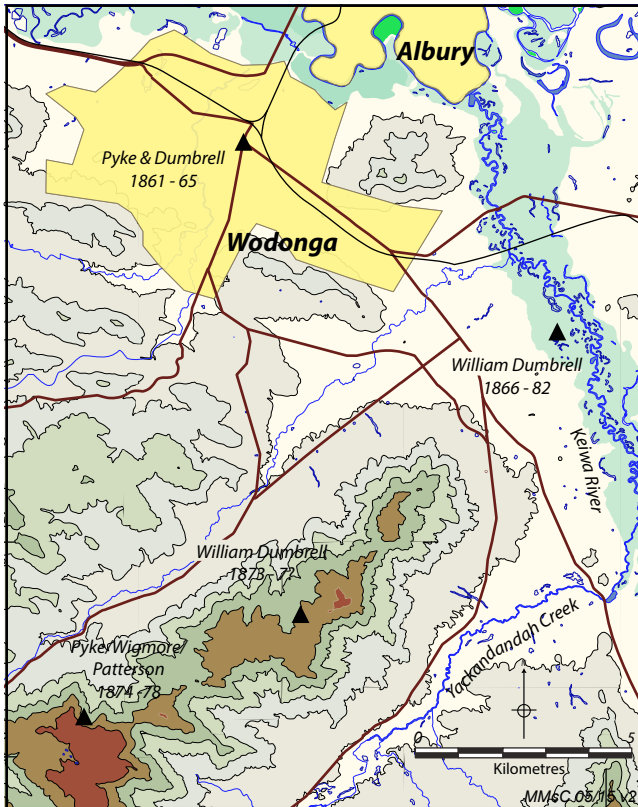
A pioneer sawmiller at Wodonga

William Dumbrell was born in Withyham, Sussex, England in 1830, and emigrated to Sydney with his family in 1839. (His mother died on the voyage, and his father remarried soon after the family's arrival). A stonemason by training (like his father Stephen), William married Ann Osborne Boyd in Camden, NSW, in 1850. He then spent some time on the goldfields in north-east Victoria before settling in Albury,¹ where he and some of his thirteen children went on to found a sawmilling dynasty in southern NSW and north-east Victoria. William Dumbrell entered the timber industry at Belvoir (later the township of Wodonga) around 1861, and provided timber for many Shire and Government contracts in the district.² Dumbrell's first recorded sawmilling venture was the operation of a combined flour and sawmill in partnership with Samuel Pyke. The sawmill was originally owned by John Hore, and operated as the Wodonga Steam Sawmills until its purchase by William Wise in March 1858. Wise began to construct a flour mill alongside the sawmill in August 1860. Both were in operation in 1861 under the management of Pyke & Dumbrell as lessees. The mill is believed to have been somewhere in the vicinity of today's Wodonga water tower (between High and Hovell streets).³

The combined mill was operated by steam, presumably the same plant purchased with the sawmill. The boiler at the mill exploded in late 1865 with disastrous results: 'Bricks, stone and iron debris were precipitated around the township for long distances ... The sawmill was blown to atoms ... The engine-house and shed were demolished'. The flour mill alongside seems to have suffered only minor damage. Through sheer luck, no-one was hurt. The reason for the explosion was given as the boiler being 'worn out from long use'.⁴

At this point, Pyke and Dumbrell seem to have gone their separate ways, Pyke continuing in flour milling elsewhere in Wodonga while William Dumbrell concentrated on sawmilling. Samuel Pyke's brother William Tucker Pyke may have plugged the commercial hole left by Dumbrell's departure with the output of a sawmill established on the Baranduda Range in January 1874, but he sold the mill by March 1876. The new owner, John Wigmore, died in 1877 and the site was taken over by George Patterson, who abandoned it by late 1878 or early 1879.⁵

William Dumbrell was much more successful (although the destruction of the Belvoir mill may have temporarily turned him away from using steam to power his next sawmill). By 1866, Dumbrell had selected 158 acres of land⁶ and had established a water-powered sawmill on the Little or Kiewa River at Bonegilla. The water wheel was situated in a 'natural outlet' in the riverbank, and the water was carried from the mill by a tailrace excavated through Henry Brittain's property below the mill. Over £1200 was invested in the mill and it employed six men full-time.⁷ However, the site was subject to flooding and, after a particularly severe flood in 1867, the cost of the repairs drove William Dumbrell into bankruptcy.⁸ He recovered from this, being granted a certificate of discharge in 1870,⁹ and the water-powered mill was still apparently in the same spot in 1882.¹⁰



Around 1873 a second mill had been installed on a steep spur of the Baranduda Range,¹¹ and a third was added by 1882 at Albury North, where steam power was again employed. Dumbrell's luck with steam (or rather lack of it) continued when the boiler of this mill exploded on 31 March 1882. Again, through sheer good fortune, there were no deaths, only a superficial injury to one of his sons.¹²

A new generation

William Dumbrell continued in the timber business until around 1896 when he retired and passed control of the business to two of his sons (he would not die until October 1912).¹³ Charles Raymond Dumbrell (1868-1950)¹⁴ operated a mill in the parish of Tatonga (north of Tallangatta) between 1892 and 1893 before entering into a partnership with his younger brother Alfred Albert Dumbrell (1873-1961).¹⁵ In 1900 they boasted two sawmills – a red gum mill at Talgarno, and a 'Colonial Pine' mill at Grong Grong.¹⁶ In 1904 the brothers were busily engaged cutting Murray Pine in southern NSW. After moving back to Victoria they operated a mill in the Strathbogie Ranges in 1905 and another near Lima between 1906 and 1908, before moving out of Victoria again around 1910. (This move may have been prompted when it became clear that a new railway from Benalla would bypass the Too-roor forest – where the brother's mills were situated – in favour of Tatong, as cartage costs by horse teams were severe. A round trip to and from the mills could take as long as three or four days in the winter). Another sibling of Charles and Alfred Dumbrell, John George Dumbrell (1863-1939)¹⁷ also owned a mill in the Strathbogie Ranges between 1905 and 1908.¹⁸ In conjunction with their sawmills, Dumbrell Brothers operated a large builders' supplies and timber yard in Albury, with sheds totalling 112ft by 75ft, and a re-sawing plant complete with planing and moulding machines, all driven by a horizontal steam engine drawing steam from a Cornish boiler.¹⁹

The move to Beetoomba

In 1908 Charles and Alfred Dumbrell formalised their business with the registration of Dumbrell Bros Limited.²⁰ Between 1910 and 1919, they lived and worked at Henty in New South Wales, trading under the name of "Murray Pine Saw Mills". During this period the forest south of Beetoomba was assessed as part of the extension of the Tallangatta railway.²¹ In 1916, the railway was extended to Shelley and, by 1918, had reached Beetoomba station beside the Cudgewa Creek.²² In October 1919, Dumbrell Brothers applied for a cutting area of some 3000 acres south of Beetoomba. The plant owned by the brothers included twin breaking-down saws, rip and docking benches, and two portable steam engines aggregating 26 nhp. The area was inspected by Forester F. H. Stubbs in company with Charles Dumbrell in January 1920. Stubbs reported that the area was stocked with 'A fine lot of timber fit for the saw. ... this is a maiden forest and comprises a quantity of Messmate, Peppermint, Ribbon Gum and on the range ... some very fine Woollybutt.'

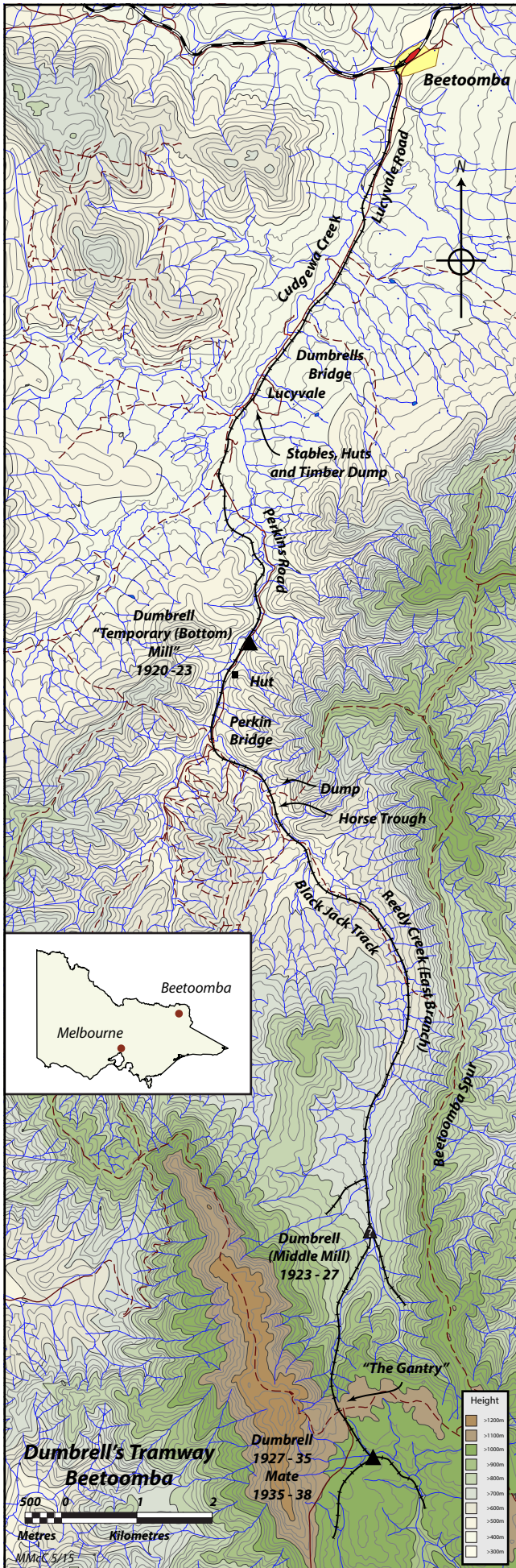
The finalisation of the Dumbrells' application was complicated by the lack of detailed maps of the area, but agreement was reached in January 1920 for a cutting area of 1000 acres with a further 1000 acres held in reserve. A temporary mill was established on 'Coulston's block' just south of Lucyvale to cut the 75,000 super feet of tram rails and the many sleepers required for the tramway between the forest and the railway station. By June 1920 the equipment for the temporary mill was on site and ready for erection.²³

The temporary (bottom) mill

Construction of the tramway began in August 1920 and the first rails were laid on 16 September.²⁴ The sleepers were spaced 2ft 6in apart and measured 5ft x 6in x 4in. The spaces between them were filled with split timber packing 4ft 8in long. The rails were sawn from Peppermint timber of second quality, and were 4½in x 3½in. The sleepers were 'joggled' to provide a flat surface onto which the rails were securely nailed to the gauge of 3ft. The tramway was extended from the temporary mill in two directions: towards the Lucyvale School where a timber depot was established, and for six miles up the valley of Reedy Creek towards the site selected for the 'permanent' mill. From the depot at the Lucyvale School, the first dispatches of timber were transported over the road to Beetoomba railway station on horse-drawn wagons operated by Billy Pearce. Four or five families lived at the site of the temporary mill, while timber for the tramway rails was removed off the private property.²⁵

The permanent (middle) mill

The permanent mill was probably opened not long after the tramway reached the new mill site, as a large area had already been cut-over by the end of 1923. Three log tramways were constructed to tap the timber, two running south from the mill and one in a north-west direction. The two portable steam engines powering the mill, one of 14 nhp and the other of 10-12 nhp, were connected to countershafts to operate the mill machinery. The mill, trading as Dumbrells Pty Ltd, employed twelve men, two teams of bullocks and about twenty horses.²⁶ Besides the short logging tramways, some timber was obtained from the top of the range 'near Peter Wright's Cutting' and snigged to skids on the ridge top. The timber was slid down a log-lined chute to the foot of the hill. Bullock teams then snigged the logs direct to the mill.²⁷ Much of the timber proved to be very faulty, and the mill had done little more than break-even. If the expensive tramway (costing several thousand pounds) was to be justified, a better class of



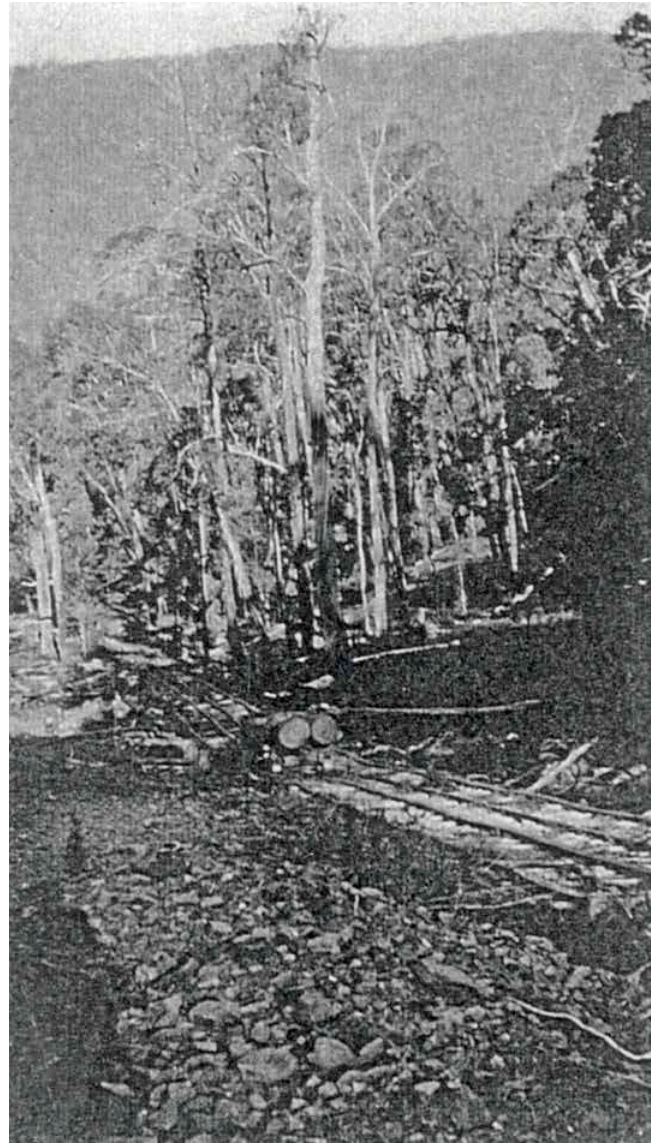
timber was essential. On 15 January 1924 the Company applied for a new area of 2000 acres 'on top of the mountain which is about three miles from the present mill site'. Construction of an extension of one of the logging lines to reach the top of the range was underway by June 1924, shortly after Dumbrells were provisionally allotted the new area. This tramway would continue as a graded line suitable for horse-traction to the foot of the escarpment where an incline would be laid some 300 yards to the top of the hill and a lowering gear installed. At the same time, the outlet tramway was being extended from the timber dump at the Lucyvale School all the way to Beetoomba Railway Station and was expected to be completed by the middle of August. Work on the extension of the logging tramway continued as Dumbrells worked their way up the valley of Reedy Creek, cutting as they went. Logs were hauled to the tramway using teams of horses.²⁸ The incline to the top of the range was expected to be finished in December 1925, and Dumbrells were eager to start work cutting the new area in the New Year.²⁹

The output of the firm for the previous year had been 733,295 super feet.³⁰ Charles Dumbrell superintended the business from an office in Oulten Street Caulfield while Alfred took care of the practical side of the operation. In August 1925 several allotments were purchased opposite the Beetoomba Railway station to construct a house, and several others were leased for grazing purposes,³¹ so it seems that this became the new base for the horses using the outlet tramway extended north from the Lucyvale School all the way to Beetoomba Railway Station.

