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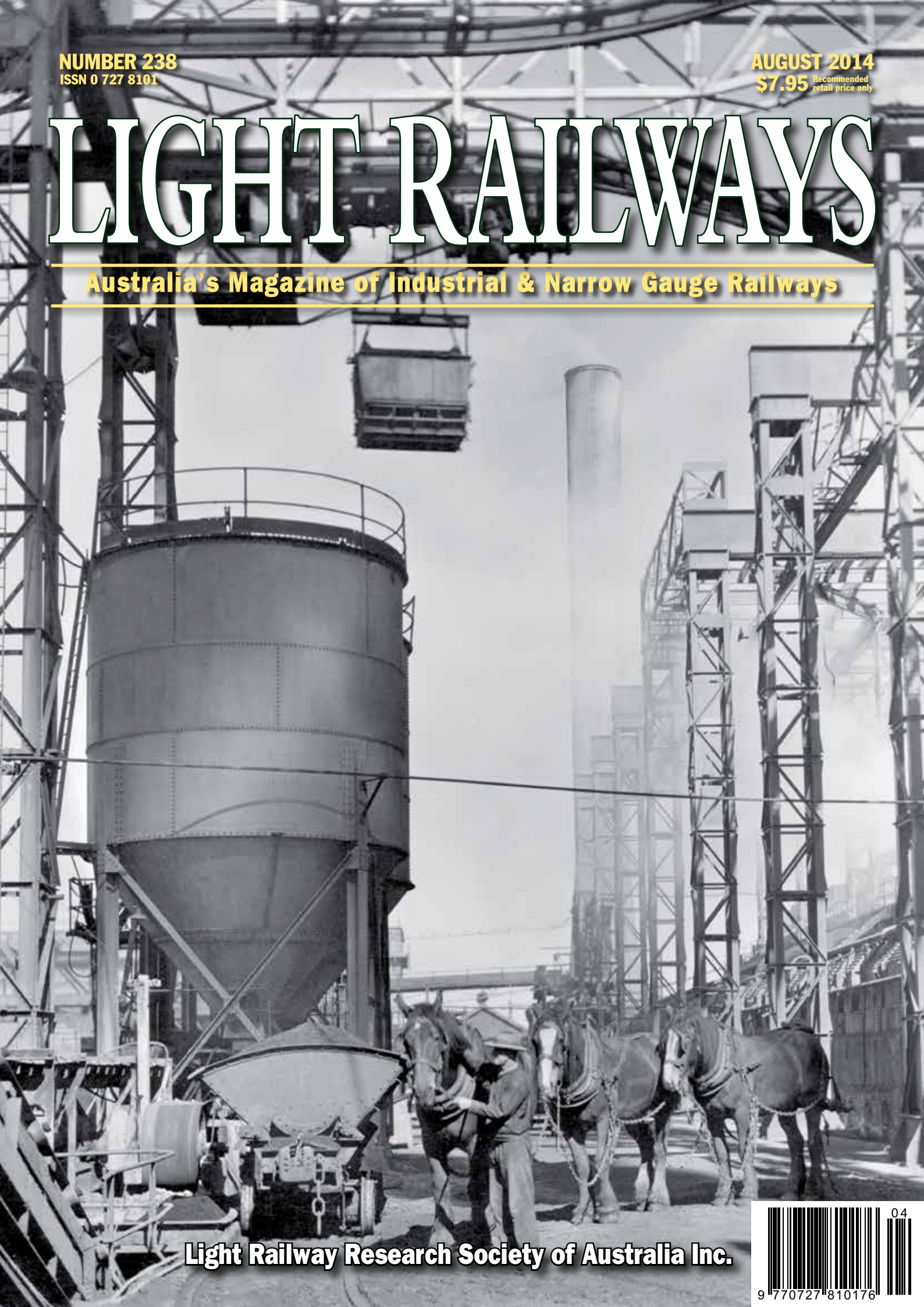
LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways



Light Railway Research Society of Australia Inc.

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Australia's Magazine of Industrial and Narrow Gauge Railways

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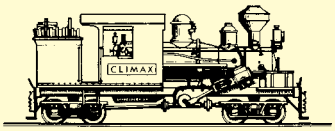

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Imperial to metric conversions:

1 inch (in)	25.4 millimetres
1 foot (ft)	0.30 metre
1 yard (yd)	0.91 metre
1 chain	20.11 metres
1 mile	1.61 kilometres
1 ton	1.01 tonnes
1 pound (lb)	0.454 kilogram
1 acre	0.4 hectare
1 horsepower (hp)	746 Watts
1 gallon	4.546 litres
1 cubic yard	0.765 cubic metres
1 super foot (sawn timber)	0.00236 cubic metre

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Editorial

After 12 months as Research Editor, I've taken a moment to draw breath and look back. It's been an enjoyable year in the job. All my concerns of being able to come up with new and interesting material have proved unfounded. Any intimidation I may have felt working with people who have been researching for 30-40 years was entirely a figment of my imagination; they have all been unfailingly helpful and generous with time and ideas. My concern that everything has been researched and that there is little left to discover is completely fatuous; there are still a great number of tramways to be found, researched or written up, in some cases all three.

New research tools are appearing at a rapid rate. Some make finding information easier, some make storing and sorting material a simple task; others help us with mapping and exploring. These tools can be great help, creating many opportunities not available to researchers in past years. In the coming months, information about some of the new tools investigated in previous editions of *Light Railways* will be added to the LRRSA website as a shared resource.

I trust the information presented to the readership of *Light Railways* has been useful and helpful. Feedback is always appreciated as it helps to guide planning for future articles. Any feedback on recent articles or thoughts on possible subjects can be sent to research@lrrsa.org.au or to the mailing address. *Stuart Thyer*

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 the forests.

Light Railways is the official publication of the Society. All articles and illustrations in this publication remain the copyright of the author and publisher. Material submitted is subject to editing, and publication is at the discretion of the Editor.

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

Material is accepted for publication in *Light Railways* on the proviso that the Society has the right to reprint, with acknowledgement, any material published in *Light Railways*, or include this material in other Society publications.

Front Cover: *This 1935 scene at the Port Pirie smelter in South Australia shows a horse team ready to be hitched to a loaded wagon. Above them is the Telpher rail system, used to move lead concentrate to the blast furnace. Horse teams finished at the smelter in 1938, the Telpher system is still in operation. Photo: Frank Hurley, State Library of South Australia Ref. B 60354/43 http://www.catalog.slsa.sa.gov.au/record=b2091090~S1*

Front and rear views of the BATCo's big sawmill at Coffs Harbour Jetty. The mill fronted onto Ocean Street with the log yard behind it. The jetty is seen in the right background of the lower photograph, along with the logging tramway. The sawdust siding branches off to the right. The brick chimney marks the site of Pike's burnt-out sawmill, used by the BATCo as a timber depot. Photo: Coffs Harbour City Library

The British Australian Timber Company Limited
Part 1 – Coffs Harbour

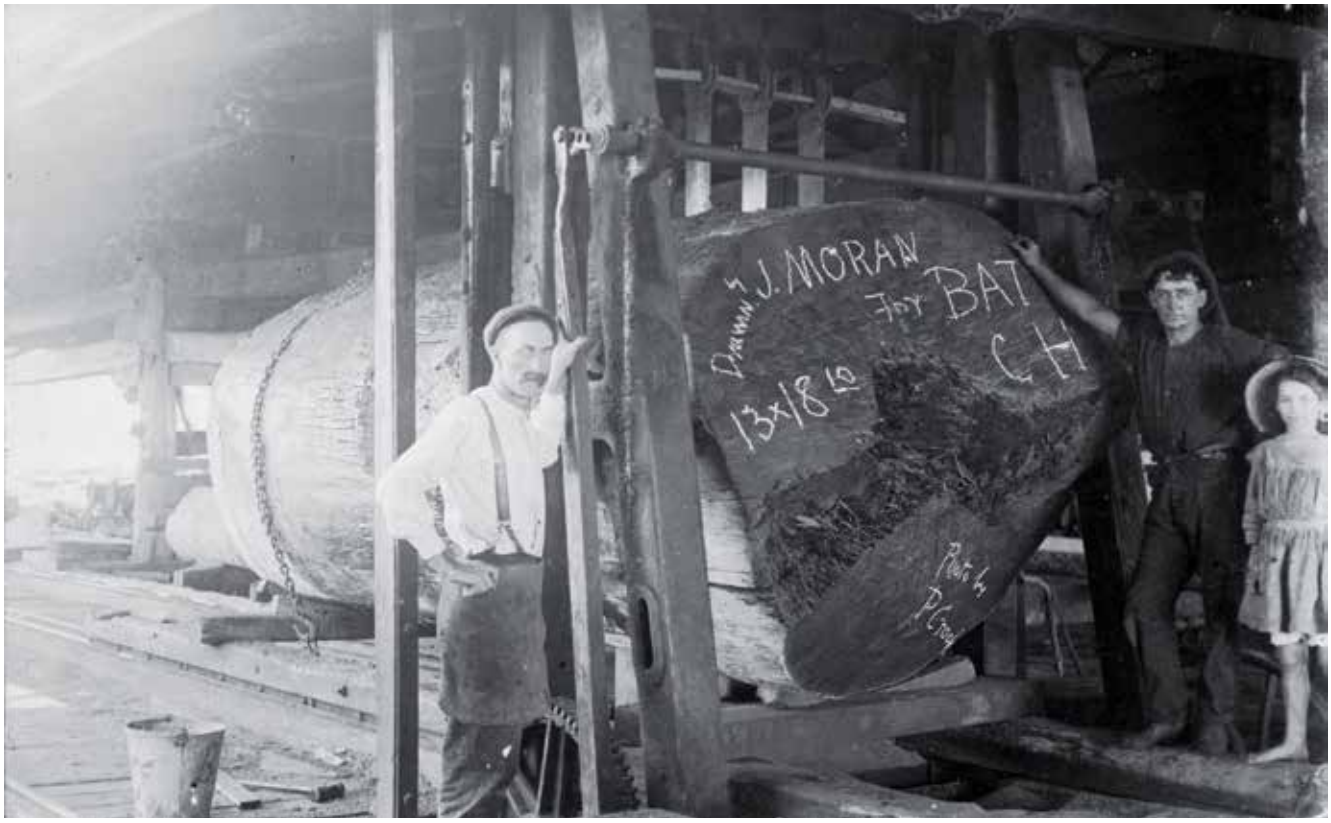
by Ian McNeil

The British Australian Timber Company Limited

At the start of the 20th century Dalgety and Co Ltd was a large and successful Australian pastoral company. It became interested in the expanding export trade of NSW hardwoods to England and Europe. In 1906 it commissioned William Thomas Lee JP, a NSW businessman and timber entrepreneur to draw up a report on the local timber industry. Lee had been the driving force behind the unsuccessful Port Stephens Hardwood Timber Company at Bulahdelah, which went into liquidation in 1905.[1] Lee submitted a report in April 1906 in which he outlined the small-scale and fragmented nature of most timber getting and sawmilling operations in NSW. He recommended investment in large modern sawmills, timber tramways and organised overseas marketing.[2]

Dalgety and Co subsequently set up the British Australian Timber Company (BATCo). It was incorporated in London on 15 August 1906 and registered there on 10 September with a capital of £50,000 in £1 shares. The principals were Dalgety and Co, Thomas Gabriel and Sons, an old established London firm of timber wholesalers and importers, and William Thomas Lee.[3] The objectives were ambitious, no less than the acquisition of timber estates and cutting rights, agricultural and other lands in Australasia, Canada, America and elsewhere. A more realistic footnote concluded that '*the business will for the present be confined to NSW*'.

The new Company set up its NSW office at 15 Bent Street, Sydney and established a timber yard at the foot of Johnston Street, Annandale, on the Rozelle Bay waterfront.



Mill workers pose alongside a partially-sawn hardwood log on the BATCo's vertical frame log saw. It was said to be the finest in the State, capable of breaking down hardwood logs over 6ft in diameter. The big slabs, or flitches, of timber it produced kept three circular saw benches fully occupied. The barefoot young lady next to the saw is indicative of the casual attitude to workplace safety in those days. Photo: Coffs Harbour City Library

The first managing director was Thomas Forster Knox, who was also Dalgety's managing director in Sydney, with William Thomas Lee as his general manager. Dalgety and Co effectively controlled the Company and were its agents Australia-wide and overseas.[4]

The BATCo began acquiring sawmills in NSW within weeks of registration. Its first purchase, in September 1906, was the long-established Pioneer Canadian Sawmill at Lismore in northern NSW.[5] This big mill had been owned by the Dorrough family since 1882 and cut mainly softwood timbers from the Big Scrub, a huge area of subtropical lowland rainforest on the NSW North Coast. When purchased, the sawmill was receiving a fair proportion of log timber via the recently constructed Lismore to Grafton extension of the embryonic NSW North Coast Railway. Two logging tramways connecting to the railway were contemplated at first but did not eventuate. The bulk of its sawn timber output was taken down the Richmond River to the coast at Ballina, a river voyage of some 130km. From there it was shipped to city markets in Sydney and Brisbane. The BATCo operated the Pioneer Sawmill for some six years before selling out in April 1912.[6]

Two months later, in November 1906, the BATCo purchased two sawmills from the North Coast Steam Navigation Company (NSCNCo), one at Woolgoolga and the other at Coffs Harbour.[7] Both mills had previously been owned by George Wallace Nicoll, a North Coast shipping line owner. The NCSNCo had inherited them when Nicoll sold his fleet and business interests in June 1905 due to ill health.[8] The story of the BATCo's Woolgoolga operation will be covered in Part 2 of this history.

The Company also acquired an interest in an un-named sawmill at Telegraph Point on the Wilson River, a few miles upstream from Port Macquarie. This may have been one of the NCSNCo's timber interests purchased along with the Coffs Harbour and Woolgoolga sawmills. Very little is known about this seemingly short-lived part of the Company's operations.