The final (top) mill

At first the new tramway south from the 'middle' mill was used only for logging but it soon became clear that, to make the operation economic, the mill would have to be shifted to the top of the incline. A formal application for a new mill site was made in May 1927.³² The site was in protected Forest and a Lands Department licence was issued from 1 October 1927,³³ so it is probable that the mill was shifted either around this date or shortly afterwards. The mill engine was hauled along a bush track over a circuitous route via Jacks Gap to reach the new mill site.³⁴ Around this time the first few financial danger signals were sounded. A claim was made for a reduction in royalty, Cobden sawmiller Cesare D'Atri visited the district and contemplated purchasing the mill, and Dumbrells admitted to Forester Perry that the mill had lost £766 for the year of 1928. The major problem seemed to be the long distance from Beetoomba station and the cost of maintaining and working the 13½ miles of outlet tramway. The line was maintained by a man who lived beside the line, and Dumbrells had cause to complain that the passing graziers felt free to use this hut whenever they liked to the detriment of the man who was meant to live there.³⁵

Dumbrells' poor economic position in the late 1920s was compounded by the onset of the Depression of the 1930s and by additional factors. The forest on top of the range was not cutting as well as expected, and the mill was sometimes forced to close due to heavy snowfalls in the winter. The Company had not paid a dividend since it commenced work in the area in 1920. Cost-cutting measures had included a reduction of maintenance on the outlet tramway, and this was now making the line even more difficult to work. By 1932, it was estimated that £300 to £400 would be required to put the line in proper working order. An application to the Forests Commission for assistance to widen an old mining track to motor-truck standard to bypass the outlet tramway was refused in September 1933. By this time, all timber within 1½ miles of the mill had been cut,



Left: Logs descending the incline from *The Gantry* on the Gibb Range to the middle mill in the late 1920s. **Right:** The same load of logs as in the preceding photograph has passed the photographer and is nearing the foot of the incline. Photos courtesy Nell Mildren (via Lloyd Matthews).

and the construction of two logging tramways to reach the timber further out had produced additional financial strain. By 1935 the Company was in arrears in its royalty payments. Later that year Mr. Stavely, the “financial member of the firm” died, and it remained to be seen whether his executors would now withdraw their support. In November 1935, Dumbrell’s gave up the battle and applied to have the sawmill and cutting rights transferred to Mates Ltd of Albury.³⁶

Thomas Hodges Mate (1810-1894) was one of the earlier squatters in southern New South Wales, and set up a store at Tarcutta to supply overlanders travelling south to the Port Phillip District. The store was later moved to Albury. The business prospered, and one of Albury’s best known landmarks is still ‘Mates Corner’.³⁷ By 1935, Mates Ltd was the largest timber and hardware distributor in north east Victoria and southern New South Wales, and Mr. D. A. Thompson was the Governing Director. It was believed that Dumbrells had been selling their timber through Mates Ltd for some time, and had not had the advantage of an ‘open market’.³⁸ Mates retained Charles Dumbrell as manager of the mill in the interim and constructed a telephone line from Beetoomba to the mill.³⁹ Charles Dumbrell managed the mill until the end of March 1936 and then finished up. His parting letter to Forester Perry reveals a definite trace of bitterness.⁴⁰

Tramway operations

By 1938, Hughie Laverty and Jim Coulston were responsible for the operation of the lowering gear which was known as “The Gantry”. Two trucks of timber (approximately 5000 super feet in total) were dispatched from the mill each day. Once a crawler tractor became available, the tramway trucks were towed to the top of the ridge overlooking the valley of Reedy Creek using this machine running beside the outlet tramway. The job had previously been done by horses, but the lack of natural forage at the mill discouraged the use of these animals if an alternative was available. Once at the flat on top of the hill, the two trucks were held on their brakes while they were attached to the wire rope of the lowering gear. When securely attached, the trucks were levered over the brow of the slope using a pinch bar. The top section of the incline was extremely steep and, as the trucks began to move off, their speed was controlled by brakes attached to the drum of the lowering gear. The weight of the two full trucks descending hauled up two sets of empty trucks laden with chaff and any other supplies required at the mill. The ascending and descending trucks ran on completely separate lines from top to bottom of the incline and, for most of the way, ran on separate formations. By the time the loads of timber were nearing the bottom of the incline the wire rope

would be suspended in the air high in the tree tops. By this time the empty trucks were nearing the top of the incline. When they had arrived, the empty trucks were detached from the rope and taken down the gentle grade to the mill to be loaded ready for dispatch the following morning.

At the bottom of the incline a man was waiting to take the loaded trucks off the rope. The brakes were carefully checked, and then both trucks were run over a steeply graded section of line for about one mile to a point where the grade levelled out. If the brakes failed on this section of the line the load would “bolt”, and one driver received crushed ribs from such an accident. When the trucks were stopped on the level section of line, a six-horse team was attached to take the two loads of timber the remaining distance to Beetoomba railway station. The horses were not used on the steeper section of the tram as the danger of them being crushed by an out-of-control load was too great. There were bridges over every side creek on the tramway as it wound its way down the valley of Reedy Creek. The highest and most dangerous ran over a ravine littered with rocks and was known as “Suicide Bridge”. The lower section of the tramway was undulating, and there were several sections where the grade was against the load. Derailments were reasonably common, and a jack was used



Timber chocked ready for loading onto trucks on the export tramway leading from the top mill to The Gantry.

Photo courtesy Nell Mildren (via Lloyd Matthews).



The ‘top’ mill was often snowbound in winter. Sawn timber stacked on trucks ready for its short journey north to The Gantry.

Photo courtesy Nell Mildren (via Lloyd Matthews).

to lift the offending truck into the correct position where a tug from the horse-team was usually sufficient to pull the truck back onto the line. Once at Lucyvale the line followed the western side of the road which ran roughly parallel to Cudgewa Creek. On the approaches to Beetoomba station the line passed under the eastern end of the railway bridge over Cudgewa Creek, and then turned north-east parallel to the railway line. Here, the timber was off-loaded onto skids ready for stacking into the railway trucks. The empty trucks were loaded with any supplies required at the mill, and the horse team was turned to take the empty trucks back to the foot of the incline. The last section of the line was steep and, by the time the foot of the incline was reached, the horses had done a full day’s work. At the foot of the incline a spring had been piped to a drum set into the ground to supply drinking water for the horses. By the time this spring was reached the horses had travelled some forty-five kilometres under load (plus the distance between the foot of the incline and the stables). At the end of the day the horses were returned to their stables ready to repeat the entire process the following day. The line was used only to meet the needs of the sawmill, and no other traffic was carried over the line.⁴¹



Deraillments were frequent on most Victorian timber tramways. Here, timber is being reloaded by hand onto a pair of trucks on Dumbrell's outlet tramway along Reedy Creek. Photo courtesy Nell Mildren (via Lloyd Matthews)

The rail tractor

In the early 1930s Dumbrells decided to try to improve the efficiency of the tramway by purchasing a rail tractor to work the less steep sections of the line. However the tractor was an utter failure. The front wheels dug into the wooden rails on curves and derailed the machine. It was only ever used for one trip, and then abandoned.⁴² The rail tractor is believed to have been built by 'Munro' (the probable candidate being George Munro Pty Ltd of Alfredton, Ballarat, agricultural engineers). It was a cheaply-built copy of the successful 'Trail' rail tractor. Its first owners were Hayden Brothers of Barwon Downs, but the tractor was not up to the job and failed mechanically on its second trip. It was immediately returned to the manufacturer.⁴³



The failed 'Munro' tractor on Hayden's tramline in the Otways. (The front bogie appears to be derailed). The tractor was no more successful on Dumbrell's tramway. Photo courtesy Norm Houghton

It was apparently railed to Beetoomba second-hand around 1932 when it was noted in a railway truck at Wodonga. After it had proved useless on Dumbrell's tramway, the tractor was dumped beside the line at Beetoomba where it remained until about 1950. It was then removed to Shelley and tried on a short tramway between a mill and the roadside. It was also a failure in this job and was converted to a winch. The remains were last noted at Tallangatta in 1978.⁴⁴

Sometime after the failure of the rail tractor at Beetoomba the tramway was cut back to its old terminus near the Lucyvale School, and the lower section of the line was replaced with motor trucks. The loads carried on the tramway were slid off onto skids at the new terminus and transferred to a motor truck owned by a Mr Dunstan. New stables for the tramway horses were established at the dump as well as two huts for the men in charge of the horse teams.⁴⁵ Later the tramway was cut back still further, and a new depot built beside Reedy Creek near the present day junctions of Perkins Track and Black Jack Track. The line was in such poor condition that derailments had been frequent, and such was the exertion required of the horses that one dropped dead right outside the Coulston's gate at Lucyvale. The driver was heard to wonder out loud if the horse was 'only in a trance', but the onlookers were in no doubt that it was stone dead.⁴⁶

The mill settlement

Jim "Nippy" Coulston worked at the 'top' mill in the early part of 1938. He was paid £4 per week, and his duties included the operation of the docking saw which cut the timber to length and produced off-cuts to fuel the boiler of the portable engine driving the mill. The mill employed at least two fallers. One of these was Vic Thompson who worked in this job for an extended period. Logs had originally been snigged to the log tramway landings by animal power and stables had been built at the mill but, by 1938, a crawler tractor had been purchased to supplement the log supply, and logs were snigged direct to the mill using this machine, which was driven by Ron James.

As well as the men working on the breaking-down saw the mill employed one man in the log yard, four on the rip bench, one docker, one engine driver, and one man to stack the timber. Another man barrowed the sawdust out from the trench and dumped it into Shady Creek (from where it eventually found its way into the Mitta Mitta River). The mill did not have a man dedicated to the job of blacksmithing, and most of the repairs were carried-out by the engine diver, Jim Kendall, or “Old Jimmy” Dumbrell. The great majority of the men employed at the mill and on the tramway were locals, and the mill was a significant employer in an area where there was little employment other than on local farms.

There were two houses at the mill site, one for Alf Dumbrell and one for his son James ‘Jimmy’ Dumbrell. Alf Dumbrell’s house was surrounded by a paling fence. Charles Dumbrell, nominally the manager of the enterprise, lived beside the main road at Lucyvale. The rest of the men lived in huts which were comfortable enough, but the nights could be very cold even in summer. There was no boarding house at the mill and the single men were responsible for their own food. Since the single men went home each Saturday afternoon, they had to bring their week’s provisions with them when they returned on Sunday afternoon. Most walked with their food slung in a sack over their shoulders, but engine driver Jim Kendall owned a motor bike. He followed a rough track as far as the site of the “middle” mill. The track ended here and, for the remaining distance, he rode his motor bike along the narrow surface of one of the wooden rails as the packing was too bumpy to ride on. He left his bike at the foot of the incline ready to pick up on his return the following Saturday.⁴⁷ Where two men could muster one horse between them, a process known as “ride and tie” was used. The first man would set off riding the horse while the other followed on foot. When the man on the horse had gone about a mile, he would dismount and tie the horse to a sapling beside the tramway and then proceed on foot. When the man on foot reached the horse he would

untie it and ride on, passing the other man, now on foot, as he did so. After the rider had gone a mile the horse was tied up and he proceeded on foot. This process was repeated so each man was able to ride for about half the distance.⁴⁸ The exodus of the men returning to the mills followed a flurry of baking on local farms as the women baked brownies, scones, and biscuits on Saturday afternoon to help fill the men’s sacks of provisions.⁴⁹

The final years

A large area was held in reserve for future cutting by the new owners of the mill. In July 1937, the royalty was switched from ‘off the saw’ to ‘in the round’ basis. On 12 May 1938, Mates applied for permission to cut only seasoning-quality timber at the mill as the firm was presently over-stocked with scantling. If permission was not granted, the firm threatened to close the mill temporarily until the imbalance was rectified. Whatever the truth of the matter, the Forests Commission saw this as an attempt to ‘pick the eyes out of the area’ and refused the application. Six months later Mates stated its intention of closing the mill permanently and removing the plant. Forester Marshall visited Mate’s premises and elicited from the staff the fact that the firm was losing money on its milling operations. Marshall’s superiors were not happy with this state of affairs. If the mill closed leaving any of its allotment uncut it was unlikely that another miller could be persuaded to take the area on. Permission was therefore denied. Despite this, the logging contractor withdrew his horse-teams on 19 October and, by 12 November 1938, dismantling of the mill was well underway. Mill manager Finch had offered to run the mill on a contract basis until the remaining timber was cut as it was only three-quarters of a mile from the end of one of the logging trams. The offer was refused and he was ordered to dismantle the mill. The reason given by the management of Mates was that the firm could buy timber from other mills cheaper than it could produce at its own.



Looking north to the bridge over Cudgewa Creek at the up end of Beetoomba railway yard (as it was in 1997). Dumbrell’s tramway passed under the eastern side of the bridge before curving to the right to arrive at the timber siding. Photo: Peter Evans

Before the Forests Commission could muster its full fury, the 1939 bushfires turned the Commissioners' attentions elsewhere. The area surrounding the mill was not badly burned, but there was no hope of inducing anyone to cut the small amount of remaining timber. All rights to the area were cancelled in July 1939, and the last buildings on the site were removed shortly afterwards.⁵⁰

The life of Dumbrells operation south of Beetoomba between the years of 1919 and 1938 rather neatly spans the period of the construction of the Hume Weir,⁵¹ and it is intriguing to speculate as to whether some of their output could have been used in this mammoth project.

A note on the map

The section of tramway between the point where Black Jack Track leaves Reedy Creek and 'The Gantry' has not been examined on the ground, and is taken from the original maps in Forests Commission file 38/1416. The position of Dumbrell's 'middle mill' of 1923–27 is therefore approximate.

Acknowledgements

The field work which underpins the mapping was largely completed during late 1997 as part of the Comprehensive Regional Assessment of the forests in north-eastern Victoria, carried out with the assistance of funds made available by the Commonwealth of Australia. The author wishes to thank the Australian Heritage Commission and the Environment Forest Taskforce for permission to publish the work. I am also indebted to Mr Lloyd Matthews of Albury and Mr Jim 'Nipper' Coulston of Lucyvale, who provided the historic photographs used in this article; to Mike McCarthy for his excellent maps; and the staff of the Public Record Office Victoria who facilitated access to archival documents.

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An abandoned wheelset and other discarded mill remains at the 'top' mill in 1997.
Photo: Peter Evans

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More on Crystal Salt

by John Browning

The salt works at Port Augusta West in South Australia, on the western side of the northern extremity of Spencer Gulf, about 5 miles north of Port Augusta, was established by the Crystal Salt Co Ltd in 1915 and was taken over by the Ocean Salt Co Ltd in 1921.¹ Its history was dealt with by Norm Houghton in LR 115. His article may be consulted for further details, including two useful maps. Additionally, a field report by Chris Wurr featured in LR 227.

Norm Houghton mentioned that Cheetham Salt records showed that there were two internal-combustion engined locomotives in use during the late 1920s and that photographic evidence indicated that a steam locomotive was used in earlier days. This update examines that photographic evidence and identifies an earlier internal-combustion locomotive.