BATCo's Coffs Harbour jetty sawmill

Coffs Harbour had its beginnings back in the 1840s when Captain John Korff (after whom the town was named) began floating red cedar logs cut from the coastal forests out to sailing vessels waiting in the sheltered anchorage. The district's vast wealth of hardwood timbers (which sink in water) could not be handled this way, and agitation grew for Government assistance. This culminated in the construction of the first stage of Coffs Harbour's iconic jetty in 1892. It was furnished with a single-track 3ft 6in gauge horse tramway and a five ton capacity steam crane which enabled ocean-going vessels to handle imported goods and export timber with improved safety and efficiency.[9]

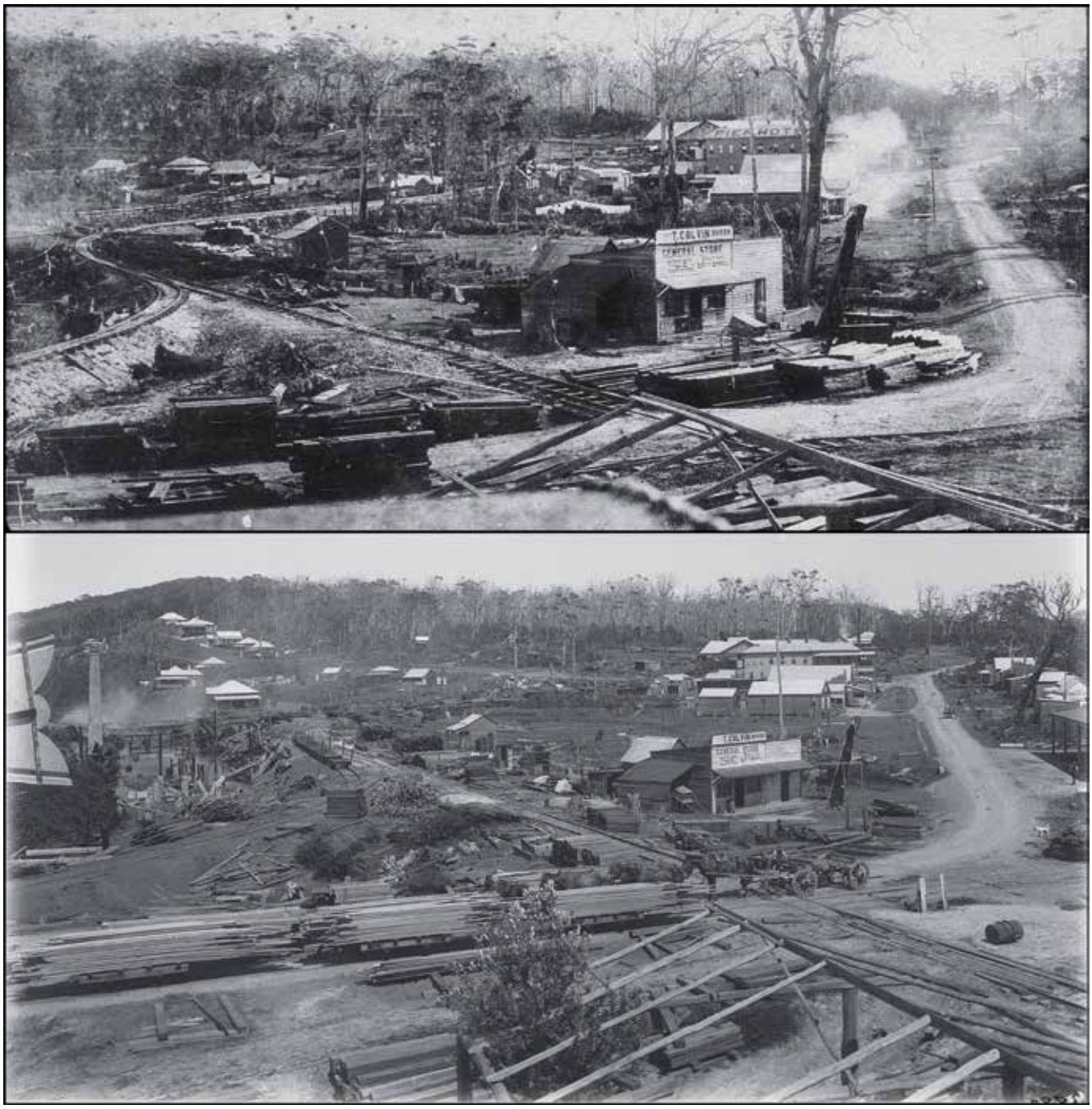
By the turn of the century, Coffs Harbour had developed into a busy timber port with increasingly large quantities of hewn timber – logs, piles, girders and sleepers – exported annually. Relatively little sawn timber was handled until mid-1903 when both George Wallace Nicoll and Edwin Deacon Pike established hardwood sawmills close to the jetty. Their mills were dependent upon bullock teams to supply them with saw logs, and both suffered from the same problem. Coffs Harbour's climate is sub-tropical with a high annual rainfall. The district's early roads turned to quagmires in wet weather, immobilising the teamsters, halting log supply and stopping mill operations. Ironically, dry spells also caused mill stoppages when there was not enough green grass to keep the bullocks fed. When Pike's mill burnt down in June 1906,[10] he elected not to rebuild and instead leased a sawmill at Raleigh on the Bellinger River, some 24km south of Coffs Harbour.

In November 1906 the BATCo purchased Nicoll's Harbour Sawmill and his town block of land nearby. It also took over

the lease of Pike's 4-acre mill site, and leased another 220 acres of land on the north bank of Coffs Creek for grazing purposes. The Company's newly acquired sawmill was a short distance from Coffs Harbour Jetty on 3 acres of leased land that is now occupied by Coffs Harbour High School. It was a moderately sized mill powered by an 18hp steam engine with a capacity of some 40,000 superfeet of export timber per week. Nicoll had also put in a short tramline[11] through his town block to connect with the jetty tramway to take out sawn timber to load onto his ships. Pike's mill was also said to have a tramway connection to the jetty but this has not been confirmed.

The Company immediately set about enlarging and modernising the mill to boost its capacity from 40,000 to over 100,000 superfeet of sawn timber per week. A new boiler and mill engine were installed as well as a Tangye lathe and drilling machine.[12] Two years later an even larger 180hp mill engine with a monstrous 20ft diameter flywheel was installed, though this huge wheel subsequently proved too heavy for the shaft and had to be replaced.[13] The sawmill's vertical frame saw was said to be one of the finest in the State and capable of breaking down blackbutt logs over 6ft in diameter. It could keep the mill's three saw benches going at full pressure.

The sawmill began cutting in early 1907 though it was another year before the logging tramway started delivering logs to the mill. In the interim the Company set up a timber depot for logs at Bonville south of Coffs Harbour. These were hauled to the mill by contracted horse and bullock teams and by the BATCo's own traction engine.



Two views of the tramway approaches to the BATCo sawmill and the jetty. The sawmill is just visible in the background behind the Pier Hotel. The road in front of Colvin's store is Ocean Street, the main road between the town and the jetty. The line in the right foreground is the logging tramway to the forest, the line at the left goes to the jetty. The top photo dates c1908 when horses hauled the mill's sawn timber to the jetty. The bottom view is post 1911 after the jetty locomotive took over the task with the duplicated connection to the jetty line now serving as an exchange siding. *Photo: NSW State Library*

By 1909 the jetty sawmill was routinely producing over 80,000 superfeet of sawn hardwood a week. An ongoing problem was supplying enough logs to keep the mill in full operation. Even with the tramway, wet weather hampered timber-getting activities and contributed to mill downtime. To address this problem a big log yard was established near the mill in 1910, capable of holding a stockpile of 5,000 logs as a buffer.[14]

In early 1910 the Country Wages Board conducted hearings throughout NSW into claims by timber workers for better wages and working conditions. The sessions held at Coffs Harbour gave an insight into working conditions at the BATCo's mill.[15] Mill hands worked an average 53 hours a week at rates of pay ranging from 9d an hour for general hands to 1s 3d for head sawyers. The BATCo deducted 4d in the £1 for an accident fund. Take home pay only averaged about £2 a week because of time lost due to bad weather, log shortages and breakdowns. Industrial relations on the whole were reasonable, though during the 1910-11 period there was strike action over pay and working hours as well as two suspected arson attempts.

Early sawmills were dangerous places and a number of mill hands were injured at the Coffs Harbour mill during its seven years of operation. The worst accident happened in July 1907, when carpenter James Morris was horribly injured by a circular saw and died from his wounds a few days later. The prevailing attitude to workplace safety was demonstrated at the inquest when the manager testified that Morris had no right to be in that part of the mill. A verdict of accidental death was returned.

Another notable incident was a boiler explosion in May 1913 that wrecked the small boiler house. Fortunately most of the employees were absent and only two men were slightly injured. The thunderous noise was heard two miles away in the centre of town, and the force of the explosion hurled debris 200 feet into the air. The sawmill was out of action for several days until the damage was repaired.[16]

The BATCo was not the best of neighbours. Dorrigo Shire Council received several complaints about sawdust and waste timber blocking drains and stagnant water laying behind the tramway embankments. A more serious complaint saw the Sanitary Inspector directing the Company to provide the necessary "accommodation" for its men to abate a sewage problem that was spilling out onto Edinburgh Street.

The BATCo had five mill managers during its short stay at Coffs Harbour. The first was Charles Dorrough who had owned the Pioneer Canadian Sawmill at Lismore before the BATCo purchased it. He resigned in August 1908 to start his own business in Brisbane

He was replaced by Alexander Clarke Mackay, the BATCo's most colourful manager. Mackay appears in several period photographs, posing on locomotive footplates and beside mill machinery. He wrote lengthy newspaper articles, gave evidence to a Public Works Committee Inquiry into the Dorrigo Railway, and designed the BATCo's No.2 sawmill at Woolgoolga. He had his share of accidents, being bitten by a snake at the Korora Incline tramway construction site, and later breaking a rib when thrown from his horse during another inspection visit. In 1924, while inspecting a timber proposition in Manchuria he was captured by Chinese brigands and held for ransom. He was wounded in the fight, shot in the head and had his arm broken.[17]

Mackay resigned his position in 1910 to head up the syndicate behind the Coffs Harbour Timber Company. He was replaced by GS Taylor in early 1910, and he in turn was succeeded by Alfred E Macgraith in January 1911. The BATCo's last manager at Coffs Harbour was JM Johnson appointed in February 1912.

BATCo's Coffs Harbour logging tramway

The Coffs Harbour hinterland contained a wealth of hardwood eucalypts – blackbutt, flooded gum, mahogany, ironbark and tallowwood being the main species. Good timber had become scarce on the narrow coastal plain but was still abundant in the central forest belt running north-south between the coast range and the foothills of the Dorrigo Escarpment.

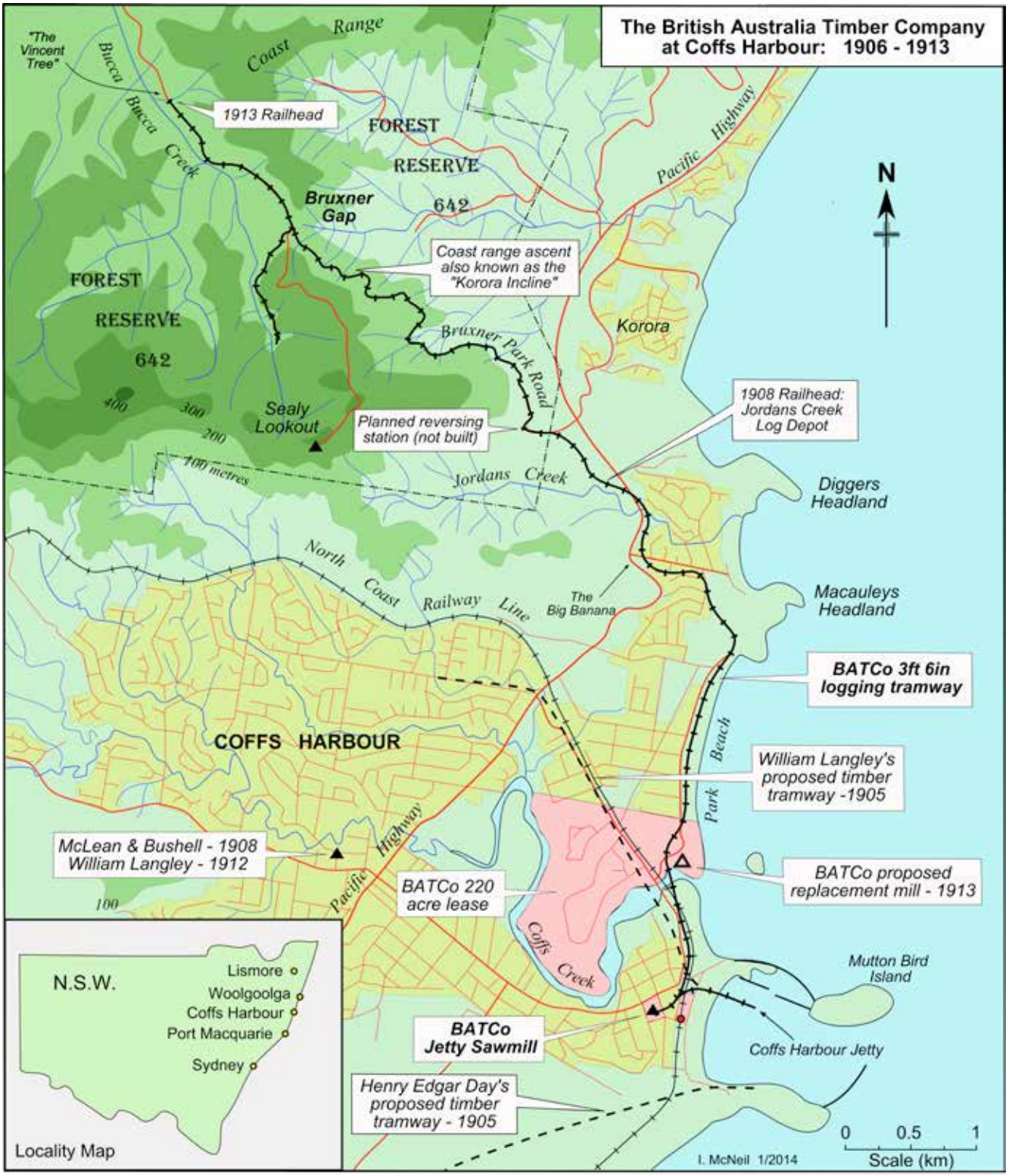
It was a BATCo priority to control its timber supplies to safeguard its investment in sawmills and tramways. The Company first secured cutting rights from the Forestry Department for 1,000 acres in Forest Reserve 642, some five miles northwest of Coffs Harbour Jetty. Two years later the 1909 NSW Forestry Act came into force. It contained provisions for companies to obtain exclusive cutting rights in forest areas that were economically unviable to harvest without significant capital expenditure. The BATCo was one of only three timber firms to be granted such rights within the Grafton Land District. It obtained Exclusive Right No.2 covering 5,000 acres west of Coffs Harbour in the Bucca Bucca Creek watershed, and a further 5,000 acres west of Woolgoolga.[18]

Preparations for a logging tramway to Forest Reserve 642 got underway in November 1906 when the first cargo of rails arrived at the jetty on board the small coastal steamer *Dorrigo*.[19] The first stage of the tramway comprised 4½ miles of line from the sawmill north to Jordans Creek log depot on the far side of Macauleys Headland, near the present day Big Banana tourist attraction. Most of this area was Crown Land and government permission was required to build a tramway across it. The Local Land Board granted the Company a 15-year special lease for tramway purposes in June 1907.[20] After the route had been officially surveyed the approval was gazetted as Special Lease 1906-28 Bellingen by the Lands Department in April 1908.[21] The land around Macauleys Headland was owned by pioneer settler DR Macauley – after whom the headland is named – and presumably a right-of-way for a suitable rental was negotiated with him.

The BATCo began tramway construction of its 3ft 6in (1067mm) gauge steel-railed logging tramway immediately the Special Lease was granted. By the end of the first month one of the local newspapers commented on the busy appearance of Coffs Harbour Jetty *'owing to the construction of numerous tramlines being laid down by the British-Australian Timber Co'*.[22]

Not a great deal is known about the layout of the Company's sawmill, timber depot and jetty sidings. The area has been so comprehensively re-developed over the years that no physical traces remain. There was a single line leaving the sawmill which swept through a 90° curve and crossed Ocean Street and the jetty tramway at right angles. Just before the curve a sawdust siding branched off into the timber depot area on Pike's old mill site. There was also a double-track curved interchange siding connecting the mill tramway to the jetty line.

After crossing the jetty line, the BATCo's tramway continued north between The Esplanade and Orlando Street. A half-mile further on it crossed the mouth of Coffs Creek on a sturdy low-level trestle bridge, close to the present-day North Coast Railway bridge. From there the line continued north through low coastal scrub, parallel to Park Beach, to the foot of Macauleys Headland. This promontory is an outlier of the coast range and here the previously level tramway met its first significant gradients. A succession of curved embankments and shallow cuttings took the line over the rear of the Headland and down into the valley of Jordans Creek on the other side. A log depot was established at this railhead in early 1908, close to the present-day intersection of the Pacific Highway and Korara West Road. Bullock teams hauled logs at the depot to be railed back to the mill.



The second stage of the tramway was more demanding. The BATCo had cutting rights in Forest Reserve 642, astride the coast range. To reach this timber, a line with 1:19 grades and two chain curves[23] was surveyed by Thomas Edwardes in July 1908 up Korora Ridge to a saddle in the coast range at Bruxner Gap. Edwardes' original survey showed a reversing station planned for the foot of the climb,[24] but a two chain curve was substituted when the line was constructed.

Special Lease 1908-27 Bellingen[25] was granted for the 2½ mile climb up to Bruxner Gap, and construction got under way in October 1908. The tortuous route of the present-day Bruxner Park Road is built on top of the old tramway. The line's only known fatality occurred here during the construction phase. William Norton, a navvy, was killed in February 1909 when a tree fell on him during the excavation of a side cutting.[26]

Special Lease 1908-36 Bellingen[27] covered the 1½ mile descent to Bucca Bucca Creek. This section was easier with 1:40 grades against the load and 5 chain minimum radius curves. Bruxner Park Road is also built on top of this section. The tramway terminated at a log hauler site in the vicinity of the Vincent Tree, a small tourist parking area beside the road. Lightweight 35 and 40lb/yd rails[28] were used and the combined four mile extension cost the Company in the order of £20,000.

A short branch line was put in at Bruxner Gap, extending one mile south into the upper reaches of Bucca Bucca Creek.

Navvies excavate a small box cutting by hand on the BATCo's logging tramway. A surveyor's theodolite tripod stands on the left hand bank with the foreman behind it looking on. The terrain suggests a site on the Upper Bucca Bucca Creek branch line. It was at a construction site similar to this where navvy William Norton was killed. A tree left standing on the high side of a cutting fell and crushed him. Photo: Coffs Harbour City Library

Construction of this line may have been associated with an incident involving the Company's Shay locomotive in March 1913. The Shay was pulling three trucks loaded with rails uphill when they broke away. Somehow they stayed on the rails and dashed across the Woolgoolga Road (the present day Pacific Highway) at high speed before adverse grades on Macauleys Headland halted them. Shortly after that close call, someone deliberately sent an empty log bogie speeding downhill with similar results. It was agreed that if any bullock teams had been in the vicinity, it would have made short work of them.[29]

A *Sydney Morning Herald* correspondent visited Coffs Harbour in September 1910 and penned his impressions of a trip on the BATCo's tramway:[30]

'The British-Australian Timber Company Limited's mill, the agents of whom are the world-renowned firm of Dalgety and Co. Limited, is undoubtedly the hub of the jetty at present. Standing near at hand was a large locomotive, which tells its own tale of large interests.

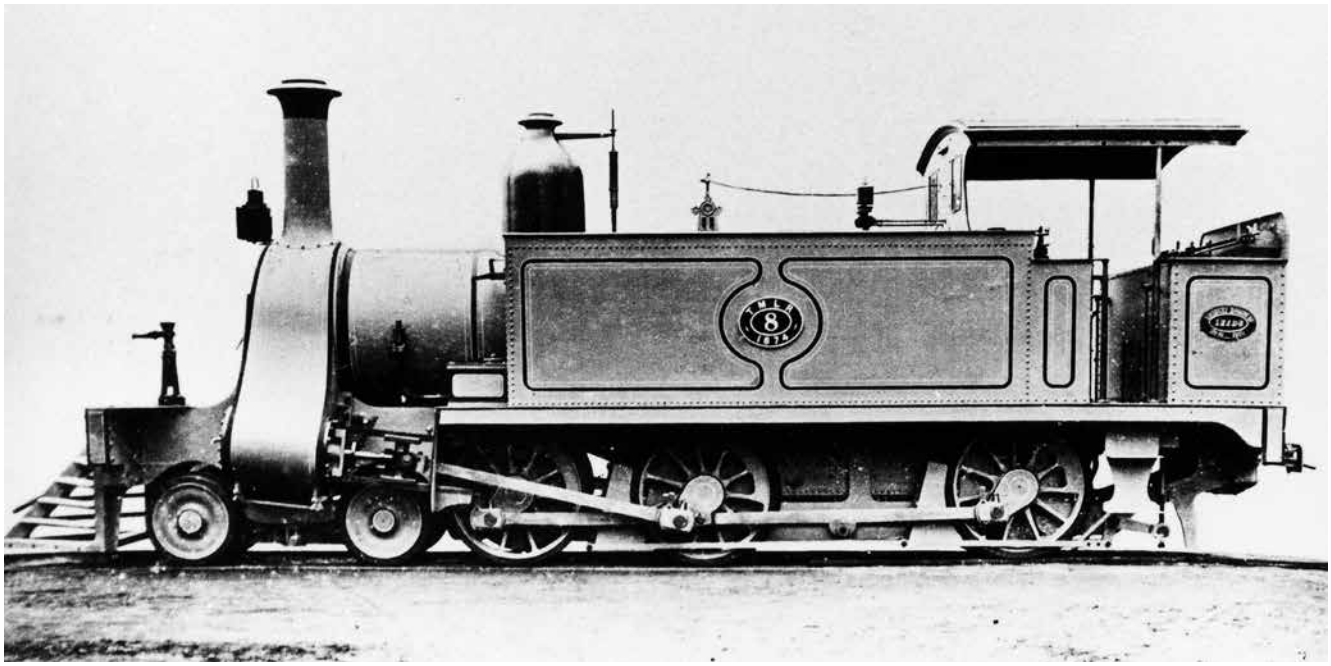
"Right oh!" we hear just after we have ensconced ourselves on the tender of the B.A.T. Company's locomotive. We are off to see the hills and their timber. The line upon which we travel does the company credit. Steel rails on good sleepers make you feel safe. Flying along at good speed, low-lying country on either hand, "swish," and you are out of the bush and onto a viaduct, with a beautiful view; "swish," and you are back again. There is profuse vegetation – palms, stag and elk horns, vines twining in and out – and straight ahead a long avenue showing the way we have to go. The line follows the beach for a few miles, beautiful views of which you see in abundance. Then we commence to rise, and so we have started to climb the hills. Brakes applied – we wonder what for, but soon we know. The fireman takes a hand, and begins to give the locomotive a drink. We have a drink also. What water so pure, cool and refreshing.

"Toot" goes the whistle, and "Old Tom," as all the district know the engineer, remarks, "That creek has never been known to stop running." "Toot," the whistle goes again, and we are crossing the public road to Woolgoolga and Grafton. We begin to rise rapidly, on grades so steep that we wonder at what rate we will fly back. On the left we pass a depot (where the bullockies draw the logs to, and leave them to be picked up by the loco). But we do not stop. A wag on the opposite corner, remarks "Limited Express today, Sir." I then am informed that we stop nowhere but at the end of the line. But man proposes, etc. We fly round a bend, brakes applied, and we easily see the reason. An outspanned team of bullocks were grazing on the line. We get them off by repeated toots. Near the completion we are stopped again. The reason being, as the fireman puts it, "Some gol darned fool had let one of the large timber trucks get away." It had run until it had met a gradient sufficient to stop it.

We push ahead and arrive safely at the Log-hauler Depot. Here you are surprised to see a huge boiler and winch, to which is applied a large cable. It stretches from tree to tree, and works on the block and tackle principle. To see this machine fasten on to a log of 7 to 8 tons and pull it up the side of the mountain is simply amazing; and it does it as easily as you would pull a toothpick on the end of a bit of cotton.'

George England was a local high school teacher and amateur historian. He collected some oral history in the 1970s concerning a siding arrangement at Bruxner Gap which enabled the Shay locomotive to reverse empty trains downhill to Bucca Creek.[31] Today, it is difficult to see how this might have been accomplished given the very limited space on top of the saddle.

Before the Bruxner Gap line was constructed, an alternative tramway route to the Bucca Bucca Creek area had been planned. Special Lease 1907-14 was granted for a three mile tramway from near what is now the west entrance of Red Hill tunnel on the North Coast Railway, heading north along the western flank of the coast range into Forest Reserve 642. The grades and curvature of this line would have been ferocious, even worse than the Korora Incline. Perhaps it is not surprising that the lease was allowed to lapse in 1909.



Builder's photograph of one of seven Hunslet 4-6-0T goods locomotives supplied to the Tasmanian Main Line Railway Company (TMLR) between 1873 and 1874. They were too heavy for the track and the side tanks were removed to reduce weight. Flangeless leading driving wheels also gave trouble and were removed, converting the class to 4-4-0 tender locomotives. Photo: Richard Horne Collection

BATCo's Coffs Harbour steam locomotives

The BATCo acquired a second-hand steam locomotive from Tasmania, ex-Tasmanian Main Line Railway Company (TMLR) No.6 (Hunslet 117 of 1874) to operate its tramway. It had been one of a batch of seven 4-6-0T goods locomotives purchased by the TMLR for its Hobart to Launceston line.[32] It had 14in x 18in cylinders, weighed 33 tons and with a boiler rated at 140psi developed a tractive effort of 9707lbs. However the class proved too heavy for the track, and before they could be put into service the side tanks were removed to lighten the axle loading. Water was supplied from a rectangular tank mounted on a four wheel flat wagon coupled behind the bunker. The flangeless leading pair of driving wheels gave trouble and were removed, resulting in 4-4-0 tender locomotives weighing some 27 tons.[33]

No.6 was purchased by Mr. W.J. Duffy, a Tasmanian engineer and contractor, in 1889.[34] Duffy was the successful contractor for the short Mole Creek branch line in northern Tasmania which opened for traffic on 5 April 1890. From then nothing is known about this locomotive until it was acquired by the BATCo some 17 years later.