Background

The instigator of the saltworks project, and the manager until 1918, was Lawrence William Grayson, a very experienced mining engineer who in 1914 was aged 48. He was the first tertiary-educated professional engineer from South Australia, and worked for many employers. From 1891 to 1900 these included managerial positions with the Mount Balstop Central Silver Mining Co at Zeehan; the BHP Mine at Broken Hill; the South Australian Government's custom mills; Wilkinson, Harrison & Porter, the Grayson Syndicate, and Associated Gold Mines (all in Western Australia); and Broken Hill Block 10. In 1900 he embarked on consulting work in Melbourne, providing significant assistance to the Long Tunnel mine at Walhalla. Other mines he provided advice to included the Mount Lyell Blocks, the Star and Thomson at Walhalla, the Gladstone Tin Company at Ringarooma River in Tasmania, the Lord Nelson mine at St Arnaud, and Sloane's and Scotchman's mine at Stawell, taking up a role as a Director in some projects.²

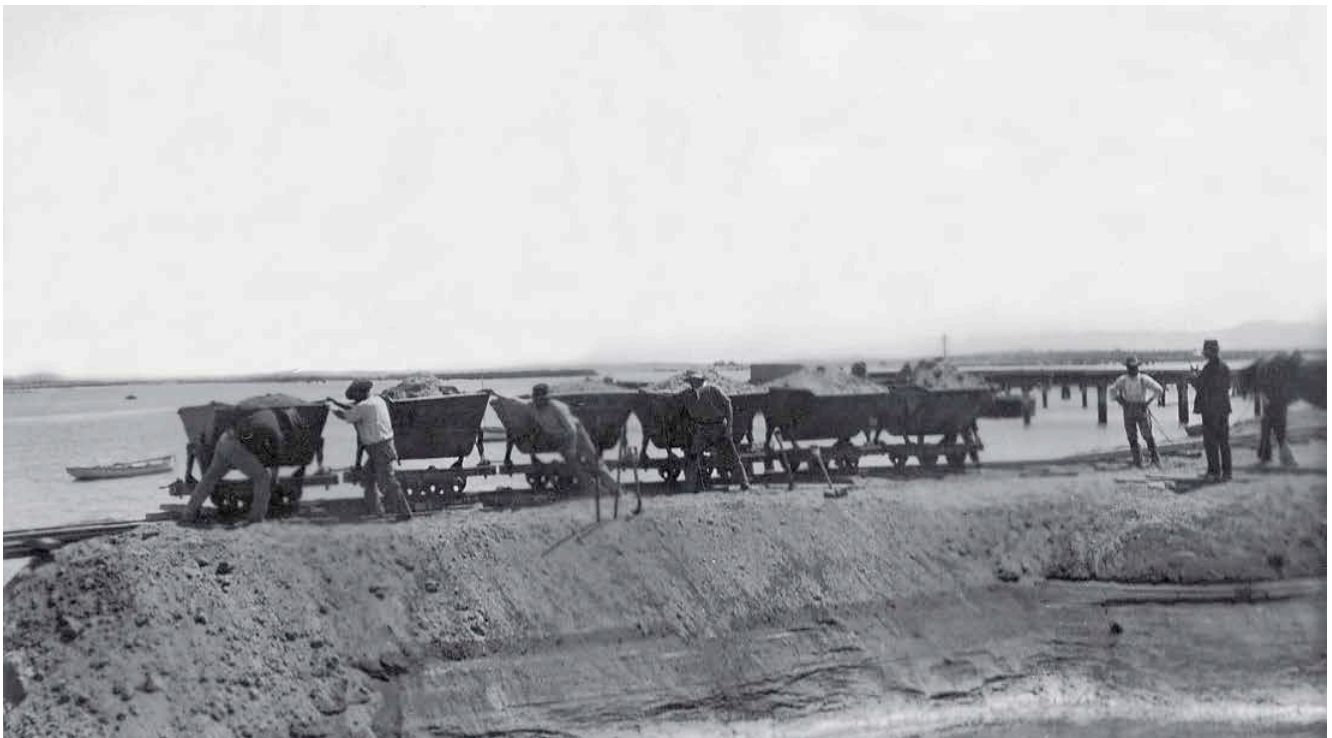
The choice of Port Augusta for a works producing sea salt through natural evaporation was in part because at the northern extremity of Spencer Gulf, at that point no more than a tidal inlet, there is a high concentration of salt in the sea water.³

The works involved the construction of banks with sluice gates to enclose 140 hectares of evaporation ponds in which the sea water was concentrated, and smaller 45m x 60m crystallising ponds where the concentrated brine was evaporated to result in a layer of salt 180mm or more thick, ready for harvesting. Also installed was pumping equipment, a processing works building, an elevator with bins, weighing and packing equipment, a 900m long tramway, and a jetty for loading barges that were towed to Port Augusta for ongoing transport.⁴

The first salt production left the works in February 1916.⁵ A 2ft gauge tramway was used to bring the salt to the processing plant and to take bagged product to the wharf. The harvesting tramway was laid in 20 lb/yd and 14 lb/yd rails.⁶ Grayson left Port Augusta in May 1918 to take up a position at the Price saltworks. His successor was John Darbyshire, who had been Supervising Engineer for the construction of the western end of the Trans-Australian Railway.⁷

The potential of a rail connection to the Trans-Australian line of Commonwealth Railways (CR) was obvious. In 1920 the wharf tramway was extended across the gulf on a timber bridge about 500m long, and continuing a further 800m across the swampy flats to a siding on the standard gauge line, where a storage shed and loading platform were established. This line utilised 40 lb/yd rails, as 20 lb/yd rails were unavailable at the time.⁸

It appears that Darbyshire hired twenty 2ft gauge $\frac{3}{4}$ cubic yard tip trucks from CR for construction work, but he was unsuccessful in a request to purchase up to six 2ft gauge bogie firewood trucks situated at Oldea.⁹ Three bogie trucks were constructed for the salt works at the CR Port Augusta workshops in 1920. CR had on hand a number of 2ft gauge iron tip trucks that had lost their bodies, and these were used for the bogies, while the required timber was supplied by Crystal Salt.



Side tipping trucks on the shore of Spencer Gulf with the jetty behind. This may well illustrate the building of the embankment onto the bridge that was to cross the Gulf. Photo: National Railway Museum – Australia, Arnold Lockyer Collection 7-1001-031-345 supplied to him by Reg Mayes

The supply of these trucks was the cause of some embarrassment for the CR Chief Mechanical Engineer when payment was delayed by several months, as he had not followed the proper procedures that required up-front payment.¹⁰

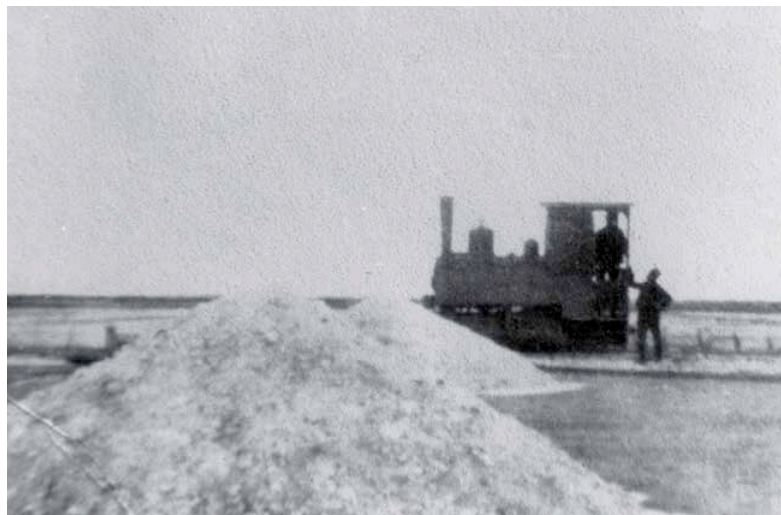
Salt production in the rather desolate location ceased in the late 1930s, due at least in part by ongoing problems caused by windblown and drifting sand getting into the ponds and contaminating the salt.¹¹ The connection to the CR siding was removed in May 1937.¹²

The steam locomotive

Two indifferent photographs from the Arnold Lockyer collection at the National Railway Museum in Adelaide show that the steam locomotive was a Decauville Type 3 0-4-0T built in France. This type weighed 5 tons empty and about 6½ tons in service.¹³ At the time of writing, no reference to its arrival or its use at Crystal Salt has been identified in newspaper accounts. Some details of the Decauville Type 3, and a drawing, appeared in LR 122.¹⁴

It is assumed that the locomotive was the original motive power on the saltworks tramway and that it therefore arrived in 1915 or shortly afterwards. Given the wartime situation at the time, it is almost certain that it would have come to Port Augusta second hand. There are clues that it may have continued in use until at least 1921. Work carried out for Crystal Salt by the CR Port Augusta workshops late in 1921 included 'necessary work in lapping out crown stays' and a further item charged to the company was 'loading engine on barge' in April 1921.¹⁵

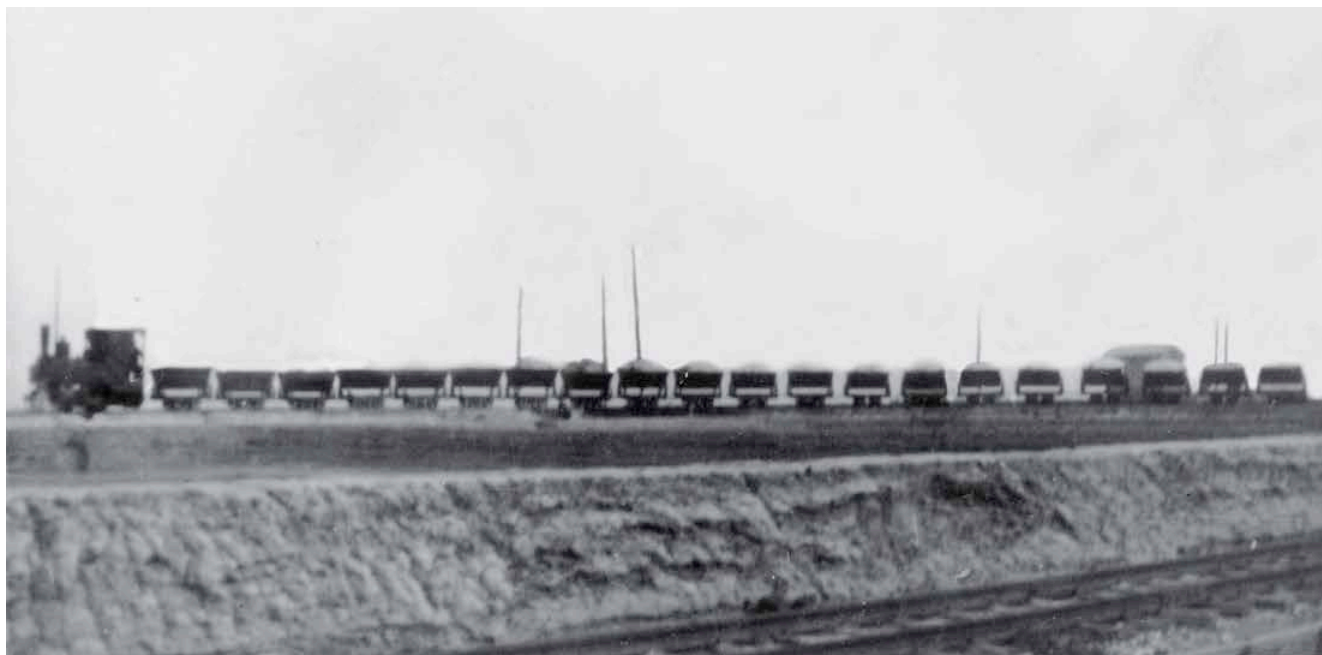
It seems unlikely that the locomotive had been used elsewhere in Australia. This is because extensive researches by enthusiasts over many years have failed to identify any such locomotive, and an examination of the Decauville builder's list finds no likely candidate for it arriving new.¹⁶ An identified Type 3 Decauville is known to have come here second hand but only in 1923, one of two locomotives brought to Queensland by dealer Jack Brady following the closure of the Vancouver-Fiji Sugar Company's Navua Mill in Fiji.¹⁷ That the Crystal Salt locomotive also came second-hand from overseas seems to be a distinct possibility.



The steam locomotive in service with salt heaped in the foreground. Photo: National Railway Museum – Australia, Arnold Lockyer Collection 7-1001-031-347 supplied to him by Port Augusta City Library, 1990

The nearest and likeliest possible source for the locomotive seems to be New Caledonia. Quite a number of 600mm gauge locomotives of this type were used there, for mining and construction works, and a few are unaccounted for, so it is tempting to speculate that the Crystal Salt locomotive came from this source. Certainly, a railway construction project, between Dumbéa and Païta, using at least one such locomotive was completed in New Caledonia in 1914. As Lawrence Grayson had such an extensive background as a mining engineer, it seems very possible that he would have had connections in New Caledonia, which had an important mining industry.

There is a further intriguing factor to be considered. In December 1915, the Commonwealth Government advertised for the supply at Port Augusta of a 2ft gauge new or second hand locomotive, of 5, 6 or 10 tons, for use on the Transcontinental Railway construction.¹⁸ I know of no evidence that such a locomotive was ever obtained, but is it possible that it was acquired as intended and later disposed of to Crystal Salt?



A loco-hauled rake of 20 loaded side-tipping trucks.

Photo: National Railway Museum – Australia, Arnold Lockyer Collection 7-1001-031-344 supplied to him by Reg Mayes



The last Decauville Type 3 locomotive to be built, normally resident at Frankfurt Feldbahnmuseum in Germany, visiting Znin in Poland in May 2015.
Photo: Rüdiger Fach

The first internal-combustion locomotive

Norm Houghton identified a light Caldwell-Vale and a heavy Fordson rail tractor in use in the late 1920s, when the works was operated by Ocean Salt.

In March 1921, an earlier rail tractor, built by the Apex Motor Company (the trading name of TA Scheps, Tassie Street, Port Augusta), entered service with Crystal Salt. It was described as being 22½ hp and weighed about 1¾ tons. Its maximum speed was 8 mph and it could haul a load of 8 tons. It was reportedly in daily use hauling bagged salt across to the Commonwealth Railways siding, transporting 60 tons per day. It was stated that nearly 600 tons of salt had passed over the bridge during the previous week, which if correct strongly suggests that the steam locomotive was also in use for this purpose at this time.

When the works was advertised for sale in August 1921, the tramway was mentioned but no details of locomotives or rolling stock were provided.²⁰ Norm Houghton found no evidence of the Apex locomotive or the Decauville steam locomotive in Cheetham Salt records, so it seems likely that they were replaced during the 1920s by the two rail tractors that he identified.

Acknowledgements

Grateful thanks are extended to Peter Barry, Les Howard, Norm Houghton, and my overseas correspondents Eric Fresné in France, Rüdiger Fach in Germany, and Marcel Vigouroux in Tahiti, for assistance provided in the course of researching this short article.

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Dunwich Jetty 1931, North Stradbroke Island

Though Stradbroke Island, east of Brisbane, was sighted by Captain Cook in 1770, it was not until 1823 that John Oxley confirmed that it was separated from the mainland. In 1896 violent storms forced a channel through the long narrow sandy beach, south of the island's main bulk, and created today's two islands. In 1827 a tiny settlement was established at Dunwich, on North Stradbroke's west side, and convict labour was used to build a causeway into Moreton Bay to aid the unloading of vessels. This village was abandoned in 1831. Twelve years later a catholic mission was briefly established, followed by a quarantine station in 1850, both making use of the causeway. In 1867 the quarantine station was moved to nearby Peel Island and the Queensland government made Dunwich its benevolent asylum, a task it fulfilled until 1947.