The BATCo's first locomotive was ex-TMLR No. 6 (Hunslet 117 of 1874) acquired in January 1908. TMLR had previously removed its side tanks and added a homemade tender fitted with a rectangular tank to carry water. At 27 tons the locomotive was too heavy for the logging tramway and spread the rails. It was replaced by a new A-class Shay in mid-1909. Photo: Coffs Harbour City Library

The old Hunslet arrived at Coffs Harbour Jetty in January 1908.[35] It was '*put together*' and on 22 February was taken for its first run up the line to the construction railhead, three miles north. Three months later the local newspaper reported that it hauled in its first log to the mill when *'A number of employees of the mill took the opportunity of having a spin, as well as a few visitors. Everything came off without a hitch, the engine gliding along the rails as smoothly as possible'*.[36]

However, as in Tasmania, the locomotive proved too heavy for the BATCo's track. It was reported as not being able to handle the curves and being *'too cumbersome and having spread the rails in many places'*.[37] By early 1909 the Company had decided to replace it, a decision no doubt hastened by the 1:19 gradients and two chain curves of the Bruxner Gap tramway extension then under construction. The Hunslet is believed to have been broken up at Coffs Harbour and its boiler sent to Woolgoolga to be re-used in one of the Company's two sawmills there.[38]

Its replacement was a new A-Class Shay geared steam locomotive (Lima 2135 of 1909), manufactured by the Lima Locomotive Works in Ohio, USA. It weighed 23 tons, had two vertical 8in x 12in cylinders and was mounted on a pair of pivoting four wheel trucks fitted with 26in diameter wheels.[39] On 14 March 1909[40] the locomotive left New York for Sydney where it was transhipped to William Langley's coastal steamer, the SS *Cooloon*, and arrived at Coffs Harbour Jetty on 13 July 1909.[41]

Messrs Gibson, Battle & Co were Lima's Australian agents and they wasted no time in assembling the Shay, and gave it its first test run three days later. Following acceptance trials where it hauled a load of 55 tons up the 1:19 grades of the Bruxner Park line, the BATCo formally accepted the locomotive on 30 July 1909.[42]

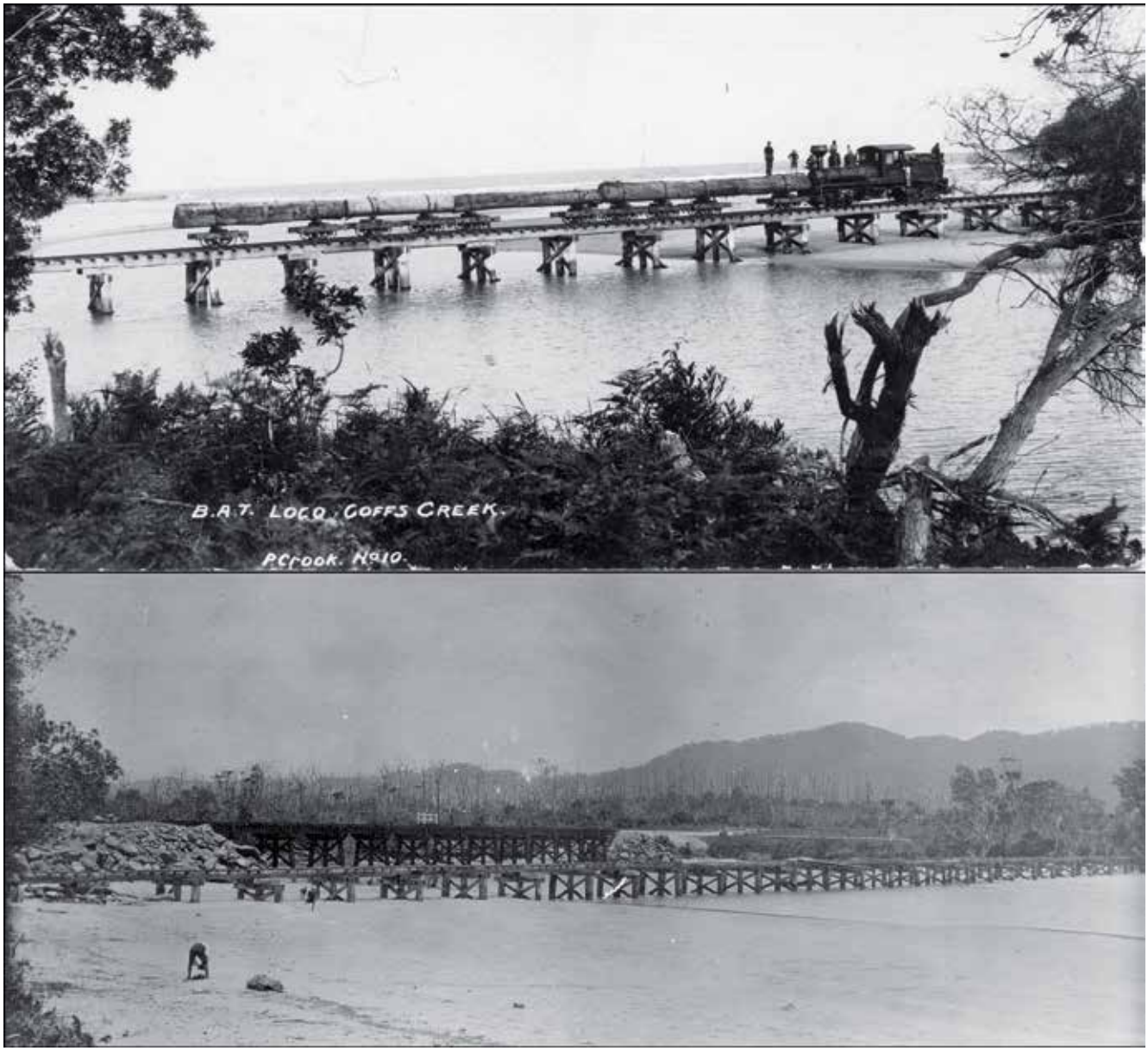
The Shay gained the nickname '*Fanny*' and spent the next four years fairly uneventfully hauling logs from the forest to the BATCo's jetty sawmill. Six logs made for a normal load and the locomotive usually made two return trips a day. Only two incidents during this time made it into the pages of the local newspaper. In December 1911 it blew a cylinder and was out of commission for a short time, and in October 1913 it broke an axle somewhere up the line. The mill's engineers jury-rigged a repair using a spare set of truck wheels and steamed the locomotive slowly back to the mill's sawdust siding for repairs.[43]

The BATCo shut down its Coffs Harbour operations at the end of 1913. The Shay, along with the log hauler and eight miles of tramway rails, was sold to the Coffs Harbour Timber Company in March 1915 for its short-lived Nondaville sawmill and tramway complex west of Boambee.[44] It saw very little use at Nondaville and was advertised for sale in January 1919 through the agency of Hinks & Co, Sydney.[45] It was subsequently acquired by Laheys Ltd for their Canungra Timber Tramway in South East Queensland.[46] That line was taken over by Brisbane Timbers Ltd in the early 1920s and operated spasmodically over the next few years. The rails were sold to a Brisbane scrap merchant in 1935 and the Shay was abandoned on site. It was photographed in a derelict condition at Canungra in 1937 and by the 1950s little more than the boiler shell remained.[47]

Shipping BATCo's timber from Coffs Harbour

The BATCo's Coffs Harbour operation was geared to exporting 'junk' hardwood – large sawn slabs of first class timber - for customers to cut to size. Much of this went to England and Germany for use in railway vehicle construction.

The BATCo acquired a new A-class Shay geared locomotive (Lima 2135 of 1909) in July 1909 for the 1:19 grades and 2-chain curves on the Korora Incline extension of its logging tramway, then under construction. In this photograph the moustachioed driver is oiling the Shay's distinctive vertical cylinders and bevel drive gears. The location is probably ED Pike's old mill site at Coffs Harbour Jetty that the BATCo acquired in 1906 and used as a timber depot. *Photo: NSW State Library*



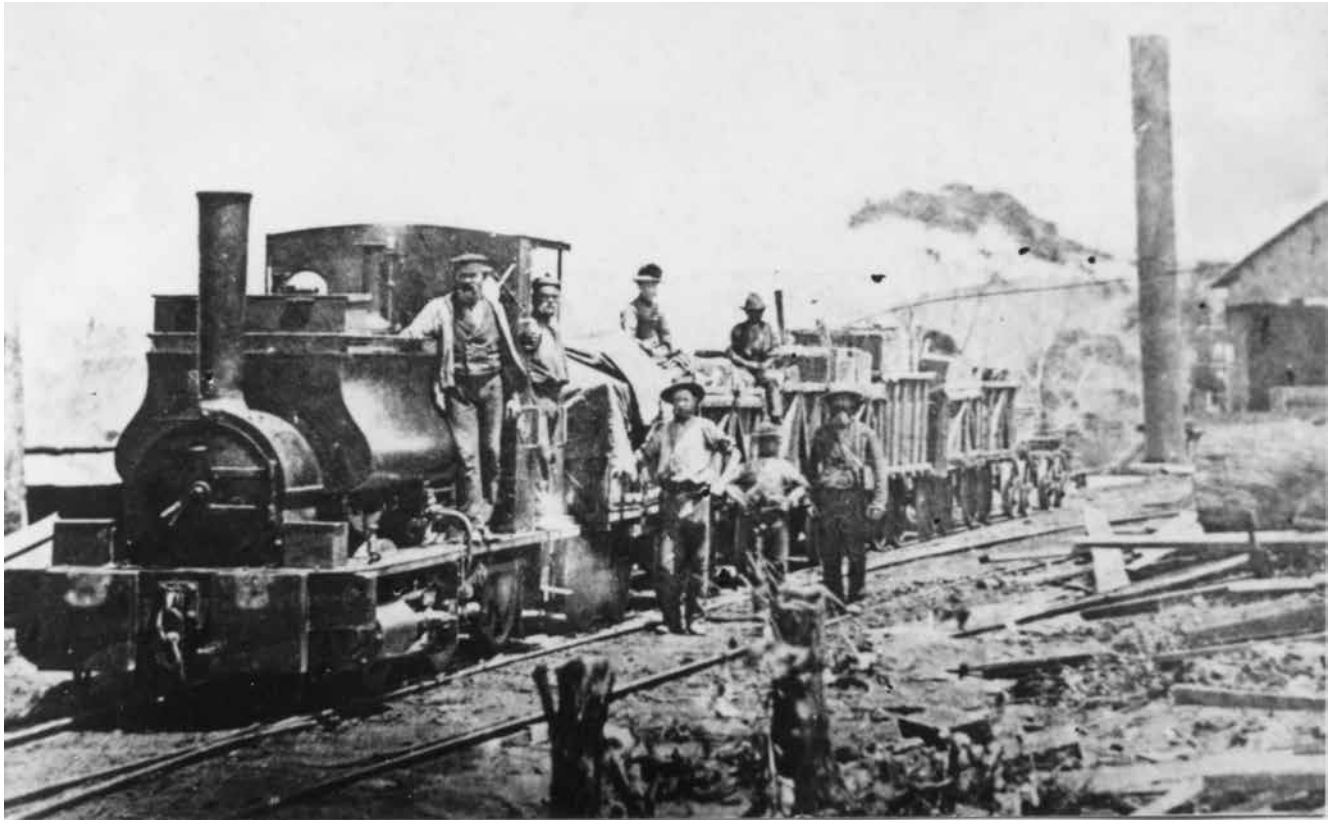
Two views of the BATCo's low-level tramway bridge across the mouth of Coffs Creek, one mile north of the sawmill. The construction of the NSW North Coast Railway forced the closure of the mill and tramway in 1913, and the bridge was later decked over for use as a pedestrian walkway. *Photo: Coffs Harbour City Library*

Sawn timber was taken by tramway onto the jetty where a steam crane at the outer end loaded it into the holds of small coastal steamers for the trip to Sydney. This was a skilled and often risky operation when steamers were pitching and rolling alongside the jetty in rough weather. Several scheduled cargo steamers called in at Coffs Harbour each week to load timber, supplemented by vessels chartered by BATCo from time to time to clear backlogs. The Company also purchased its own vessel to carry timber, a small steam coaster called *Trader*, in January 1913 and renamed it *The Bat*.[48] Arriving in Sydney, timber was often transhipped directly into the hatches of overseas vessels of the White Star and Aberdeen lines.

Prior to 1909 the jetty was equipped with a single 3ft 6in gauge horse tramway running its length. Loading coastal steamers with upwards of 100,000 super feet of timber was a slow process and Government was pressured to upgrade the facilities. In late 1909 the Public Works Department invited tenders to widen the jetty at the sea end, duplicate the tramline and install a 7-ton capacity derrick crane at the shore end. It did not however have a suitable narrow gauge locomotive to provide haulage as requested. The BATCo's heavy locomotives were not permitted on the jetty. Its sawn timber was loaded onto its own small fleet of flat trucks and hauled to the jetty by draught horses.

The firm of Langley Bros were big shippers of logs and hewn timber from both Coffs Harbour and Woolgoolga. It had its own small shipping line and chafed at the loading delays at Coffs Harbour due to the slow horse tram operating on the jetty. In July 1909 it acquired a small steam locomotive to haul cargo on Jetty rails, hiring it out for other users including the BATCo when not required to load the firm's own timber.[49]

Langley's locomotive was Andrew Barclay 0-6-0ST (180 of 1878) built in Kilmarnock Scotland and sold to the Australian Kerosene Oil and Mineral Company's works at Joadja, NSW. The Joadja works closed in 1904 and the locomotive was acquired by machinery dealers Cameron and Sutherland and, presumably, then sold to the Langleys. It acquired the nickname '*Langley*' and initially was quite useful in speeding up timber loading. It may not have been in good condition when received. Before entering regular service *'the flanges on the wheels had to be altered in order to run more smoothly'*.