In 1885 the government called tenders for a 240ft jetty extending from the end of the causeway, an 80ft T-head and 3ft 6in-gauge tramway; Thomas Green of Ipswich being the contractor. Completed by August 1886, it allowed the government supply vessel, ss *Otter*, to berth alongside rather than unload offshore. Onshore, the tramway took a curving,

rising path to reach the various store rooms and coal bunker. Total length was around 420 yards – horse hauled uphill and gravity back to the jetty.

New Year's Day, 1891, the tram was the scene for the 'Great Organ Disaster'. A visiting evangelistic choir, recital completed, were removing their musical instrument back to the waiting vessel. Despite three men controlling the tram's descent, a runaway occurred – nearing the bottom the truck capsized and the organ rolled down onto the sandy beach.

In 1910 a short tramway extension was made by Brisbane contractor F Brims & Company. Tramways were also used between the kitchens and men's mess hall.

In this delightful late afternoon scene at 'Runaway Corner', visitors to the asylum are heading home. Is that one of the *Otter's* officers placating a lady, worried that she might ruin her shoes walking along a tramline? Meanwhile, Mum, complete with out-of-date cloche hat, sensible sundress, and two kids has no such qualms – they've done it many times, visiting poor old grandpa, slowly dying from consumption or alcoholism or . . .

Phil Rickard





Babinda Mill 1929, Far North Queensland

Following a Royal Commission that reported in 1911, Babinda, between Innisfail and Cairns in far north Queensland, was chosen as the site for the first of three sugar mills to be established in the region. Crushing commenced in 1915 with cane brought to the mill by 2ft gauge tramway and the government railway (originally the Cairns-Mulgrave Tramway when it reached Babinda in 1910).

The mill was initially run by the Queensland Treasury's Bureau of Central Sugar Mills. Rather than requiring growers to mortgage their lands in exchange for government finance, as had been required under previous central mill schemes, a system of cane credits was used to reflect the amount of cane delivered to the mill by each farmer. Once mill operations had enabled a sufficient amount of the debt to be paid off, these credits were transformed into grower shareholdings, with ownership transferred to The Babinda Central Mill Co Ltd in 1924. With a view to eliminating any dependence on the government railway for cane transport, tramline construction was continuing in 1929 when this photograph was taken, and a start had been made to replace 28lb and 30lb rail on

the main lines with secondhand 40lb/yard rail obtained from QR. By this time, 1000 cane trucks were in use.

The photograph shows one of the mill's three John Fowler 0-4-2T locomotives heading towards the mill with a lengthy rake of cane. These Fowlers were 14173 of 1914, 14418 of 1915 and 14666 of 1916. They were of old-fashioned design, fitted with Joy valve gear and domeless boilers with a raised steam space above the firebox. As tramway extensions increased the length of runs from the mill, they were fitted with four-wheeled tenders in 1929. By 1929, the locomotive's distinctive Fowler smokebox door had been replaced with one reminiscent of Queensland Railways practice, and its balloon stack had also gone. A large sandbox had been placed behind the chimney with steps fitted to the front of the frame to facilitate crew access. The headlight appears to be battery powered as no turbo-generator is visible. The photograph may well have been taken in the Babinda Swamp area. Substantial earthworks were required in this high rainfall zone, and the train appears to be crossing a cattle grid.

John Browning



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

NEW SOUTH WALES

GLENCOE AGRICULTURAL TRAMWAY, Murrumbateman

(see LR 242 p.22)
 610 mm gauge

After spending a lifetime saving and restoring heritage machinery, Gary Barker, the owner and operator of this railway has decided the time has come to sell his freehold property. The farm of 25 undulating acres comprises two homes, a large machinery shed and small stables situated about 25 minutes from Yass and the ACT. The railway, which is exempt from National Rail Law, is a two locomotive operation comprising of ex Lake Margaret, Tasmania Tulloch 4wDM (003 of 1959) and ex Cheetham Salt, Victoria Days 0-4-OPM of circa 1930. Also, there are sixteen wagons. The infrastructure includes approximately a kilometre of 14 lb/yd track with nine turnouts which runs from the front to the rear of the property, a 20 metre steel bridge, elevated inspection platform and semaphore somersault signal and lever. All rolling stock is fully operational and the two locomotives are believed to be the only ones of their type operational world wide. The preference is to sell the railway with the property but other offers based on lifting and removal will be considered. Gary can be contacted on 0409 446 475 for genuine enquiries.
 Gary Barker 4/16

JUNEE RAILWAY WORKSHOPS

(see LR 196 p.29)
 1435 mm gauge

Workshops shunt loco Goninan Bo-Bo DE Folly (051 of 1977) was seen here on 31 March. The next day, Goodwin Co-Co DE CAR1 (83712 of 1960) was seen on road transport en route to the scrappers from this site at Junee. This unit was originally NSW 4812 then was owned by Cargill Australia at Kooragang in Newcastle from 1997 to 2007. Cargill numbered it CAR1.
 Al Smith 3/16, 4/16



Top: A scenic view of Tulloch 4wDM (003 of 1959) on the Glencoe Agricultural Tramway on 2 August 2011. Photo: Gary Barker **Centre:** A Zephir LOK 6.110S road/rail shunt loco is seen shunting at UGL's Auburn Heavy Maintenance Centre on 14 March. Photo: James Chuang **Above:** Downer EDI Co-Co DE LDP016 of 2013 on its way to Maryborough West on 20 April. Photo: Arthur Shale

UNITED GONINAN LTD, Auburn Heavy Maintenance Centre

1435 mm gauge

In use here is a Zephyr LOK 6.110S road/rail shunt loco.

James Chuang 4/16

QUEENSLAND

DOWNER EDI, Maryborough

(see LR 242 p.22)

1067 mm gauge

This locomotive builder has three unsold LDP class locomotives on site of which at least one, Downer EDI Co-Co DE LDP016 built in 2013, is seeing use as the plant shunter. It was seen on these duties on 18 April and as well on 20 April, it did a working to Maryborough West and back. Walkers B-B DH DH73 *Hugh Boge* (718 of 1974), the usual works shunter, is still on site.

Arthur Shale 4/16; Luke Horniblow 4/16; Steven Jesser 4/16

GLENCORE plc, MOUNT ISA MINES LTD, Mount Isa

(see LR 220 p.29)

1067 mm gauge and 1435 mm gauge

Much information has come to light about past and present operations at this little reported site and a distillation follows. Unless otherwise stated, the gauge is 1067 mm. There was some 1435 mm gauge trackage as well and stock of this gauge is specifically stated to be so. Examination of the newly available makers list for Swedish builder GIA (Grängesbergs Industrivarv AB) has revealed a 25 tonne 1067 mm gauge 4wDH locomotive delivered to Mt Isa Mines in 1999, presumably for underground use.

This was builders number 2515, Model DHD25, Type dhLPU of 210 kW. It followed a 20 tonne Prof 4wDH locomotive (PSL28-001 of 1990) which was manufactured by Eimco, Australia to Prof drawings and using gearboxes, bogies and running gear manufactured by Prof in Zimbabwe. It was powered by a Caterpillar 3306T motor and Clark 344 transmission. In addition, an Irwin 4wDH from the USA was reported to have been delivered in 2009 for use at the lead smelter where it replaced on electric locomotive on charge car duties. An electric locomotive had been used since at least 1966.

The Isa mine grew until the early to mid-1980s based on rail haulage of ore, waste rock, personnel and materials. There were also significant though unconnected road systems with ramps at the north (lead-zinc) and south (copper) ends of the mine. There were some long distances to travel and also large diameter shafts through which to quickly move railcars with materials from surface to the various levels underground and then to destinations on the levels.

Production from the 15 level commenced in 1967 and the first haulage established was a simple 'push-pull' system using 20 tonne diesel locomotives and 7.1 m³ side-tipping Granby trucks serving the northern end of the ore body. As extraction progressed south and production rates were increased, a similar higher capacity

haulage was established on 17 Level in 1969 using 20 tonne battery electric locomotives and 11.3 m³ bottom-dump Hudson trucks. In 1978, Gemco battery electric locos were in use for services on 17 level. 19 level was commissioned in 1974 with haulage using the same rolling stock with the locos in tandem on a computer-controlled, loop-haulage system, delivering ore to the crushing and hoisting facility in the main shaft complex. Two trains normally operated, commonly achieving 8-12,000 tonnes hauled per shift depending on the haul distance, ore quality and availability. The 19 Level rail haulage which handled most of the copper ore in the early 1980s was partially replaced by a lower level crusher and inclined conveyor in the late 1980s but also extended to the north for lead-zinc ore haulage. By circa 2006, two rail systems, one on Level 15 and the other on Level 19, dumped ore and waste to the crushing station. Level 19 trains also hauled from the X41 copper mine to crushing stations at the base of the U62 hoisting shaft. In 2002, some residual rail use may have still existed for service purposes on levels that were not in production.

Rail is still used for materials transport to workshops and stores underground. MIM has a fleet of 20 ft bogie flat cars used to transport materials such as cement and similar length bogie bulk emulsion explosive tanks. Presumably, small rubber tyred tractors are still used on the surface to move these to the R62 shaft and diesel locomotives are used for haulage underground.

In the early 1980s, copper smelter converter slag (containing economic amounts of copper) was hauled from the smelter in a slag carrier hauled by a battery loco (8 tonne Gemco?) on 1067 mm gauge, dumped into dams and then picked up by a front end loader for retreatment (Pritchard, J, Copper smelting at Mount Isa Mines Ltd, Mount Isa, Qld, Mining and metallurgical practices in Australia, AusIMM, 1980, pp 340-345). The most recent reference to slag handling at the copper smelter mentioned Kress Haulers which are rubber tyred, hauling 20 and 40 tonne capacity slag pots (Brooke, K, et al, Mount Isa and Townsville operations, Australasian mining and metallurgical operating practices, AusIMM, 2013, pp 931-962). It is possible that the battery loco or locos was replaced by the diesel prior to the advent of the Kress Haulers. Seen with slag ladles at the copper smelter on 10 September 1978 were Gemco 4wBE locos 51 (52142P-46P/53/67 of 1967) and 53 (52138P-41P/55/67 of 1967). The track was dual gauge with the locos being 1067 mm gauge and the ladles being 1435 mm gauge. They had replaced two earlier electric transfer cars of unknown build. What may have been the powered bogies from these cars were in the scrap yard in 1978. Seen were the remains of four 1435 mm gauge bogies (ie: two complete units) each with one powered and one unpowered axle. They had pivots on the inner ends, which is presumably where the slag ladle or car body rested although the bodies were missing. They were powered by

overhead wire and the electric motors were from Westinghouse in the USA.

A Brownhoist charge car was in use at the lead smelter circa 1933. Greenbat 4wWE/BE 1777 (420123-2 of 1969) was seen waiting to go back underground following overhaul on 18 July 1978. Philip G Graham 4/16; John Browning 4/16; Tony Weston 4/16; John Middleton 4/16; www.mining-technology.com/projects/mount_isla_lead

MOUNT ISA MINES LTD, Hilton Mine

1067 mm gauge and unknown gauge

Mount Isa Mines Ltd's Hilton mine, 20 km north of Mount Isa used rail for ore haulage circa 1993 (Leahy, F, Lead-zinc ore mining by Mount Isa Mines Limited at the Hilton mine, Mount Isa, Qld, Australasian mining and metallurgy, AusIMM, Melbourne, 1993, pp 460-466). An unspecified number of 20 tonne diesel locomotives hauled rakes of twelve 12 tonne Granby trucks on 12 Level. It is understood that the exploration development (tunnelling) was performed using gable trucks (ex 1930s ore haulage on possibly 610 mm gauge) and full scale development and production haulage in the late 1980s on 1067 mm gauge track. This rail haulage might have survived into the early 2000s pending the completion of a truck haulage level for the new George Fisher mine at the north end of Hilton.

Tony Weston 4/16

MSF SUGAR LTD, Mulgrave Mill

(see LR 248 p.22)

610 mm gauge

Com-Eng 0-6-ODM 5 (A1005 of 1955) has continued to be the navy loco and was on ballast train duties on 9 March. On 29 March, it was seen at the head of the poison spraying train.

A visit here on 29 March revealed the following items of note. South Johnstone Mill's EM Baldwin B-B DH 32 *Liverpool* (10385.1 8.82 of 1982) has been fitted with a Mulgrave style cab with work continuing on this loco. Com-Eng 0-6-ODH 7 (B1010 of 1956) is being rebuilt and was seen fitted with a new Mulgrave style cab, Scania motor and Allison transmission. The cab is longer than those previously fitted to the 0-6-ODH's here and extends almost to the rear headstock. Com-Eng 0-6-ODH locomotives 8 *Charringa* (A1926 of 1958) and 17 *Deeral* (AD1453 of 1962) have been stripped down to the frames and are expected to be fitted with new long cabs as fitted to 7. Their old Mulgrave style cabs may be fitted to Com-Eng 0-6-ODH 12 *Riverstone* (AD1452 of 1961) and Clyde 0-6-ODH 16 *Kamma* (56-96 of 1956). No repairs have been done yet on Clyde 0-6-ODH 18 *Barron* (64-379 of 1964) which was involved in a level crossing collision in December 2015, and it was seen stored outside. Also seen outside was gutted Com-Eng 0-6-ODM 3 (A1003 of 1955) which has been fitted with a Mulgrave style hood at some time but retains its original though heightened cab. In the loco shed, Clyde 0-6-ODH 19 *Redlynch* (65-435 of 1965) was on the wheel turning pit where wheels are re-profiled without needing to be removed from the loco.

Danny Nolan 3/16; Luke Horniblow 3/16

MSF SUGAR LTD, South Johnstone Mill

(see LR 248 p.22)

610 mm gauge

The bridge over Miskin Creek is to be replaced by a new structure prior to this year's crushing season. The main span of the existing lattice girder trestle bridge is said to be ex Queensland Railways. The Fairmont Tamper STM-XLC tamping machine of 1995 and Clyde 0-6-0DH 17 (55-57 of 1955) with ballast train were seen stabled on the main line to Silkwood on 29 March. EM Baldwin B-B DH 32 *Liverpool* (10385.1 8.82 of 1982) was still at Mulgrave Mill in late March and has been fitted with a Mulgrave style cab with work continuing. Luke Horniblow 3/16; Peter Smart 4/16

TULLY SUGAR LTD

(see LR 248 p.23)

610 mm gauge

With another big crop expected this year, Tully Mill will start crushing on 31 May, the earliest start ever for this mill.

Townsville Bulletin 20/4/2016

WILMAR SUGAR (HERBERT) PTY LTD,

Herbert River Mills

(see LR 248 p.23)

610 mm gauge

Previously unreported is that during refurbishment in 2012, Macknade Mill's EM Baldwin B-B DH 20 (7070.4 4.77 of 1977) was fitted with one of the original builder's plates from EM Baldwin 0-6-0DH 14 (6/2490.1 7.68 of 1968) in place of its own. This was done because that from 14 was still bright and shiny while 20's own had lost its lustre. These are the small plates that carry the builder's number and are usually seen at the front of EM Baldwin locos. Some of the locos built in the nineteen sixties carried two of these, one on each cab side and that was the case with 14. These small plates were removed from the loco in 1976 when it was fitted with a new cab.