Andrew Barclay (180 of 1878) on the Australian Kerosene Oil and Mineral Company's line at Joadja. Langley Bros purchased the locomotive in July 1909 to replace horses on the jetty tramway and speed up the loading of timber on their ships. It was known as 'Langley' *and was available for hire to other shippers including the BATCo. By 1911 it was basically worn out, and when the PWD brought in its own locomotive (Orenstein and Koppel 4365 of 1910) in January 1911, the old Andrew Barclay was set aside. Photo: Richard Horne Collection*

The NSW Public Works Department brought in a new 3ft 6in gauge 0-4-0T (Orenstein and Koppel 4365 of 1910) locomotive to work on the Coffs Harbour Jetty tramway in January 1911. It gained the nickname 'Germany' *and worked the jetty until 1915 when the jetty line was converted to standard gauge. It finished its career working on the construction of the Hume Reservoir in Victoria. Photo: Coffs Harbour City Library*

Coffs Harbour Jetty c1912 after the narrow gauge jetty line had been duplicated. The PWD's Orenstein and Koppel 0-4-0ST locomotive (4365 of 1910) hauls logs to a waiting cargo steamer berthed next to the outer jetty crane. The BATCo's sawn timber was handled in similar fashion. Two more cargo steamers lie at anchor waiting their turn to load. Loading and vessels in bad weather was difficult and dangerous until the protective north and south breakwaters were constructed. *Photo: NSW State Library*

The Public Works Department brought in its own jetty locomotive in early 1911 by which time *'Langley'* could only manage 60psi boiler pressure. It was offered to the Langley Bros' agent at Woolgoolga for jetty service but apparently he refused to accept it due to its poor condition. It is believed to have been scrapped when the Coffs Harbour Jetty tramway was converted to standard gauge in 1915.[50]

After some delay the NSW Government supplied a locomotive for Coffs Harbour Jetty in January 1911. It was a small Orenstein & Koppel (4365 of 1910) 0-4-0ST imported new for the NSW Public Works Department at a cost of £8776 9s 0d. The locomotive was shipped from Hamburg on the SS *Worms* on 15 October 1910 and arrived in Sydney in December. It was given the nickname *'Germany'* at Coffs Harbour, and its arrival probably hastened the overdue retirement of *'Langley'*. After the 1915 gauge conversion of the jetty tramways, *'Germany'* was eventually purchased by the State Rivers and Water Supply Commission of Victoria for use on the Hume Reservoir construction. It arrived there in 1921 and worked until 1935, after which it was probably scrapped.[51]

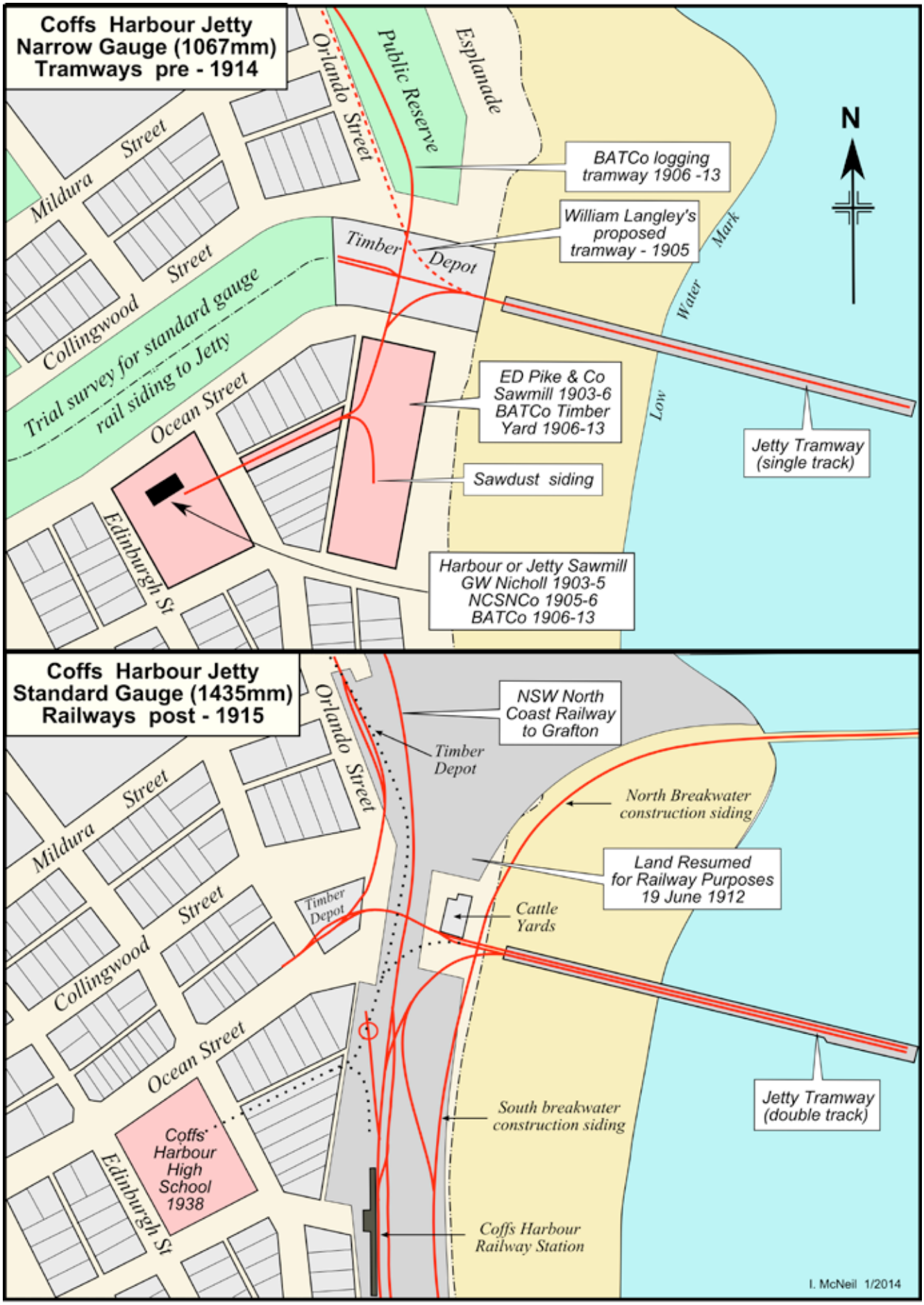
It is not known if either of the two narrow-gauge jetty locomotives *'Langley'* or *'Germany'* travelled over BATCo rails to pick up sawn timber from the mill. It seems unlikely that the Public Works Department would have allowed such an arrangement given that the BATCo was operating its own locomotive on the mill line. More likely the short curved connection between mill and jetty rails served as an exchange siding.

As an aside, the Langley's involvement in Coffs Harbour is an interesting little story in its own right. William Langley, of later Langley Vale fame, obtained a 1,000 acre cutting right just north of Coffs Harbour in 1905. He applied for and was granted Special Leases to erect a sawmill on Lot 54 at Coffs Harbour Jetty and a connecting three mile logging tramway.[52, 53] Unfortunately for Langley, his tramway lease ran through the property of one Arthur William John Foster. Relationships soured and Foster reneged on an access agreement. Langley took him to the Equity Court in November 1905,[54] and then on appeal to the High Court in May 1906[55]. In the face of Foster's continuing objections, William Langley finally made arrangements to detour his tramway around Foster's land.

Work on Langley's tramway started in October 1906 when tenders were accepted for clearing the formation between the jetty and Langley's sawmill site on the south bank of Coffs Creek. A survey of the proposed line was carried out in February 1907, and the SS *Cooloon* landed a cargo of tramway rails three months later.[56] But a year later actual construction still hadn't started.[57] At the time, William Langley was constructing the Juhles Mountain branch line on his Langley Vale Tramway and may have become financially over-extended. He never got round to building the mill nor the line to the jetty, nor the necessary tramway bridge across Coffs Creek. Part of his tramway lease was revoked in June 1912 to allow for construction of the NSW North Coast Railway. He did finally get a sawmill in Coffs Harbour though, purchasing McLean and Bushell's mill in Murdock Street in April 1912,[58] but it had no tramway connection.

BATCo's exit from Coffs Harbour

BATCo's sawmill and timber depot were on land held under 10-year Special Leases from the Lands Department.[59, 60] Both leases were due to expire on 31 December 1913 and the Company was informed they would not be renewed. Most of the waterfront was reserved for the planned NSW North Coast Railway. Coffs Harbour railway station was to be built on land occupied by the BATCo's timber depot, Pike's old mill site. The main line was going to cut the tramway and its connection to the jetty.



Construction of the NSW North Coast Railway and associated land resumption swept away the BATCo's presence at Coffs Harbour Jetty and spelt the end of the narrow gauge tramway system. Today the once-busy port and extensive rail yards are mere shadows of their former glory

Construction work on the railway got under way in early 1912 when gangs of navvies began clearing the scrub off the formation between Coffs Harbour and Boambee. The big task of filling up the sandy flats along the jetty waterfront to make a firm base for the railway yard began a few months later. Part of that job was to clear away the BATCo's huge sawdust heap.

In January 1913 the Public Works Department served notice on the Company to relinquish possession of the timber depot lease. In response the sawmill manager, acting under instructions from head office, posted notices on its property warning trespassers off under pain of prosecution. When a railway engineer attempted to start work on the railway station, he was refused entry.[61] A standoff lasting several weeks ensued, but the Government prevailed and the Company had to give way.

The BATCo initially proposed to move its sawmill and timber depot to Park Beach on the north bank of Coffs Creek. In early 1913 it applied for an eight acre Special Lease (1913-5 Bellingen) beside the tramway for this purpose. Mill workers, teamsters and local businessmen supported the plan and presented a petition to the Minister for Lands to allow a tramway connection from the new mill site to the jetty. It was to no avail. The Railway Commissioners refused to allow a private tramway to cross railway land and the scheme fell through. Sawmill and tramway operations continued until December 1913 when the employees were paid off and the sawmill shut down.[62]

The Lands Department put the Company on notice to remove the mill and infrastructure as the land was to be sub-divided into town blocks and sold at auction. The BATCo did nothing until the early hours of 21 January 1915 when the sawmill burnt down in a spectacular pre-dawn blaze. The alarm was raised by Mr Herb Berriman, driver of the jetty locomotive, and by a cleaner working on a railway locomotive who continuously blew its steam whistle to attract attention. In spite of the best efforts of the local fire brigade who were hampered by lack of water, only one lathe and a small quantity of belting was saved. The mill was insured with the Phoenix Insurance Company for £2000.[63] Some of the machinery including the mill's steam engines and boilers was subsequently salvaged and was auctioned off on 8 May.[64]

The BATCo's remaining assets at Coffs Harbour at that stage were the Shay locomotive, log hauler, tramway rolling stock and eight miles of tramway rails. These were purchased by the Coffs Harbour Timber Company in March 1915[65] for its Nondaville Tramway then under construction near Boambee. Presumably the Shay locomotive's last assignment at Coffs Harbour was recovering the rails from the logging tramway.

Although this marked the end of the BATCo's operations in Coffs Harbour, the Company continued sawmilling operations at Woolgoolga (1906–1914) – the only other operation involving a logging tramway – at Nana Glen (1913-1928), and Port Macquarie (1911–1929).

Extant remains in 2012

Nothing now remains of the BATCo's presence in Coffs Harbour. A century of continuous change has seen even the once-busy port and sprawling railway precinct reduced to mere shadows of their former glory. Coffs Harbour High School now occupies the mill site. Only a few traces of the logging tramway can still be found. There are some remnant earthworks on the south flank of Macauleys Headland. Bruxner Park Road follows the twisting formation of the line up through banana plantations to Bruxner Gap. At the Gap a walking trail follows the formation of the one mile branch line into Upper Bucca Bucca Creek valley where the remains of two trestle bridges over side creeks can be seen.

Acknowledgements

Grateful thanks are due to John Browning and Richard Horne for assistance with locomotive identification and history.

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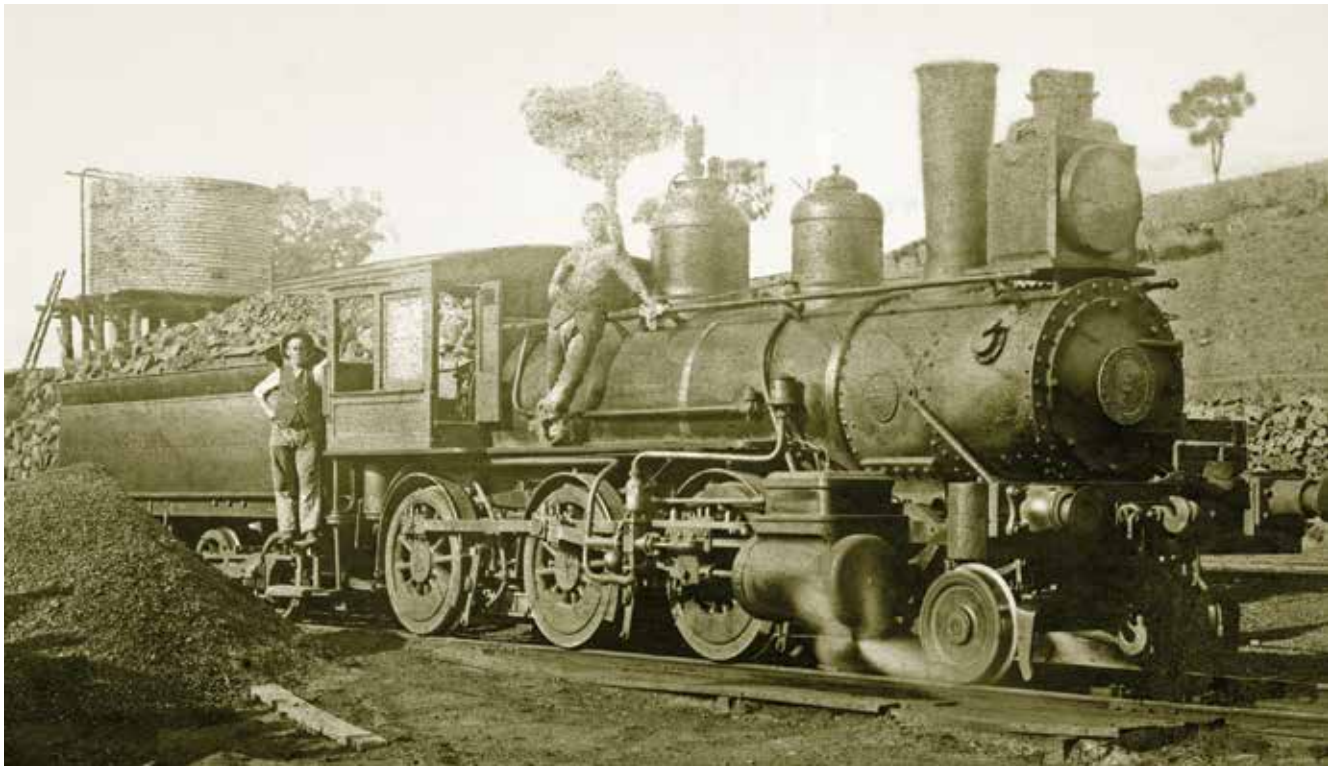


Baldwin locomotive MAJOR *or* McIVOR *at McIvor Siding. In this photograph no evidence could be seen of lining or the locomotive's name on the tender. This may have been due to lack of red sensitivity in the film.* *Photo: LRRSA collection*

MAJOR and *McIVOR*

by Frank Stamford

Following Rod Milne's article (LR237) on the Westralia Timber & Firewood Company's (WTFC) tramways and the Beyer Peacock designed G class 2-6-0 locomotives which worked on them, this article looks at a similar operation in Victoria. The WTFC was not the only Company operating tramways on Western Australia's eastern goldfields for the purpose of supplying firewood and mining timber. An even bigger operation was West Australian Goldfields Firewood Supply Ltd (WAGFS), for whom G class 2-6-0s provided the mainstay of its locomotive fleet, a total of 13 having been used by them.