On 27 April, the shell of 14 was returned to Macknade from off site sand blasting and painting and EM Baldwin 6 wheeled brakewagon BV2 (7065.5 6.77 of 1977) was sent away to receive the same treatment. 14's frames have been painted silver which is the new Wilmar standard. The Plasser Australia KMX-12T tamping machine (445 of 1998) is being refurbished by a firm in Ingham. Included in this work is a new Mercedes Benz motor and individual hydraulic motors for the wheelsets to replace the chain drives. Editor 4/16

WILMAR SUGAR (INVICTA) PTY LTD,

Invicta Mill, Giru

(see LR 248 p.24)

610 mm gauge

Clyde 0-6-0DH *Kalamia* (67-569 of 1967) was seen undergoing slack season maintenance here on 7 March.

Luke Horniblow 3/16

WILMAR SUGAR (KALAMIA) PTY LTD,

Kalamia Mill

(see LR 247 p.24)

610 mm gauge and 1067 mm gauge

The 1067 mm gauge sugar train loading balloon loop at the mill was being re-laid during March.

Luke Horniblow 3/16

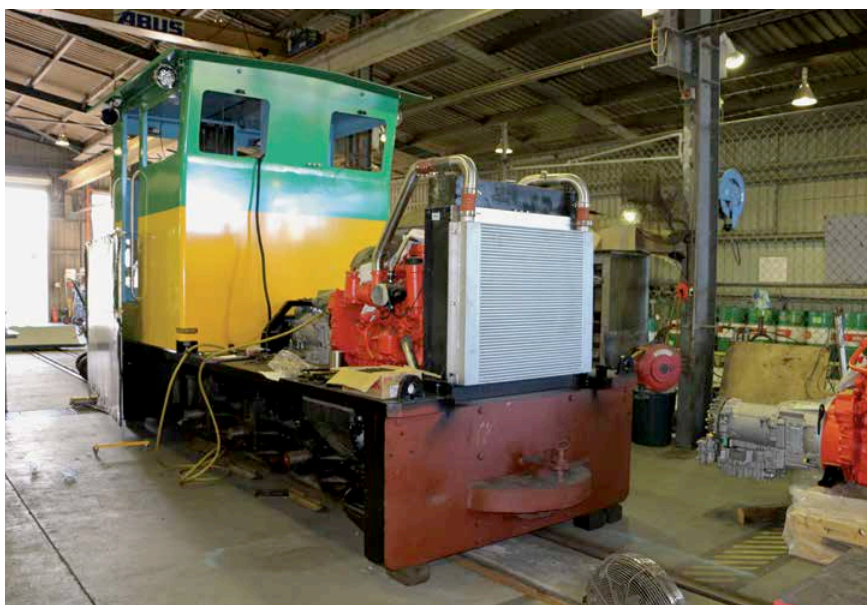
WESTERN AUSTRALIA

CBH GROUP, Forrestfield

(see LR 248 p.24)

1067 mm gauge

The Zephyr road/rail shunt locos reported here in September 2015 had all disappeared by 22 March. Seen in their place on this day were four former QR National/Aurizon 1067 mm gauge Zephyr LOK 16.300 units with running numbers RVP 002 (2141 of 2008), RVP 003 (2142 of 2008), RVP 004 (2181 of 2009) and RVP 005 (2182 of 2009). These had been seen at the Jilalan



Top: Com-Eng 0-6-0DH 7 (B1010 of 1956) undergoing rebuild at the Mulgrave Mill locoshed on 29 March. Photo: Luke Horniblow **Above:** South Johnstone Mill Clyde 0-6-0DH 17 (55-57 of 1955) and ballast train stabled somewhere along the main line to Silkwood on 29 March. Photo: Luke Horniblow



Rollingstock Maintenance Depot in 2010 and were offered for sale at Murarrie, Queensland by Australasian Asset Management Pty Ltd in December 2014.

Scott Jesser 3/16; John Browning 3/16

ROY HILL HOLDINGS PTY LTD, Boodarie

(see LR 248 p.24)

1435 mm gauge

The builder's number of ZS-0007, the Zephyr LOK 16.300 road/rail shunt loco in use here, is 2612 of 2015.

Scott Jesser 3/16

OVERSEAS

FIJI SUGAR CORPORATION

(see LR 248 p.24)

610 mm gauge

Lautoka Mill and Rarawai Mill are expected to start crushing by late July with Labasa Mill expected to start during the first week of June and it is reported that many farmers on Vanua Levu are returning to cane growing. Owing to the cyclone in February which damaged both mill and crop, Penang Mill will not be operating this year. Available cane will be crushed at Rarawai Mill. The FSC chairman is saying that a new syrup mill may be built at Penang rather than repairing the existing factory. Also damaged by the cyclone was the bulk sugar shed at Lautoka Mill. Temporary repairs have been effected so it can continue to be used for storing sugar. Damage to the mill was superficial. Rarawai Mill suffered some structural damage. These two mills with Labasa Mill sustained \$20 million worth of damage from the cyclone. A post cyclone photo of Rarawai Mill shows the Fowler 0-6-2T (11458 of 1908) on display there to have survived unscathed.

FSC is looking at a long term plan to totally take over the transportation of cane from the farm gate to their mills. This is to remove the burden of transportation costs from the farmers and improve cane delivery logistics. At present, many farmers transport their cane to the mill using flat bed trucks or lorries.

On the Labasa Mill rail system, the Coqeloa road/rail bridge over what appears to be the Bucaisau River, is to be demolished and replaced with a new bridge between April and February. This bridge is on a branch line off the main line to Wainikoro.

PressReader.com 11/3/2016; *Fiji Sun* Online 16/4/2016; *The Fiji Times* Online 8/4/2016, 10/4/2016, 11/4/2016; fijiillage.com 29/3/2016; Fiji Broadcasting Corporation 5/3/2016, 14/3/2016, 20/4/2016

PT FREEPORT, Grasberg Mine, Irian Jaya

(see LR 248 p.25)

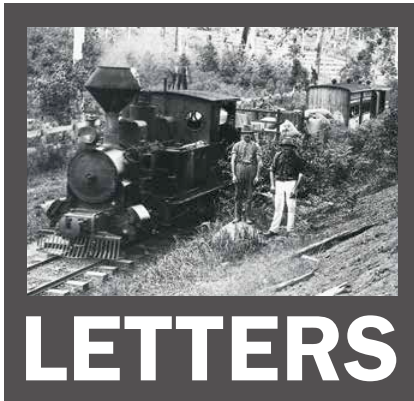
1435 mm gauge

The locomotive builder Schalke allocated the numbers ELLOCO-01 to ELLOCO-10 to the locos it built for this mine.

Lars Sonnenschein via Gerard de Graaf 3/16



Top: Seen at Invicta Mill on 7 March with their running gear removed for maintenance are Clyde 0-6-0DH Kalamia (67-569 of 1967) and Invicta Mill 6-wheeled brakewagon Jarvisfield of 1985 (originally Com-Eng C1015 of 1957). Photo: Luke Horniblow **Centre:** Damaged in a level crossing collision in December 2015, Mulgrave Mill Clyde 0-6-0DH 18Barron (64-379 of 1964) was still waiting for repairs on 29 March. Photo: Luke Horniblow **Above:** A bunch of Zephyr LOK 16.300 road/rail shunt locos at CBH Forrestfield on 22 March. Left to right are RVP 003 (2142 of 2008), RVP 005 (2182 of 2009), RVP 004 (2181 of 2009) and RVP 002 (2141 of 2008). Photo: Scott Jesser



Please send letters to:
 Editor: Richard Warwick
 PO Box 21, Surrey Hills, Vic 3127
 e-mail: editor@lrrsa.org.au

Orenstein and Koppel locomotives in Australia (LR 246)

I've been meaning to respond to John Browning's excellent article.

He makes reference to loco lists by Charles Small and these have been around for many years and have a lot of information in them.

However I must rise to the defence of the person who did the original research for Small, a gent by the name of Ron Edwards. Ron worked for Mobil, which is how he got to know Small. Ron was a member of the ARHS, W.A. Division and was a keen researcher of the W.A. narrow gauge locos.

I have had a copy of Small's lists for many decades, given to me by the late John Buckland. However in recent years, by courtesy of Bruce McDonald, I have a copy of the original correspondence between Small and Edwards, dated 4 November 1965. Small was at that stage in Mobil's Melbourne office and had somehow written to Ron Edwards about W.A. narrow gauge locos. Ron mentions in the letter that he took leave and went to Kalgoorlie, where he gained access to the Machinery Inspector files. There he compiled the lists of all the narrow gauge locos in the Kalgoorlie district and sent them to Small, who proceeded to circulate them world-wide without a word of acknowledgement of Ron Edwards.

The copy I have has written in Small's hand-writing on it: "My agent came through! I think he has done an amazing job. Charlie." Small obviously regarded Ron Edwards as a paid servant, even though Ron did the work in his own time and from his own enthusiasm.

I got to know Ron moderately well in Perth in the late 1960s but he died some time later. I guess Ron's work inspired me to dig further and I was fortunate to gain access to the master files in the Perth Machinery office, which subsequently appeared in "Rails Through The Bush".

I have always felt that Ron deserved some acknowledgement from Small for his work and somewhat annoyed by Small's attitude.

Adrian Gunzburg
 Via email

Russell Allport electric locomotive (LR 246 and 248)

I was interested to read Tony Coen's and Scott Clennett's suggestions (*Light Railways* 246 and 248) about the location of the photo of the Russell Allport electric locomotive that Tony published in *Light Railways* 246.

I am doubtful about Hastings because the only photos of Hastings jetty that I know of show a tall eucalypt forest rising behind the village at the landward end of the jetty. Tony's photo shows the rather scrubby eucalypt woodland characteristic of rocky coastal country in the Huon district, which would be more appropriate to Port Huon (Hospital Bay) or Raminia. In addition the position of the sun suggests that the view is looking towards the quadrant from east to south, which would suit Port Huon and Raminia, but not Hastings.

I was initially attracted to Scott's suggestion of Raminia, because it could well be looking towards the Strathblane side of the Esperance River. However the wharf structure in the photo does not seem to fit Raminia. In its later years Raminia wharf was a fairly ramshackle affair (I attach three photos I took of it in January 1957). It was in better repair in its earlier years, but the photo of it that appears on p120 of Bill Leitch's *Hearts of Oak* (incorrectly described as Hastings) and also on p162 of Parry Kostoglou's *Historic timber-getting between Hastings and Dover*. Block 2 does not seem to accord with the decking structure in Tony's photo. I am therefore inclined to favour Port Huon, but would be happy to be proved wrong!

Jim Stokes
 Via email

A tale of light railways and two centuries of legislation (LR 244)

Gary Barker wrote of the regulation of light railways in LR 244, August 2015 p 16 (*A Tale of Light Railways and Two Centuries of Legislation*). The content is really about the last quarter century, with almost nothing said about the remainder of the two centuries.

In the second paragraph, he says:

The obvious weakness was that there was no national legislation to provide a uniform system of regulation. One of the effects of legislation was that many hobbyist/ heritage light railway operators found themselves subject to rail law, while Queensland sugar cane railways remained exempt from regulation.

It is not explained why a uniform system of regulation was important, and its absence an obvious weakness, when none of the hobbyist/ heritage light railways crosses a State border. Further, the States have made good laws and regulations in the areas in which they have powers, and lack of national regulation did not necessarily make regulation more difficult for any particular heritage or cane railway.

The implication of the last clause is that sugar cane railways had previously been unregulated, indeed, in the absence of any other comment, that they had always been unregulated.

That is not so. The following applies to Queensland. When completely located on private land, there was no regulation of their existence, but when they ran along or crossed public roads, their existence was subject to the Tramways Acts; local authorities could allow them to run along and cross public roads, subject to agreement of the State through an Order-in-Council. A private Act of Parliament was needed if compulsory purchase of land was needed, or if the existence of the line was objected to by someone whose land was affected, say through effects on drainage or stability, even if the line was on private land (such happened with the 3ft 6 ins gauge branch to the original Invicta Mill near Bundaberg, and one timber line).

Apart from the roads issue, however, most cane railways were built on private land. The owner granted an easement, subject to certain conditions, such as the line being used solely for the haulage of sugar cane and associated material and while that haulage occurred. In addition, Local Authorities had the power to build tramways. These were mostly for public traffic, but the intention for some was haulage of sugar cane and raw sugar, while one was for the haulage of coal. The Mining Act also allowed Mining Leases to be granted for the construction of tramways. All of this was subject to the agreement of the State.

Whatever the powers under which they existed, the operation of cane railways was controlled to ensure public and employee safety, through the Inspector of Machinery and Scaffolding. That has a long history. While the locomotives were steam, there was regulation through competence in managing and maintaining boilers, and operation of reciprocating locomotives, and the locomotives were regularly inspected. The operation of the trains, or trams, was also regulated to some extent. In the 1950s, the main tramway of the Moreton Central Sugar Mill at Nambour from the east crossed Currie St, the main thoroughfare of the town on the level, then ran up the north side of Mill St, then much narrower than in recent decades, to enter the mill yard. To avoid the possibility of mostly unbraked tramway rolling stock rolling out of the mill yard and down Mill St to the unprotected crossing of Currie St, there was a catch point where the line reached the northern side of Mill St. Beside that catch point was a sign, which forbade the propping or jamming open of that point, by order of the Inspector of Machinery. Where the mill tramways were used for transport of passengers, as some once were, the Inspector of Machinery was probably even more attentive to operational safety.

There was always the informal control of the insurance companies which insured the sugar mills. They can be expected to have checked on or imposed conditions on those aspects of tramway operation likely to lead to claims, or imposed conditions which required the mills to manage the lines in the interest of employee and public safety.

All this was the case for the vast majority of the two centuries which the article



Raminea Wharf, taken in 1957.

Photos: Jim Stokes

claims to cover, certainly for over a century until recent times, but is not mentioned.

It is correct that the Queensland Transport (Rail Safety) Act (TRSA) of 2010 says that cane railways are exempt from the operation of that Act. A reading of those words is insufficient, however, to reach the conclusion that there is no regulation of the safety concerns of cane railways.

The law covering safety on cane railways, to workers thereon and to the public, is the Work Health and Safety Act and Regulations 2011 (Qld) (WHS Act) and (WHSR), which can be viewed at: <https://www.legislation.qld.gov.au/legisln/current/w/workhsa11.pdf>, and <https://www.legislation.qld.gov.au/legisln/current/w/workhsr11.pdf>.

These cover the safety issues on cane railways which are covered by the TRSA for railways accredited under that Act.

The TRSA refers to the Sugar Industry Act (SIA) to highlight that only those cane railways which have access rights under the SIA are exempt from the TRSA. The opposite helps make it clearer. If a cane railway does not have access rights to land under the SIA, then it is not exempt from the accreditation requirements of the TRSA.

The WHSA covers all workplaces in Queensland, and applies to the non rail operations (such as trucking) of railway operators subject to the TRSA such as QR and Aurizon. Similarly the sugar mills are covered by the WHSA. The rail component of their activity is covered by the WHSA because they are exempt from the TRSA for the reason given above.