One of the major shareholders in WAGFS was William Hedges, of Perth. Around 1904 he became aware that the goldmines at Bendigo, Victoria were having difficulty in sourcing mine timber and firewood. Hedges saw an opportunity to use the vast quantities of ringbarked trees being cleared from private property in the Mitchells Creek area, west of Seymour. Initially the plan was to build an 11 mile tramway from Mitchells Creek pastoral station to Seymour.

This plan was quickly superseded by a plan to build a 26 mile tramway taking an inverted "U" shaped route from Mitchells Creek to Tooborac. Though longer, it took a route through land which would provide a lot of firewood, and the cost of transport to the Bendigo mines by the VR would be much cheaper from Tooborac than from Seymour.

Hedges formed the McIvor Timber & Firewood Company Pty Ltd to carry out the new venture. The other major shareholder was Melbourne industrialist Herman Henry Schlapp. They lost no time in establishing a headquarters near Tooborac early in 1906, at a place known as McIvor Siding. By the middle of July, 20 miles of track had been laid, and carriage of firewood had commenced, whilst track construction continued.

The Company achieved such rapid progress by making use of the expertise that WAGFS had gained in Western Australia. Many of the people involved came from Western Australia, including the McIvor Company's manager, William Edgar Prince. Previously the engineer for WAGFS, Prince also had extensive railway contracting experience in New South Wales, South Australia and Western Australia.

It was intended to operate the McIvor tramway in a similar way to the WAGFS tramways. There would be a "mainline" from which temporary spurs would be laid to minimise the use of horse drawn vehicles, which were expensive to operate.

Choice of gauge

Wherever possible the track was to be laid on road reservations, with minimal earthworks, and earth ballast. This meant the track would be rough. The locomotives would also have to face a 1 in 23 grade against the load about 1½ miles north of Tooborac. A mixture of second hand rails were used with the heaviest at the Tooborac end of the line. About nine miles were 75 lb/yd steel, another nine miles were 60 lb/yd steel and iron, and almost eight miles were 42 to 45 lb/yd steel. The 42-45 lb/yd material was suited for the Western Australian 3 ft 6 in gauge G class 2-6-0. The engine (without the tender) of these weighed 25.2 tons. Their maximum axle loading was 7.7 tons.

At this time the Victorian Railways were disposing of many old locomotives, but none of these were built for roughly laid 42 lb/yd rails. The nearest was the S class Phoenix Foundry built 4-6-0 with a weight (engine only) of 33.9 tons, and a maximum axle load of 8.3 tons. However, in private ownership there were two identical 5 ft 3 in gauge locomotives of similar weight to the Western Australian G's. They were Baldwin 2-6-0s built in 1889, named *EMU* (builder's No.10067) and *KANGAROO* (builder's No.10075). They were purchased new by contractor Arthur T Robb for use on the Victoria Dock construction at West Melbourne.

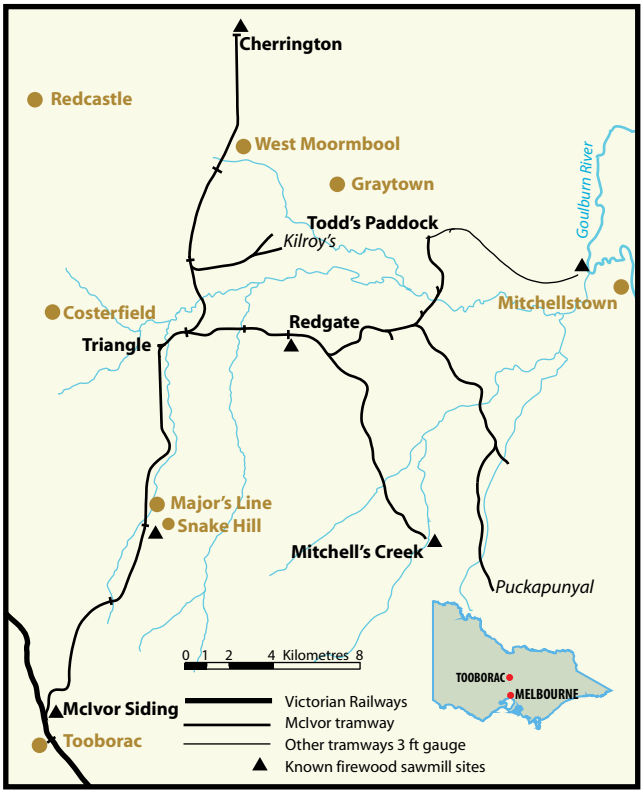
After this was completed in about 1893 it was believed that they were out of use, but there is a report of *EMU* derailing at

Robb's siding at Newport on 16 May 1903. Without tender they weighed 27.7 tons, only 10% more than the WA G class, and the total weight on the drivers was 22.3 tons. If the weight was spread evenly, then the maximum axle load was only 7.4 tons. This type of locomotive was a development of the American 4-4-0 which was highly suitable for roughly-built pioneering railways. Like the 4-4-0 they had equalising beams and three-point suspension, making them ideal for rough twisting track. It is difficult to imagine anything more suitable than these for the McIvor Company. They were purchased by the Company, and renamed *MAJOR* and *McIVOR*. Photographs show that *MAJOR* was No.10067 (*EMU*), but the name was on the tender, and tenders could be swapped.

When built they were finished to Baldwin painting style 215, olive green with gold lining, with unpainted planished steel boiler jacket and brass bands. The cab, domes, and cylinders were painted olive green. In the McIvor Company's operation the livery was black with red lining and much polished brass work. Like the Company's four-legged horses, of which they employed many, these two iron horses were always very well looked after, the fireman spending much time in polishing them.

What would the Company have done if these locomotives were not available? No records have been found on the Company's choice of locomotives or track gauge, but since there were no other suitable broad gauge locomotives available, the author believes that the availability of *EMU* and *KANGAROO* led to the choice of broad gauge. Without them, the obvious choice would have been 3 ft 6 in gauge, using the same G class locomotives used in Western Australia. This would have led to advantages in sourcing rolling stock, and familiarity with the operating conditions, since all the McIvor Company's expertise came from WA.

The choice of 5 ft 3 in gauge allowed the use of VR trucks on the tramway, but this was not a big advantage. The Company had firewood sawmills at McIvor Siding, and most of the traffic was trans-shipped at McIvor Siding, after being cut at these



The McIvor tramway on a typical road reservation just after construction in 1906. The road can be seen on the right. Firewood billets from nearby properties are stacked up along the tramway. This shows how the tramway was laid on the ground with minimum earthworks.

Photo: W.E. Prince

mills. The VR would only allow its trucks on the tramway if they were carrying through traffic between stations on the VR and sidings on the tramway. They would not allow the McIvor Company's trucks on to the VR, and they would not allow their own trucks to be used for Company's internal use on the tramway. And the VR certainly would not allow its locomotives or passenger cars to venture on to the tramway. When the Company ran passenger trains for sporting or social events, the passengers travelled in the Company's trucks.

In its first six years the tramway was extremely busy, but from 1912 when gold mining activities at Bendigo declined, the firewood traffic also declined. By this time firewood supplies had been depleted around Mitchells Creek, and the Company's operations gradually moved north, with a final terminus at Cherrington, 22 miles north of Tooborac. By 1926 firewood supplies in this area were also depleted, and the Company ceased operations on 30 June 1926. There was some agitation from local landowners for the Victorian Railways to take over the tramway. An enquiry by the Parliamentary Standing Committee on Railways prepared a report advising against this, due to lack of sufficient traffic.

MAJOR and *McIVOR* did not see out operations to 1926. By 1923 they needed major repairs, and since the Company knew they only had a few years of wood supply available, did not think that investment worthwhile. So they sought help from the VR. They were offered Baldwin W class 4-6-0 No.227 (builder's No.6633 of 1882). By VR standards its axle loading was very light (9.55 tons) and there being nothing more suitable available, they purchased it for £1500. It played havoc with their track. In 1934 they sold it back to the VR for £50. The VR promptly scrapped it. A very useful class in its time, this was the last W class to go. *MAJOR* and *McIVOR* were scrapped at McIvor Siding.

Source: Frank Stamford, *The McIvor Timber & Firewood Company*, Light Railway Research Society of Australia Inc., to be published August 2014.

‘Wheelbarrow Lines’: Caillet monorails in Australia

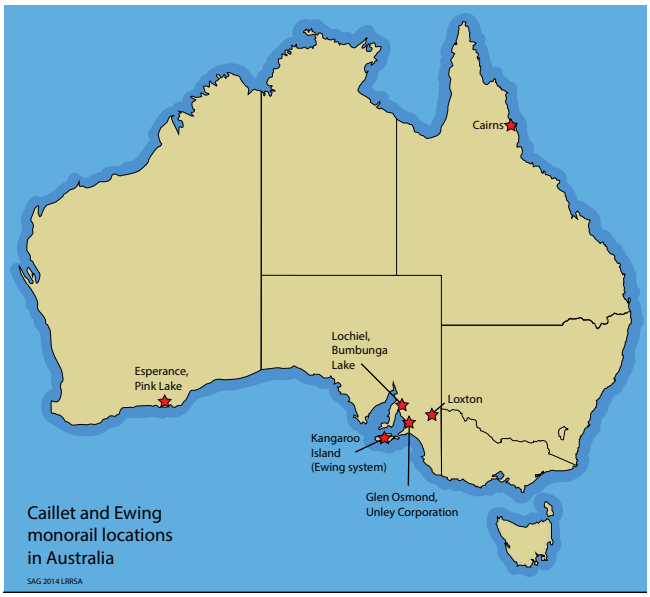
by John Peterson

We imagine that monorails are a new invention, but in fact they were built in the very early days of industrialisation when the main focus was in developing cheap efficient transportation without a fixed notion of what that might be. Henry Robinson Palmer built the first recorded monorail in 1823, when it was also patented. In an amazing feat of creative engineering he pioneered most of the key features that made monorails to this day function, such as ‘points’, and provided a reference point for all subsequent monorails. It is interesting that in arguing the efficiency of monorails in certain conditions he argued comparisons with plateways and canals as well as railways. His monorail was a supported design; two front and back wheels on a single rail supporting loads at either side below the rails. The rail was supported above the ground on trestles. Motive power was horses. The advantage of a single rail was that it was cheaper to construct and avoided the constant maintenance cost and risk of derailment associated with keeping two rails constantly in gauge. The use of trestles meant that heavy excavation of the roadbed, a major expense, was not needed.[1] A direct descendant of Palmer’s did not come to Australia until the early 1950s in the form of the Roadmachine monorail system.

In the mid 1890s the French engineer Henri Jules Caillet patented and marketed around the world [including Australia] a breathtakingly new take on the established monorail principles.[2] This was in the era where narrow gauge railways were being promoted to develop transportation and markets in places too expensive for traditional railways. *Narrow gauge railways or no railways?* was the concept pushed. In this sense the Caillet monorail was the ultimate ‘minimum gauge’ system designed for situations where even a ‘Decauville’ system was too expensive for the traffic. It kept a single rail for the reasons above but laid it directly on the ground on spaced sleepers following the principles already developed for portable track. This did away with one of the costs of Palmer’s system as well as the disadvantages of a raised track which made it an obstacle for other activities. The advantage of rail is that it reduces friction and allows greater loads to be carried than on roads. A very simple system, Caillet cleverly designed wagons for the single rail so that the vast majority of the load was centred over the rail and a person or draft animal balanced the load on the side but also propelled it.

In the Australian newspapers of the time they were called and promoted as ‘wheelbarrow lines’, and heavily promoted by G T Lane, Adelaide, who was agent for The Monorail Portable Railway Company, London. In the press G T Lane claimed ‘*The monorail costs about £200 per mile, as against the ordinary railway of from £3,000 to £4,000 per mile……. it shows an economy of 50 to 60 per cent at least on the cost of ordinary horse cartage, one horse doing the work of six …..*’ [3]. He had a demonstration line laid down for the Spring Show, Adelaide 1911. He actively quoted the system in tenders of the time and promoted and defended the system in the press.

In the press there were claims of Caillet monorails in numerous places all over the world including quite long ones. Apart from the Australian examples there is only hard evidence



of lines in Egypt and in the UK; both short and short lived.[4] It is hard to know if the other examples were hype, or reflect the nature of the system; portable and temporary in nature, and therefore unrecorded.

There seem to be number of potential disadvantages of the system. It has a wide profile because the person or draft animal was at the side of the wagon. In sloped terrain it might require earthworks to keep the propelling agent and the wagon level. All of the Australian examples and photos of the system in use show very flat surrounds. Another potential disadvantage is that a person or draft animal is required to keep the system balanced whether the wagon is loaded or empty and that effectively there can be only one wagon per person or animal. The variety of wagons illustrated in publications indicate attempts to maximize the load carried with a single wagon though the most common type used in practice was a flat wagon. People powered versions were 5ft wide while animal powered were 10ft wide. Wagons for bulky loads had two wheels at each end in the form of a bogie and the wagons were quite large.[5] Coupled wagons i.e. trains were not really feasible. Mechanization was not really viable either though Caillet did have ideas: ‘*The mono-rail should be adaptable to electrical work. It might be made so in two ways- either by using a light animal as the balance pole bearer, and electrical power to do the real traction or by carrying the balance pole on an arm with a light wheel on the ordinary road surface, the load being carried on the single rail which could be most cheaply alongside roads not suited to heavier systems.*’[6] I think that if traffic reached levels where this might be required [proving the system a success in a way] then normal rail systems might then be warranted anyway.