ANGRMS and the Bundaberg Steam Tramway Preservation Society are not cane railways under the SIA and therefore come under TRSA. The driver certification aspect has been the responsibility of the entities accredited under the TRSA since accreditation started in the late 1990s. The regulator's role in this is to ensure (audit) that the accredited railway has appropriate systems and procedures in place that are aligned to the Australian Quality Framework (AQF) or better. Recent changes to legislation mean that accredited entities can fulfil their own arrangements for the "boiler ticket" for steam locomotive drivers, under the same arrangements. Registration of boilers remains a WHS matter.

I am grateful to Ken McHugh for explaining the current arrangements for me.

John Knowles
Via email

LRRSA ONLINE DISCUSSION GROUP

Have you joined the LRRSA's email discussion group yet?

See: <http://au.groups.yahoo.com/group/LRRSA/>



Field Reports

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

Catherine Hill Bay Jetty, NSW Gauge 1435mm

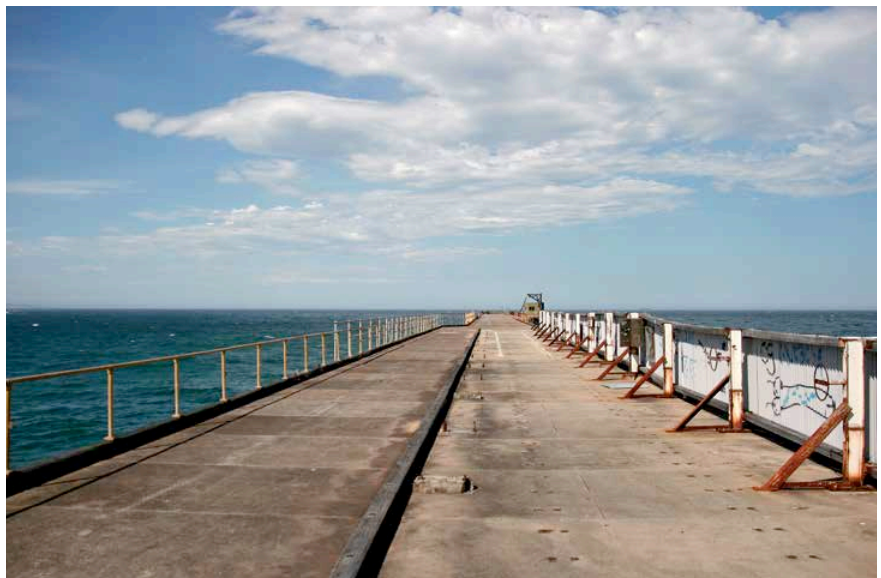
On a hot summer's day on 21 January 2016, Sohtaka Kikuchi and a well-known historian visited the town of Catherine Hill Bay (approximately 125km north of Sydney) to explore the old colliery railway and jetty. The Catherine Hill Bay Railway (or Wallarah Colliery Railway) was never connected to the main northern line, but was an isolated 4km section of railway stretching from the mine to the jetty, and was opened in 1889. (The original jetty built in 1873 retained its own railway, over which horses were used to haul loaded skips from the mine in the cliff face to the jetty to be loaded onto ships). The new railway was standard gauge and the Wallarah Company operated four different 0-6-0ST locomotives, three built by Fowler, and one by Hudswell Clarke. The Wallarah Colliery Railway was taken over by J&A Brown in August 1957. After Brown took over, the line was operated by JABAS No.27 ex-Hexham (an Avonside 0-4-0ST which was light enough to operate on the jetty), and two NSWGR 18 class 0-6-0T locomotives (1801 and 1806) purchased by Brown ex-Port Kembla. NSWGR No 1021 was briefly hired-in to cover for a failed No 27 in July 1962. The colliery operated until closure in 2002.

This field report will focus on the remaining jetty. In total there have been three jetties at Catherine Hill Bay, with the original wooden jetty being built in 1873 by the New Wallsend Company and subsequently burnt down in the mid 1880s. The current jetty is the third jetty, built in 1975 after the May 1974 'Synga' cyclone severely damaged the second timber jetty built in 1889. Both the 1873 and 1889 jetties had operational railways to haul the coal from the mine to waiting ships. However, by the early 1960s, conveyer belt systems were being introduced to mines as they were cheaper to operate than railways.

The Wallarah Colliery Railway officially closed on 20 December 1963, and was replaced by conveyer belts. The current 1975 jetty was built with a steel and concrete deck, and no traces can be found of the old railway line as the new deck has replaced the timber deck of the 1889 jetty.



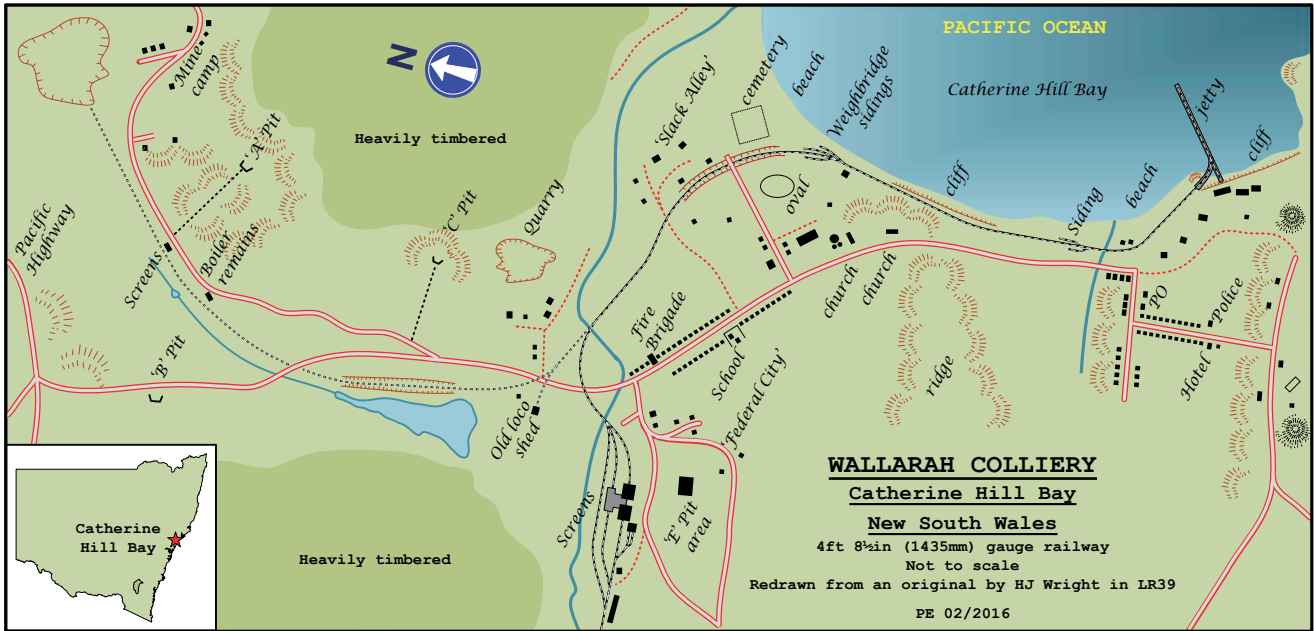
A: Looking seaward along the Catherine Hill Bay jetty with the two buildings still in situ, 21 January 2016. The curve in the foreground betrays the alignment of the former standard-gauge railway connection to the jetty. Photo: Sohtaka Kikuchi



B: Looking to the end of the jetty showing the alignment of the rail tracks for the conveyor belt and coal loading machine, with the former boat-launching crane in the far distance. Photo: Sohtaka Kikuchi



C: The 1889 connection between the mine and the jetty as it was on 9 April 2011, before the October 2013 bushfire. Photo Sohtaka Kikuchi



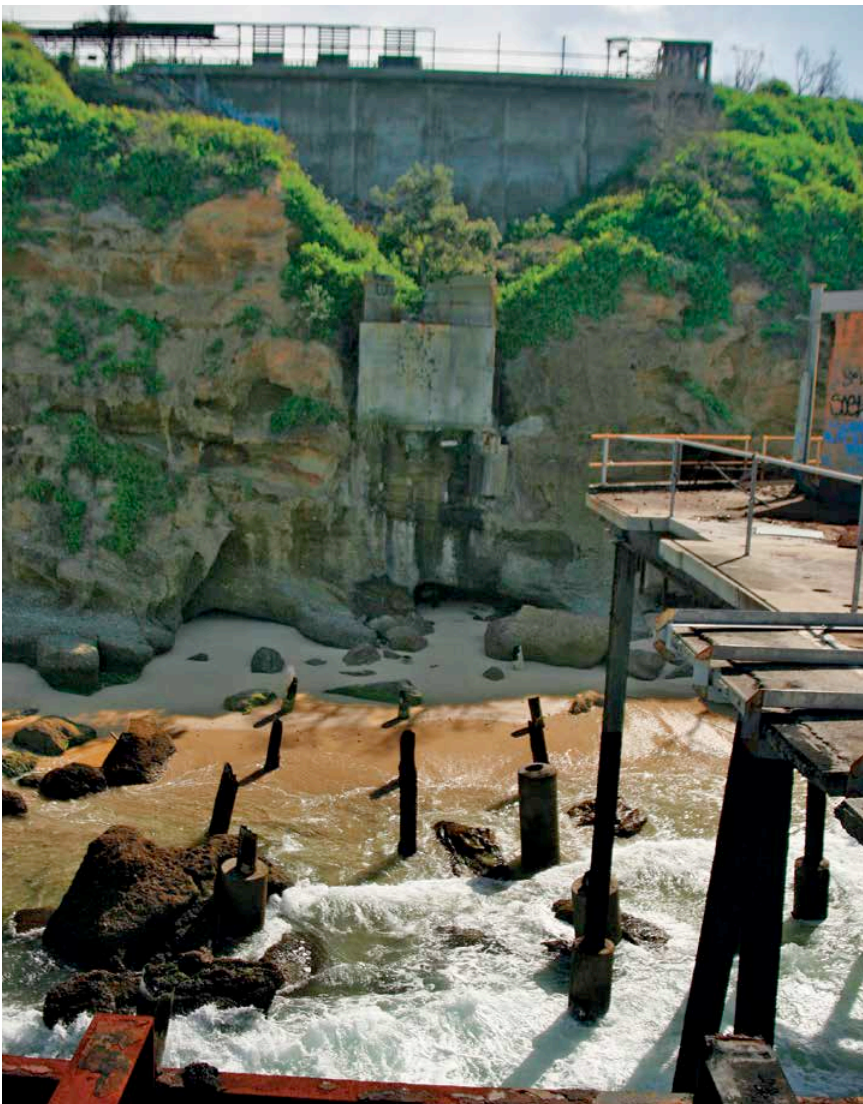
The only feature reflecting the former railway line is the curve onto the headland where the railway once ran to the mine. Before October 2013, the jetty was a mix of the 1889 built jetty

(with original timber piers and decking on the landward end), with new steel and concrete piers and decking replacing the main jetty. In October 2013, a bushfire ravaged the area and

the timbered portion linking the jetty to the mine in the cliff face burnt down. The original 1889 jetty did not have this link to the mine; the writer speculates that, as the 1975 jetty was being built, the constructors recycled a part of the 1889 jetty and incorporated it into the rebuilt jetty for two reasons. Firstly, for easy access to the coal from the mine in the cliff face and, secondly, perhaps out of a desire to preserve some of the fabric of the 1889 jetty.

The jetty is not generally accessible to the public. When we ventured onto the jetty we were surprised to find sections of handrail missing in some parts, and metal sheets rusting away revealing the drop into the ocean. Although we needed to look very carefully where we walked, the jetty itself seemed structurally sound and, under the blistering sun, we examined, photographed, and took notes. It was well worth the effort: the author recorded a row of holes drilled along the jetty in a linear fashion and equally spaced. At first these holes seemed to indicate where a railway spike could have been inserted and, from the discolouration of the concrete, seemed to show the distinctive outline of where a railway could once have been in situ. However, these were actually the marks left by the guide rails for an enormous coal loading machine and conveyor belt, which had wheels attached to the bottom so it could be retracted and extended from its purpose-built shed on the jetty. We also documented a few square metal sheets (1metre x 1metre) which were bolted down onto the concrete walkway. From their appearance they were placed there recently (possibly after 2013), as they looked new and shiny with no rust. At the junction of the curved and straight sections of the jetty we came across a derelict brick building, which may have been a control room. Near the outer end of the jetty was another derelict building clad with corrugated iron and fitted with a crane. From archival images, it seems this building once housed an office and a boat-lowering point.

This jetty is significant to Catherine Hill Bay,



D: The 1889 connection between the mine and the jetty as it was on 21 January 2016, after the October 2013 bushfire. Photo: Sohtaka Kikuchi

its railway, and its coal heritage. Although the current jetty does not specifically demonstrate much railway archaeology, it still symbolises the history of the area and its steam-worked railway. Around Catherine Hill Bay there are still some remnants of the 4 km former colliery railway, however, Mother Nature is quickly claiming it back.

Sohtaka Kikuchi 01/2016

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ARHS Bulletin no. 424, February 1973, 'Walarah Colliery Railway, Catherine Hill Bay'.

DVD:

Coal, Steel & Gravel Railways of NSW 1992, DVD, Rowlingstock Productions, Parramatta, Australia.

Hermon's sawmill and tramway, St Fillans, Victoria.

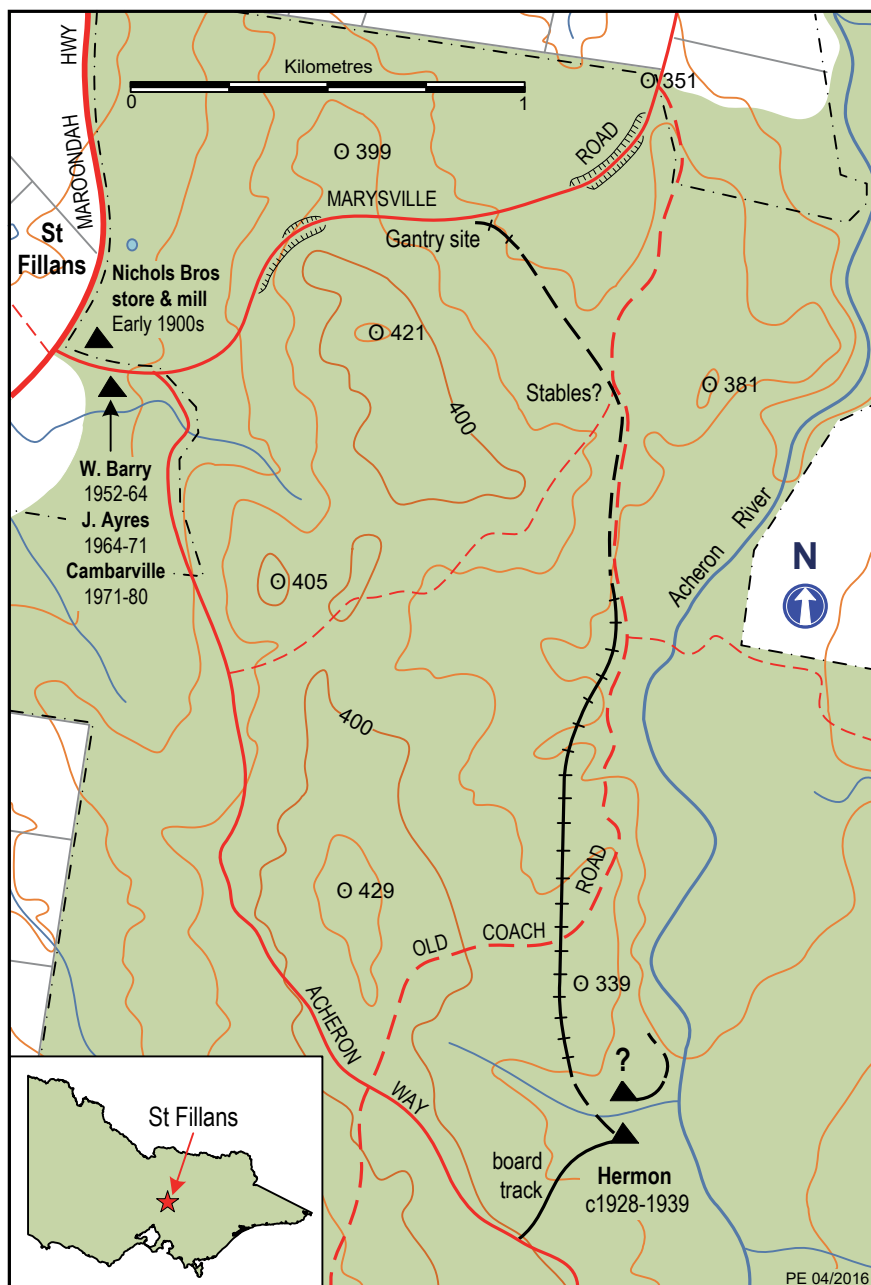
Gauge 914mm?