There were six recorded Caillet systems in Australia:

- Cairns, Qld. 1909: used wooden rails; probably locally built from ideas gleamed from the technical press; for construction of a reservoir.
- Bumbunga Lake, Lochiel SA 1910
- Loxton Farm, SA early 1911
- demonstration line, Adelaide Spring Show, November 1911
- Unley Corporation, Mitcham SA 1912
- Pink Lake, Esperance WA 1914

Caillet monorails seem to have had their brief heyday in the period from the very late 1800s up to and including World War I. During the First World War 1,404 hand propelled wagons were produced to assist in handling materials through the mud to the forward trenches. It seems highly possible that Australian

troops came in contact with them. Hudson was one of the companies that made them during the war and continued to offer them in its catalogue.[7] After the war the availability of cheap mass-produced trucks and ratepayer demand for local road development made the intermediate transportation role of the Caillet system redundant. The only known preserved example of the Caillet system in Australia (and the world) is a rebuilt wagon preserved at Loxton Village Museum SA. Another may still exist at Bumbunga Lake SA.

Ewing Monorail

For the sake of completeness this system also needs mention because it was proposed as an alternative to the Caillet monorail by the SAR and a demonstration vehicle was built but never used in service.[8] There is confusion about which system was invented first but Ewing describes his system as overcoming weaknesses in the Caillet design. The basic idea is similar but Ewing places a large wheel on the balance pole. This reduces the width of the vehicle and also means that wagons can be coupled together to form trains as well as not needing animals to balance empty wagons. Potentially they can be easily mechanised with a power unit at the front. A major disadvantage is the fixed track of the support wheel which could create ruts.

The SAR prototype was designed for a proposal for low cost transportation for Kangaroo Island and seems peculiarly over engineered and therefore costly, defeating a major advantage of a lightweight monorail. The wagon is comparable in size to a human powered Caillet wagon but propelled by a horse, severely underutilising the power available. The roadbed proposed seemed to be an engineered road with a rail in the middle of it having nether the advantages of a monorail

CAILLET'S SINGLE-RAIL RAILWAY.

(*For Description, see Page* 196.)

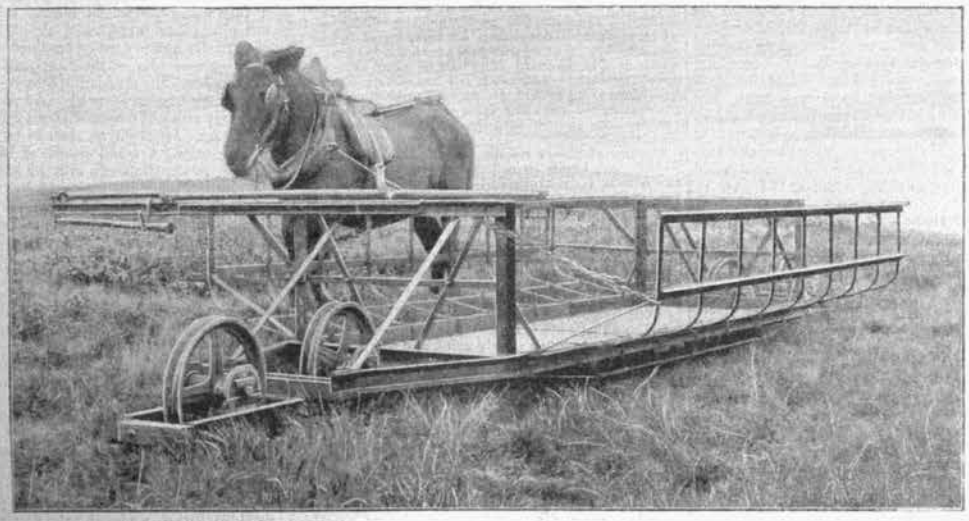


FIG. 9.

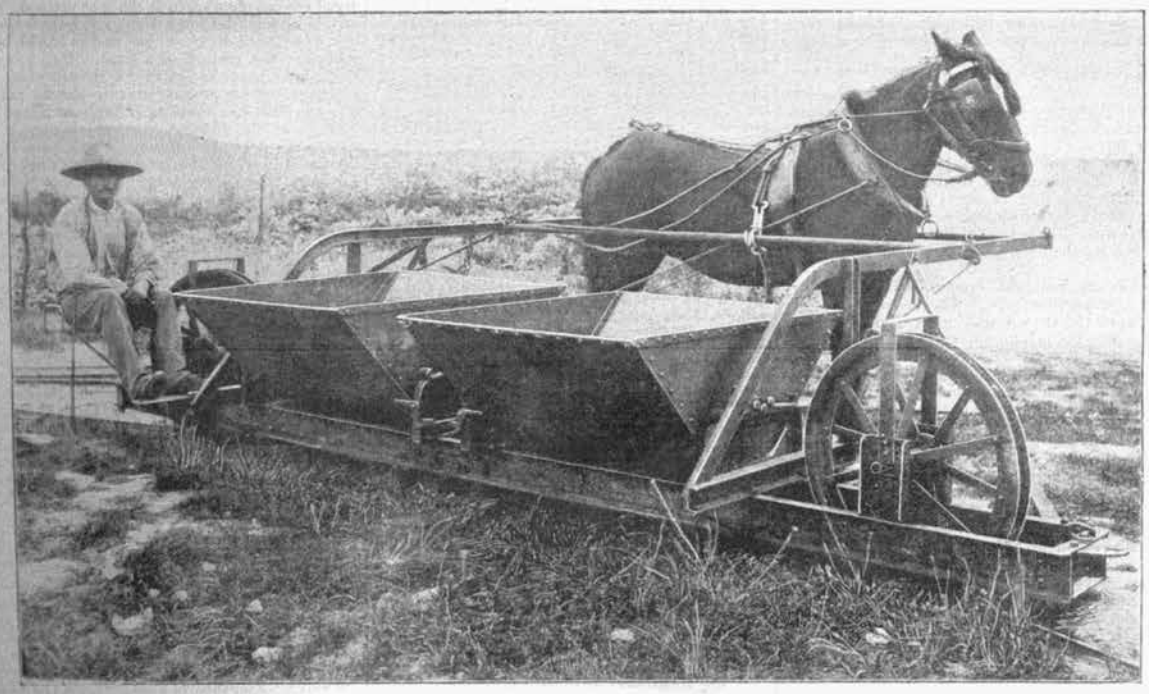


FIG. 10.

or a road. One can't help feeling sorry for the residents of Kangaroo Island who ended up with nothing except an expensive report.

Early Caillet monorails

1. Cairns 1909

The first Caillet Monorail [and one of the first monorails in Australia] is in some ways the most surprising. This was built in Cairns in 1909 to facilitate the building of a reservoir by an alderman of the local Shire, Mr J Toohey. The reservoir is believed to be situated near Whites Gap and may be the one still shown on maps. This monorail system was not a standard product based on the Monorail Portable Railway Company. In fact it seems to be a remarkable application based on Toohey engineering the locally built system using ideas gleaned from the technical press of the time. The rails of the traditional Caillet system were 9 and 16 lb/yd steel rails which were sold with attachable steel sleeper sections, cast parts to make crossings, points; even a 3 way point which was clearly modelled on the style of the Decauville portable track system. Steel rail was described as important in reducing friction and increasing the load capacity of a horse. Palmer, in his first system also noted the need to have a curved upper steel section on top of his wooden rails to allow for the rocking side to side motion of the wagon caused by the gait of a horse. He argued that this had only a slight effect on the efficiency of the system. Toohey used a local hardwood for the rails which would have needed a much larger profile than light rail and require the wheels to be made to suit. This is probably the only item that would have been specially manufactured, as the other parts for wagons were readily available. It would be interesting to know if he used square section for the rail or if it had a rounded top when built. From the above discussion it would seem that the top surface would gradually become rounded with use over time.

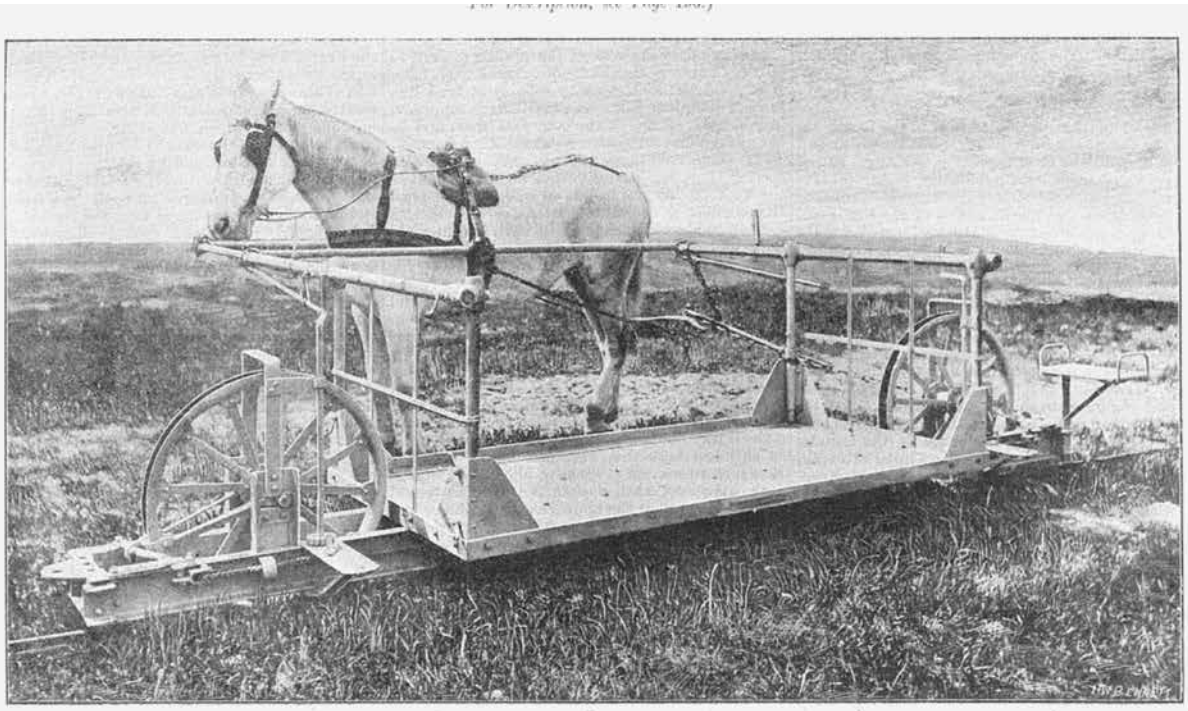


Fig. 7.

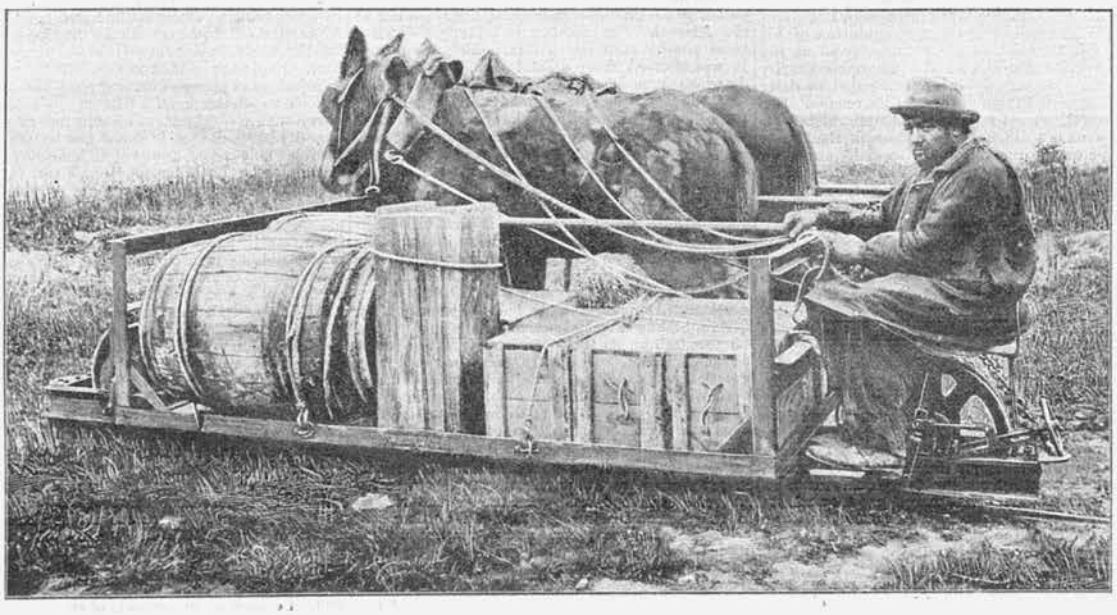


Fig. 8.

CAILLETET'S SYSTEM OF SINGLE-RAIL RAILWAY.

(For Description see Page 166.)

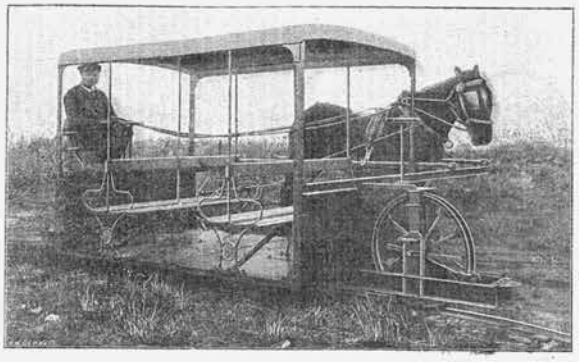


Fig. 4. Passenger Carriage.