This field report is another instalment in the LRRSA post-2009 bushfire survey.

History

Around 1928, Benjamin Hermon established a mill on what was then 1100 acres of private property belonging to St Fillans storekeeper Mrs A Nichols. The plant, valued at £600, was capable of a maximum output of 4000 super feet per day and employed around twelve men in its operation. The mill was a little over two kilometres south of the main St Fillans – Marysville road, and Hermon constructed a wooden-railed outlet tramway between the mill and the Acheron River. By September 1938, Allan Hermon was in financial trouble, having underestimated the cost of logging on Crown land. In debt and unable to produce much timber, Hermon was dealt a final blow when the mill was destroyed by fire on Tuesday 10 January 1939. As the mill was not insured, Hermon did not have the money to rebuild it. His rights to the timber on Crown land along the Acheron Way were cancelled, and Hermon made the rapid descent from sawmill owner at St Fillans to sawmill employee at Tanjil Bren.¹

By 1937, the mill was being operated by Benjamin Hermon's son, Allan Edward Hermon. By this time most of the timber on the private property had been cut-out, and Allan Hermon applied to the Forests Commission for the right to cut timber on Crown land south of his mill. The by-now popular Acheron Way passed through the area and Forester Ure considered that a reserve would have to be left either side of the road "in order not to evoke protests from



tourists'. Cutting rights were allotted to some 200 acres of reserved forest, with one chain exclusion zones either side of the Acheron Way and the Acheron River. By September 1938, Allan Hermon was in financial trouble, having underestimated the cost of logging on Crown land. In debt and unable to produce much timber, Hermon was dealt a final blow when the mill was destroyed by fire on Tuesday 10 January 1939. As the mill was not insured, Hermon did not have the money to rebuild it. His rights to the timber on Crown land along the Acheron Way were cancelled, and Hermon made the rapid descent from sawmill owner at St Fillans to sawmill employee at Tanjil Bren.¹

Site report

The mill site and tramway were surveyed by Peter Evans on 6 June 2009. A surprising discovery was two mill sites on opposite sides of a small gully. On the northern side of the gully was a 'spot' mill, with provision for a single

saw sitting over a shallow trench 1 metre wide and 5 metre long. Apart from some scatters of glass fragments, there were no other artefacts at the site, no sign of a mill shed, and no sign of habitation. Timber dispatch appears to have been over a wagon track running east from the mill and then north along the west bank of the Acheron River (probably terminating on the Old Coach Road). This formation appears faint and is probably fairly old. Being on private property, there are no official records for a mill at this site, but it is possible that it was briefly operated by Nichols brothers in the early 1900s. (Around this time the brothers owned a small mill in conjunction with their store on the north-east corner of the intersection of today's Maroondah Highway and the St Fillans - Marysville Road).

On the south side of the river is a more substantial site in keeping with the nature of Hermon's mill as described by Forest Officers. This is for a 'full' mill with separate breaking-down and rip benches. There is little evidence of habitation at

the mill; oral history indicates that the workers lived off-site locally or in Warburton. There are few artefacts at the site apart from some glass scatters, boiler fire-bars and fragments of horse harness. There is a formation leading into the log yard; too wide for a tramway, with fragments of sawn timber packing and nails at least 1.2 m apart. This would appear to be a plank road for motor trucks, and was probably used both for log delivery and sawn timber dispatch later in the life of the mill. It leads out onto the Acheron Way. The remains of the earlier outlet tramway are extremely fragmentary. Before the bushfire of 7 February 2009, the writer had searched for this tramway on more than one occasion without success, apart from identifying a single wooden rail at the northern terminus. The tramway was laid almost flat on the ground with only the shallowest of side ditches for drainage. Post-fire, these ditches could be discerned with the eye, but are too faint to show up in photographs. There must have been quite a large bridge across the gully close to the mill,

but there was no sign of this. The tramway could be followed reasonably well from the north bank of the gully and across the Old Coach Road, but was lost where the formation swings back east onto the road formation, which it probably followed for several hundred metres before swinging left to diverge to the main Marysville road. The stable site said by former mill workers to be in this section could not be positively identified, but a probable location is marked on the accompanying map. No definite confirmation of gauge could be established, but it was highly likely to be the 914mm used by practically all of the mills in the Acheron Valley. It would seem that the tramway was short-lived, and would probably have been abandoned when the Acheron Way became suitable for timber carting in the mid-1930s.

Peter Evans 04/2016

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1. Mill and tramway histories condensed from Evans, P. (in prep). *Wooden Rails and Green Gold: A Century of Timber and Transport over the Yarra Track*.



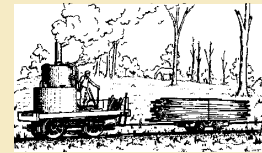
The mystery 'spot' mill on the north bank of the gully.

Photo: Peter Evans.



Hermon's 'full' mill on the south bank of the gully.

Photo: Peter Evans.



LRRSA NEWS

MEETINGS

ADELAIDE: "SA light rail package and the SA light rails centre"

We will discuss the SA light rail package, the SA light rails centre project and suggestions for cover photos for LR. News of light rail matters will be welcome from any member.

Please contact Les Howard on 08 8278 3082 or lfhoward@tpg.com.au if you are planning on attending.

Location: 9 Craiglee Drive, Coromandel Valley

Date: Thursday 2 June 2016 at 8 pm

BRISBANE: "John Browning's recent trip to India"

John Browning will be giving a presentation of his recent trip to India.

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

Date: Friday 17 June 2016 at 7:30pm

MELBOURNE: "Narrow Gauge railways in Cuba"

Back by popular demand (and completing the DVD we started showing six years ago!), the second half of "Central Rafael Freyre", once Cuba's finest 2ft 6in-gauge sugar cane railway. See eighty-year-old Baldwin 2-8-0 tender locos in the cane fields, plus an even older Baldwin 0-6-0 in spectacular scenery, doing real work. This is the real thing, filmed in 1999, before the tourists arrived. Cautionary note - the locos are somewhat grimey!.

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

Date: Thursday 9 June 2016 at 8:00 pm

SYDNEY: "AGM and The Coal Roads to Newcastle"

The Annual General Meeting will be conducted at the beginning of the evening after which will be followed a presentation by Ross Mainwaring of the haulage of coal by steam railway all the way from the South Maitland Coalfields to Port Waratah. This will be a photographic essay of the South Maitland Railways and the NSWGR coal roads from Maitland to Hexham to Port Waratah during the last days of steam.

Location: Library and Community Hub, Corner of Condor St and Railway Parade, Burwood in the first floor room. Free Council car park in front of and behind building.

Date: Wednesday 22 June 2016 at 7:30 pm

LRRSA Captains Flat Tour – 30 April 2016

LRRSA members and friends met at Bungendore railway station to commence a trip to the old mining town of Captains Flat where the Lake George Mines Ltd operated a lead-zinc-copper mine from 1939 until 1962. Gold and copper mining predated this period back to 1880.

The arrival of the Sydney to Canberra DMU Explorer train was photographed; the driver, co-incidentally was the son of a long time LR member. The tour group drove the back road which goes via Hoskinstown and mostly follows the intact branch line up the valley to the terminus of the line at the Flat.

The last few kilometres of the railway are on a 1 in 40 grade with considerable earthworks required through hilly country. In the station yard the town committee has laid down a gravel walking path to the locomotive facilities of turntable, asphalt and water tank foundations. The station is fenced off although the island railway platform remains in situ since the last goods train departed in 1968.

The mine's concentrate loading facility was wantonly demolished by a government agency a few years ago but a basic representative timber structure has been built on site over the original railway weighbridge by local citizens. The town's historic information brochure features the original structure on the front cover.

After lunch the group toured the General Shaft mine site high on the hill above the town. There was ample evidence

of the 19¼ inch gauge industrial railway system that served the underground mine (1939-1962) and also the surface workshops. On the western side of the ridge was once the flotation plant, now only impressive concrete foundations and empty ore silos remain. The narrow gauge railway track with sets of points can be traced around this area.

The group now descended the steep eastern flank of the ridge to the 1010ft contour level to inspect the 2ft gauge tramway built in 1897 from Powell's Shaft south for about one mile to the copper smelter on Jerangle Hill. Many timber sleepers remain along this precipitous section situated high above the Molonglo River that flows through the town. The site of the spectacular curved wooden trestle bridge (50ft high by 235ft in length) over Forsters Creek was photographed with some collapsed timbers still remaining. A wild goat was keeping a very wary eye on the group during this time. The tramway was worked by a 0-6-0 Krauss loco until 1898 when the mine was temporarily shut down. The loco was later sold for further service elsewhere.

The northern end of the tramway has been obliterated by quarrying for mining purposes but the walk along the remaining formation is spectacular, looking down upon the town of Captains Flat far below. After refreshments at the bowling club the group headed back to Sydney after a most enjoyable day of exploration and photography.

Ross Mainwaring



Right: Remains of sleepers laid in 1897 for the 2ft gauge tramway. The vertical rail lengths were to stabilize the tramway track on the narrow ledge situated high above the town of Captains Flat. Photo: Ross Mainwaring

Below left (page 34): The tour group stands in front of the Lake George Mines adit portal. The 19¾ inch gauge rail system once ran along this level to access the plat at the General Shaft. In 2006 the concrete portal was restored for tourism purposes. Photo: Ross Mainwaring

Below: The adit portal, with General Shaft above, in days long gone. Photo: Bill Brown Collection





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

FRIENDS OF ARCHER PARK STATION AND STEAM TRAM MUSEUM, Rockhampton

1067 mm gauge

The Purrey Steam Tram is operating again after its major overhaul including twenty nine new tubes being installed. The Billard also had a major overhaul at the same time.

The Friends application to be the Rail Infrastructure Manager was submitted to the Rail Regulator last December and it hopes to have Accreditation in the next month or two.

To celebrate the 100th anniversary of the Rockhampton Roundhouse, Aurizon has prepared a commemorative book *Recollections of the Rockhampton Roundhouse* to capture the stories of employees who have worked in this iconic structure. The book was recently launched at the Archer Park Rail Museum where current and former Aurizon employees gathered to hear stories of the people who have worked in and around this State heritage listed building. The Roundhouse stands as a reminder of our heritage and the employees who have worked there.

Tram Tracks April Volume 10 Number 2, April 2016

DURUNDUR RAILWAY, Woodford

610 mm gauge

Work on the new locomotive shed is progressing steadily. While work on steam loco *Melbourne* is progressing at a rapid rate, unfortunately there has been a delay to work on the Perry with the new stay needing the boiler raised before seal welding can be completed.

Following the annual track audit, workers have concentrated work between the workshop points and the gate at the start of Freeman's cutting. They have been replacing sleepers in groups of two or three together using steel sleepers.

In the points to the workshop, one point timber has been replaced with steel and, on the siding

side, the check rail opposite the frog has been re-gauged. The previous inspection had revealed a tight gauge in this location and some wheel flanges were hitting the frog.

It is proposed to continue these renewals with the monthly track work days.

Two of the three sets of 42lb/yd. points between the mainline and the future storage shed have been renewed with steel sleepers. The work is well advanced on the third set of points and the track crew is also planning to refurbish a fourth set of points currently stored at the start of the compound. These points will be installed when the tracks to the locomotive storage shed are reinstated to provide for a future connection to the adjoining property.

Durundur Railway Bulletin Volume 37 Number 338 March/April 2016

WESTERN AUSTRALIA

BENNETT BROOK RAILWAY, Whiteman Park

610 mm gauge

As part of the Heritage Festival 2016, BBR ran a signal spotting train on Sunday 24 April. The train journey commenced at Whiteman Village Junction, running clockwise, with a stop at Zamia to look at the Upper Quadrant Signals, a slow run past at the Wig Wag, and onto Whiteman Village Junction slowing to view the three doll bracket signal. After a brief stop at Whiteman Village Junction the train continued on to Mussel Pool for passengers to inspect the signal cabin and watch its operation as the locomotive was run around.

There are two Work for the Dole projects running at Whiteman Park; one for the Park, and one for the Railway. The Park project is meant to be helping Park staff build the new Woodland reserve decking destroyed in the 2014 fire while the Railway project's focus is on facilitating the completion of the new administration and amenity facility.

The locomotive department has been busy helping to get the 63 lb/yd turnouts installed at Zamia. The BT1 is being readied for its boiler inspection including the replacement smokebox door installation. The Atlantic Planet has been running most of the weekend services with a higher than normal brake shoe wear the only major problem. The Dorman Planet is running well after a brake adjustment and a small cooling system leak being tracked down and sorted.

Ashley has been running the midweek services and is running well. Great progress has been made on cleaning and painting the 0-6-2T Perry chassis and this is bringing closer the re-wheeling of the frame. There has been progress on NG15 123, and once the boiler inspector is contacted, the Railway will be able to do some serious planning and make some progress on putting it all back together.

It is a common misconception that the BBR letterheads (past and present) featured the Krauss. The BBR logo is in fact of the Freudenstein that is located at Rail Heritage WA in Bassendean.

April 2016 Newsletter

NEW SOUTH WALES

BULLI STATION, Bulli

1435 mm gauge

Restoration of one of the Illawarra's oldest steam locomotives (Hudswell Clarke 0-6-0T No.2, 297 of 1888) has reached its first milestone with the removal of asbestos from the boiler during February. Built in 1888, the South Bulli 2 engine is displayed beside Black Diamond Heritage Centre at Bulli station, but is in dire need of restoration. A \$50,000 Transport Heritage NSW grant funded the asbestos removal, necessary before work on the loco, coal wagon (a 4-wheel non-air hopper wagon) and brake van (ex-AIS CHG-type brakevan) begins. The locomotive ran between South Bulli mine and Bellambi coal jetty from 1891 to 1962.

Lisa Johnson *Illawarra Mercury* March 27, 2016, (with corrections and further details by Stuart Thyer incorporated)

ZIG-ZAG RAILWAY, Clarence

1067 mm gauge

Following a requisition from 51 Adult financial members of the Zig-Zag Cooperative, the Board of Directors at its February meeting resolved to convene a Special General Meeting under Zig Zag rule 52(a). Notice was given that this Special General Meeting of the Zig Zag Railway Coop Ltd would be held at Eloura Training & Conference Centre on Friday March 18th 2016 at 7.00 pm. The objectives of the meeting were to consider, and if thought fit, to pass fourteen resolutions that basically sought to remove the entire Board and replace them with other nominees. The latest news is that four of the Board were removed, while three remained after a four hour meeting.

Noel Ackland, Secretary, Zig Zag Railway Co-operative 23/2/2016

TASMANIA

TASMANIAN TRANSPORT MUSEUM SOCIETY, Glenorchy

1067 mm gauge

Access to the non-operational rail corridor took a slight step forward when the Minister for State Growth, Rene Hidding, visited the museum in January and discussed the Society's application to use the three kilometres of track to Berriedale. He seemed to be impressed with the presentation and variety of exhibits in the museum and gave the impression that he would like to see the TTMS using the track and that he would do what he could to advance this matter. For those who are bewildered by the difficulty the Society is having in extending train operations to the rails that run parallel to its own, it is all about obtaining legal access. TasRail claim that it cannot permit passenger trains to run on its network (including non-operational lines) because of legislation and insurance, so either this needs to change, or the lease over this section of track will need to be taken off TasRail and given to the Society by the Department of State Growth. Either option is a major precedent

for the government and would have a much wider effect than just the TTMS proposal.
TTMS Newsletter March-April 2016

WEST COAST WILDERNESS RAILWAY,

Strahan

1067 mm gauge

The West Coast Wilderness Railway is struggling despite a big jump in West Coast visitor numbers according to Tourism Industry Council Tasmania CEO Luke Martin, who says the tourist railway is getting only about half the passenger numbers it needs to be sustainable long-term. The railway carried 23,000 passengers in 2015, which was well up on 16,000 in 2014. However, Mr. Martin said 23,000 was less than it carried before the Federal Group handed it back to government in 2012.

"Yet, visitor numbers to the state have increased 30 per cent since that time and other operators on the West Coast are reporting the best operating conditions in a decade," Mr Martin said. "Questions seriously need to be asked about how well the railway is really performing and where is the strategy to get passenger numbers back up towards the 40-50,000 mark that it carried when it was first launched and is around the number needed to ensure its long-term sustainability."

Infrastructure Minister Rene Hidding said, "As well as being an important, award-winning tourism operation in its own right, we understand the crucial role the railway plays in bringing people to the West Coast and the flow-on effect it has on the wider community. When the previous owner relinquished the business, the railway carried around 29,000 passengers. There is a plan now in place to drive the numbers back up over 30,000 passengers per annum. As the peak summer months continue we anticipate there will be continued growth in passenger numbers."

Mr. Martin said concerns were being raised about the "confusing schedule", the length of the experience and not running a return coach service, plus a general lack of promotion and awareness of the product. "This all goes to the heart of the issue which is that the state government needs to set up a long term operating model that is accountable and commercially driven to maximise passenger numbers to secure the railway's future and re-establish it as one of Tasmania's must-do visitor experiences," he said. He also said that if Federal could not make the railway work it was unlikely it could ever be a profitable asset for a commercial operator. He suggested a management structure similar to that used for

Port Arthur, with a goal of making the railway profit-neutral in an operating sense.

FRONZ Journal 152, March 2016

SOUTH AUSTRALIA

SOUTH AUSTRALIA LIGHT RAIL CENTRE, Milang

The SA Light Rail Centre has received a grant from History SA which will be used at the Centre to help interpret exhibits via storyboards which will be colour-coded. There will be a large map of SA on which the light railway sites will be marked with pins coloured to match the related storyboard. The LRRSA SA Group is assisting in the preparation of the story boards.

PICHI RICHI RAILWAY, Quorn

1067 mm gauge

At the Pichi Richi Railway Heritage Weekend on Saturday 23 and Sunday 24 April 2016, the Railway's flagship engine, Steam Motor Coach no.1, known as "The Coffee Pot", was officially re-launched, returning to the rails in 2016 after a long period out of action for mechanical repairs. Volunteers have restored this ornate Edwardian steam engine, now more than 100 years old, and the last operating example of its type world-wide.

FRONZ Journal 153, April 2016

VICTORIA

ALEXANDRA TIMBER TRAMWAY AND MUSEUM Inc., Alexandra

610 mm gauge

On Saturday 12 March Hudswell Clarke 1098 of 1915 was pulled from its slumber amongst the cobwebs in the former Ruokak shed. The loco was jacked up and placed on temporary bogies so that the wheelsets could again be dropped-out to pack the axleboxes with lubrication-absorbing wool and to ready the frames for painting. Once this work is completed, the loco can again be re-wheeled and the work of refitting the motion can proceed. Some preparatory work was also carried out on the locomotive tender. While the loco was out of the shed, the opportunity was taken to have a tidy-up so that loco parts could be more readily located. The first set of tender wheels have recently been re-profiled.

Also on Saturday 12 March, the 1943 ex-Army '1000' series Malcolm Moore 4wPM was dismantled into its separate major components; wheels, frames and body structure. On the following day it was towed out of storage and the components loaded onto a truck for transport to Emerald where further work on the loco will be carried out. Although weather-worn, this loco is new 'out of the box' and only requires an engine to return it to service. Unfortunately the number of the locomotive is unknown.

A new battery has been obtained for Cheetham No.1 and, when time is available, it is hoped to make this small but interesting locomotive finally operational, twenty years after it left Cheetham's Laverton works.

Peter Evans in *Timberline* 148 April 2016



Freudenstein locomotive (175 of 1904) on display at the Rail heritage Museum in Bassendean, WA.

Photo: Andrew Webster

PUFFING BILLY RAILWAY, Belgrave

762 mm gauge

Finalisation of concept drawings for the proposed new NBH and NBHC type vehicles are nearing completion and should be signed off soon by all stakeholders. Work will then commence on the detailed construction documentation necessary to move to the next phase which will enable the preparation of tender documents and ultimate pricing. Design work on the new Rolling Stock continues with positive outcomes on the weight per passenger ratio. It now appears likely that design modifications will result in weight per passenger being at or below the benchmark of the original timber framed NBH vehicles.

Tract Consulting Pty. Ltd. has now issued its interim report on the Masterplan for the future of the railway. The Senior Management Committee, Society Executive and the Board are currently reviewing this. Consultation with a range of stakeholders commenced during March with the final report due by the middle of May. During April arrangements were made to consult with the local community and the Puffing Billy family on ideas stemming from the work of the consultants. Ideas for each of the station precincts are on display for information and feedback. The draft plan can be found on the Puffing Billy Railway website: <http://puffingbilly.com.au/en/pb-news/master-plan/> After the plan is finalised Puffing Billy want to get it incorporated into the Shire of Yarra Ranges and Shire of Cardinia's planning schemes. Perhaps the most interesting aspect of the draft plan is the movement of railway engineering services from Belgrave to Gembrook where the land has already been purchased near to the railway crossing on the main road into the town.

Although the Climax locomotive returned to

traffic in 2013, work continues to raise funds to repay to the ETRB the balance of costs of the restoration. The end is, however, in sight and the Climax restoration should be finally paid off by the end of 2016. With this project coming to a close, the Society recently adopted the Menzies Creek Museum as its next major fund raising project. Around five years ago, the Society made a considerable financial contribution to this project, enabling the new exhibition shed to be erected and the concrete floor laid. Now, the organising team has prepared plans to complete the project and the Society will be supporting this work. Over the last four years the Society has supported work on NGG16-129 by allocating the proceeds of the Great Train Race to this project, one which is so very important to the future of the railway's operations. This year however, the Great Train Race proceeds will go towards completion of the Museum and the Board will finance the ongoing works on NGG16-129.

In the last few months, Puffing Billy has had a few bloggers and social media influencers travelling on the train. Some volunteers/members have queried why the Railway is hosting such people as they don't appear to be advantaging the Railway. In response to this query, the Marketing Department suggested that the marketing world is changing rapidly, with social media and blogs emerging as great ways to reach target markets. These days, travellers don't tend to look for things to do in printed magazines – they would rather read online reviews and blogs about destinations. Internal statistics back this up; in the last twelve months, 50% of all passengers who pre-booked a trip on Puffing Billy (not including tour groups) heard about the Railway from one of the following sources: a friend, a

Google search, a parenting or travel website or seeing a post on social media. Because of these trends, the Marketing Department is focusing efforts on online marketing as well as hosting familiarisation trips for bloggers and social media influencers. Having someone outside of Puffing Billy say what a great experience it is provides much more credibility about Puffing Billy than self-proclaimed excellence; self-praise is no recommendation.

On 16 April the first of a new series of Commissioners Trains was successfully operated. These trains give participants the opportunity to see the whole railway, including the workshops at Belgrave and Emerald, the museum at Menzies Creek, and the large storage shed at Gembrook. The Climax locomotive hauled the train from Belgrave to Menzies Creek. The train was then double-headed from Menzies Creek to Emerald with the Climax leading 12A. From Emerald to Gembrook the train was hauled by 12A. For the return the train was combined with the regular Gembrook-Belgrave train, double-headed by 7A and 12A. The matching pair of red NA locomotives making a fine sight. Participants were provided with morning tea at Emerald, and a two course spit roast lunch at Gembrook. The Commissioners Train is scheduled to run again on 6 June and 3 September 2016, and I believe it is intended to run it again on similar dates in 2017. Bookings can be made at the Puffing Billy website.

Monthly News March and April 2016; and Frank Stamford

WALHALLA GOLDFIELDS RAILWAY, Walhalla

762 mm gauge

In the financial year 2014/15 the Railway recorded 32544 passengers, the second best



On 16 April 2016 two red NA class locomotives, 7A and 12A, made a fine sight at Gembrook on the combined regular train and Commissioners Inspection train for the return journey to Belgrave.
Photo: Frank Stamford

ever since 2009/10 and passengers were up 9% from the previous year (so far for the period July 2015 to January 2016 there have been 19439 passengers which is higher than the corresponding period 2014/2015). To ensure the maintenance of this growth, the Board has developed an ongoing vision for the future to make the WGR one of the most prosperous tourism and heritage railways in Victoria and Australia. To be able to achieve this the Board has committed to a number of purchases and projects already completed with a number still on the drawing board.

To enable the railway to become a long term financial, viable and sustainable entity, the Board considers it imperative to become a seven day operation. By doing this it is hoped that the Victorian Government would be amenable in providing funding to extend the railway. This would enhance the railway as a greater tourism experience. The plan is to run a rail motor on Monday, Tuesday, Thursday and Friday (stopping at various past historical locations with accompanying explanatory DVD) whilst maintaining normal train operations on Wednesday, Saturday and Sunday. During School Holidays the type of service provided would be determined by weather conditions and days of the week.

For this to occur there are a number of projects still on the drawing board requiring considerable input, both in planning, Government compliance, labour, materials and finance. The ultimate goal is to achieve this within the next five to ten years. The following is a list of coming projects:

- Re-gauging locomotives DH 72 and D37
- Repainting locomotives – Fowler, 10 Class and DH 72 & 37
- Reconditioning the engine of DH72
- Commencing the design, planning and funding process for the restoration of the track from Thomson to Platina, Boola Road and finally Erica
- Rebuilding all bridges from Thomson to Erica
- Reconditioning and upgrading of NQRW1 (the flat wagon) with a new roof, floor surface and new seating configuration
- Building additional toilets at Walhalla and the installation of a fully compliant disabled toilet
- Finishing the refurbishment of the Goods Shed to make it an attractive function facility
- Sealing the platform and car park at Walhalla
- Sealing the entrance and car park at Thomson
- Upgrading facilities and carrying out maintenance at Thomson Station
- Fitting uncoupling rods to carriages
- Restoring the X1 tram bodies, designing and constructing bogies and installing these to convert the trams to rail motors

To achieve all this, the Railway has to increase the volunteer skill base and to involve more businesses to sponsor and/or support the Railway. There has already been one enquiry from a local business that is willing to assist with the restoration of the X1 tram body, and following a recent article in the Latrobe Valley Express, members are hopeful more local businesses will offer their assistance.

In line with this, the Railway recently received a grant for facilities designed to attract more visitors. Last week the State Member for Eastern Victoria announced a \$50,000 grant for the Railway to improve accessible toilet facilities at the station and seal the car park, access road and platform at Walhalla. This will provide a more comfortable visitor experience. During 2015 the Registrar of Tourist Railways advertised for expressions of interest in a set of antique platform scales located in the Goods Shed in Hamilton railway yards in Victoria. An application from the Secretary of the WGR was successful in obtaining the scales which were extracted from their resting place and hoisted on to a tandem trailer for the long trip back to Thomson where restoration works were to take place. By March this year the scales were in position in their new home on the platform at Walhalla. Built in Liverpool in the nineteenth century, they are very similar to those originally in place at Walhalla Station in 1910.

Dogspikes and Diesel, February and March, 2016

Coal Creek Community Park – Korumburra – Resuscitating the Count (LR 243)

I visited Coal Creek Community Park and Museum on 10 April to ride behind Bundaberg Fowler 0-6-2T *Count Strzelecki* on its first run for 2016, and was initially disappointed when informed by staff that the loco was having compressor problems and might not run. However, driver Andrew Becker and his fireman managed to get the loco to run between the top and middle bush tramway stations, with myself on the footplate for the first run. I later saw some kids being given a ride, so the day was not wasted. One of the passenger cars is currently out of action due to a tree having fallen on it, but the Men's Shed is doing a good job of restoration.

The first photo (below) shows the fireman tapping the compressor of Fowler No 2 to try to get it to work. The damaged passenger car is visible in the background.

The second photo is of the loco reversing uphill towards the top bush station.

Geoff Earl
Warragul, Vic



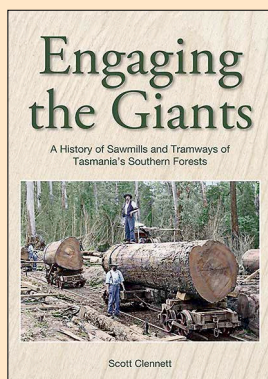
Timber tramways of southern Tasmania ...

Engaging the Giants

A history of sawmills and tramways of Tasmania's Southern Forests

By Scott Clennett

To be published by the LRRSA in July 2016



Hard cover, 240 pages, A4 size
170 photographs, 21 maps,
bibliography, references, and
index.

This book describes a complex series of timber tramways which operated in southern Tasmania during the period 1850 to 1974.

It covers the area from Franklin (45 km south of Hobart) to Cockle Creek - the most southerly settlement in Tasmania, and includes Bruny Island. Details of

the ships and barges which carried the products of the many sawmills in the area are given, together with an insight into the living conditions and the innovative methods that were used to solve many problems. Gauges of the timber tramways varied from 2 ft 6 in to 6 ft, but the most common gauges were 3 ft 6 in and 4 ft 6 in.

Over a dozen steam locomotives were used, including two Shays, and many of ingenious local manufacture. Three Hobart engineering firms supplied steam and internal-combustion locomotives of unusual design to many of the sawmillers.

The maps, prepared by Mike McCarthy, show the tramways, mills, roads, waterways, and contours.

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