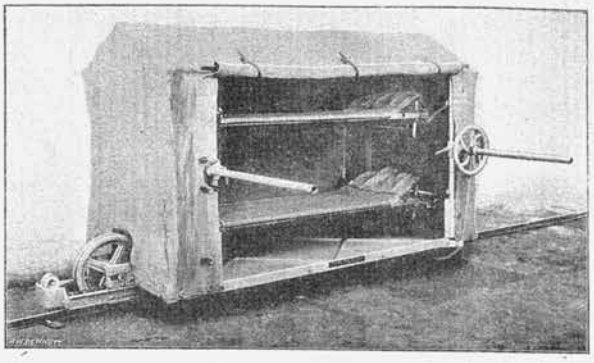


Fig. 5. Ambulance Car.

Fig. 6. Hand Truck.

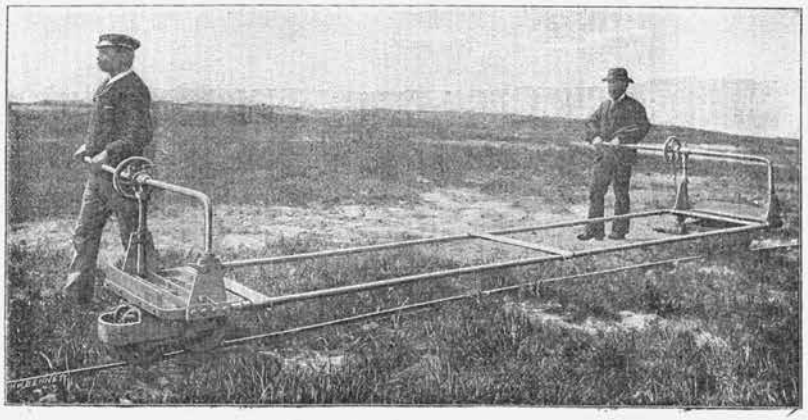
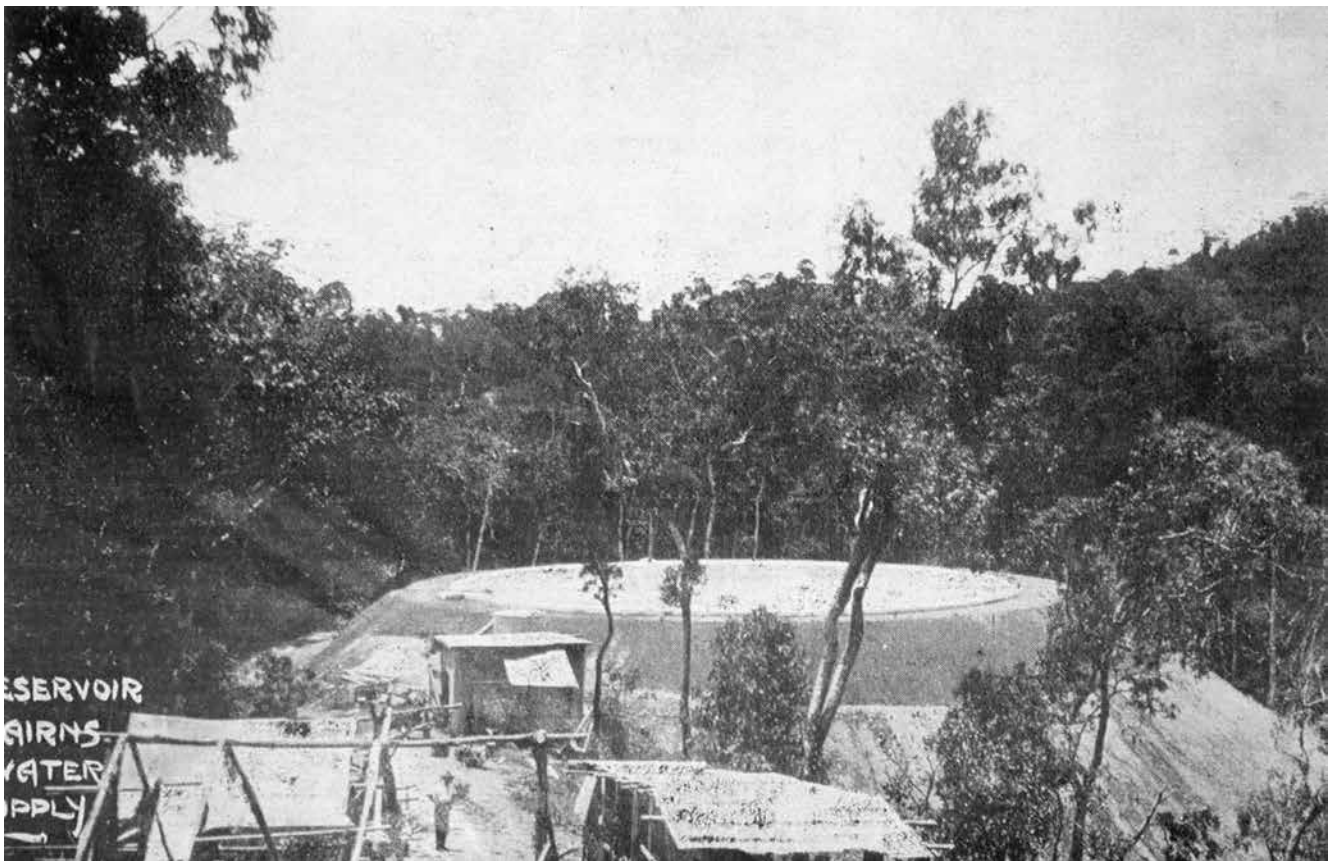


Fig. 7. Open-Framed Hand Car.



Top, and previous pages: Images from Engineering *showing uses for Caillet's system. Figure 7 on page 20 shows the most common type used locally. Above: Whites Gap reservoir Cairns, which was constructed using a locally designed monorail system.* *Photo: Cairns Historical Society*

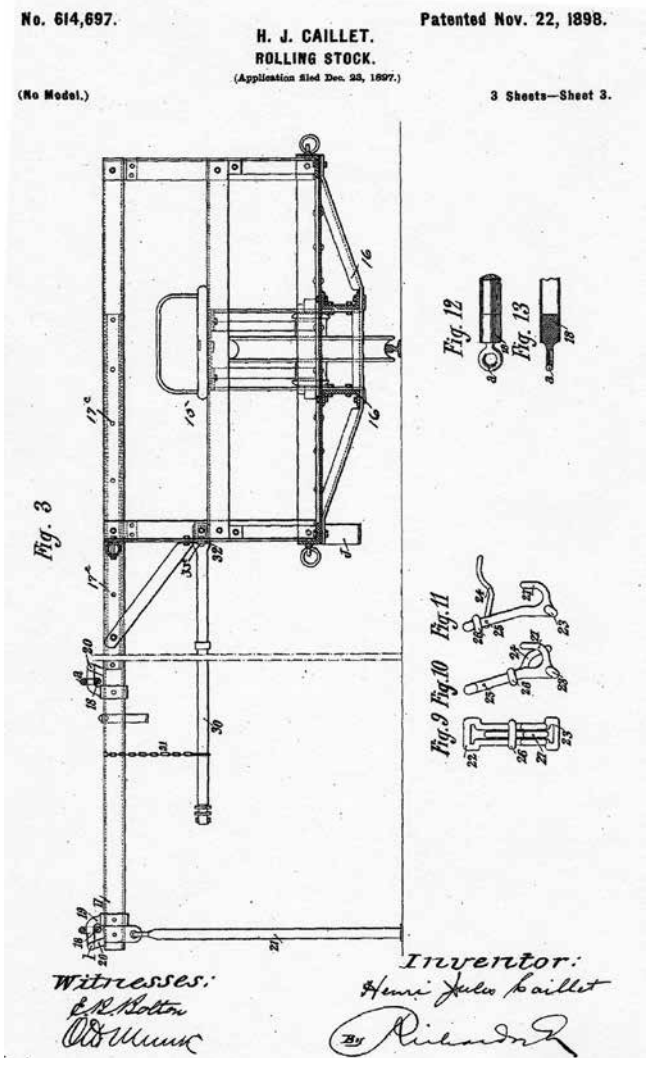
The only information available is a few articles in the *Cairns Post*. The Cairns Historical Society found no mention in its archives though I remain hopeful that a photograph may exist buried in a family photo album somewhere. The articles are shown below. The last mention suggests that the monorail was deemed as a success and the date of this article may suggest that the line may have existed for a few years.

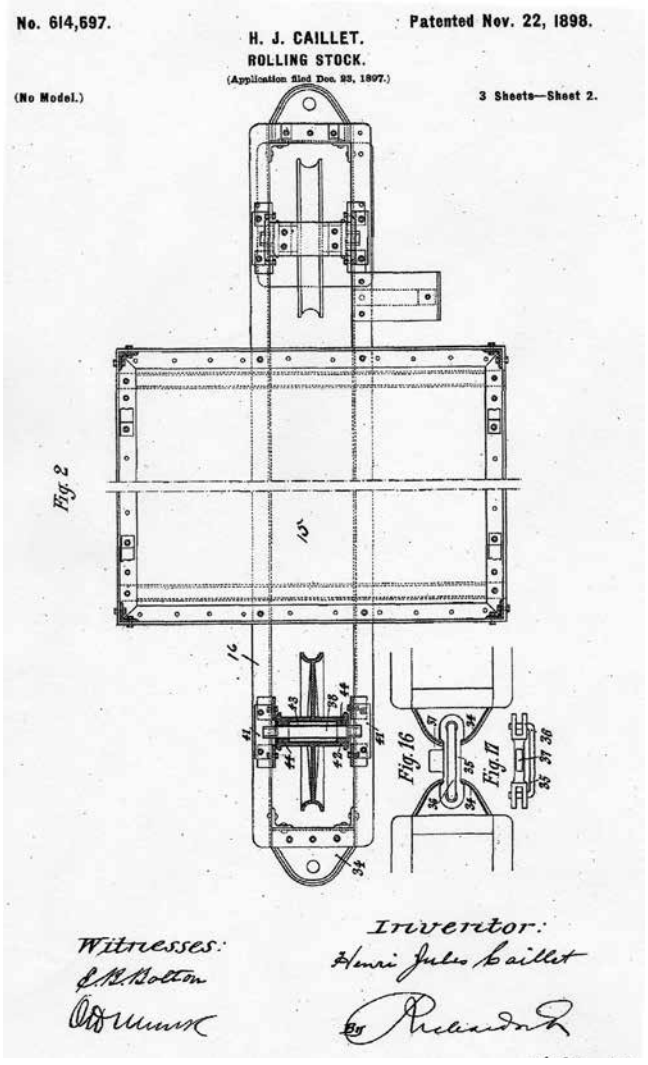
Cairns Post Monday 20 December 1909, page 3:

Monorail Cartage

A NOVEL INNOVATION

A subject which has formed the topic of conversation for some weeks has been the monorail cars which are being worked by Mr. J. Toohey. The latter recently secured a contract for the cartage of 1000 yards of metal to the waterworks reservoir, some miles out of town from the Council's stonebreaker and considered the best means to carry out his work was to introduce the monorail cars. These cars are not used extensively in North Queensland and running as they do on a single rail it might at first be thought that their success in the undertaking of Mr. Toohey would be questionable. On Friday afternoon a representative of the "Post" was afforded an opportunity of inspecting these cars and travelling on one to within a mile or so of the waterworks reservoir. The rail is a wooden one constructed of Pender [a local hardwood variety] *and the cost of the cars and rails, for the distance of over three miles to the terminus will amount roughly to £250. The car itself rests on two iron bars, there being two wheels, one at the front and back. The motive power used is the reliable equine and the latter is attached to the side of the car thus preserving its equilibrium. At present pipes are being carted to the end of the track and a yard of metal can be carried on each car, though 2 yards could be taken if necessary. The chief characteristic of the monorail car is its simplicity, and Mr. Toohey decided upon the undertaking from some designs he had seen. Of course there were initial difficulties to be got over such as accustoming the horses to their somewhat novel vehicle but they are completely eclipsed by the success which has been made of the monorail here. The track for the most part of the way is fairly level and, when the horse is broken in, the car and its load is pulled along with ease. In fact they can be so arranged that a man can push them when loaded. The rail leads out from the reserve where the crusher is situated past the morgue thence under the railway bridge up a short slope over sandy country for a short distance further on the footing for the horses is all that can be desired and the run to the reservoir presents no difficulty. Some pretty glimpses of scenery are seen when passing over the old West Cairns Road and rounding one bend a splendid view of "Fairview" is obtained. In five days last week 144 pipes were carted along the track to the workmen there being no difficulty in the loading and unloading. Good progress is being made with the laying of the pipes which are now within less than a mile of the reservoir and each day lessens the time when the long looked for reticulation of the town of Cairns will be an accomplished fact. Mr. Toohey is to be congratulated upon the success of his scheme. When he first entered upon it the whole thing was an adventure but his energy and resourcefulness dispelled all risks. He informed the representative of the "Post" that he would be willing to allow his cars to be run on any Sunday for the benefit of the Hospital and the novelty of a ride on a monorail car should attract plenty of participants.*





Patent drawings for an animal hauled two wheeled Caillet car. The bracket at the end of the car can be fitted with a seat for the driver. John Peterson collection

Remains of a Caillet monorail truck in 1992 at Lake Bumbunga, Lochiel SA. *Photo: Norman Houghton*

Cairns Post Monday 29 December 1909, page 4:

THE MONORAIL

The monorail installed by Mr. J. Toohey along the pipe track to the reservoir is working well. The simplicity of the contrivance precludes any hitch and the horses having been thoroughly broken in they readily take to their somewhat novel vehicle. This week a commencement is to be made with the carting of gravel to the reservoir.

Cairns Post Monday 03 June1910, page 5:

Describes a special meeting to discuss creating a racetrack in Cairns. One of the reports describe getting lost in sandy country '*They came back via the mono-rail track'*

Cairns Post Monday 14 October 1914, page 4:

Cairns Town Council Monthly Meeting

From The Town Clerk, Coolangatta, making inquiries as to the working of the monorail, the cost of laying and the weight carried by same, also asking if some tar erees [sic] *could be procured.-Decided to refer the writer to Mr. J. Toohey.*

2. Lake Bumbunga SA 1910

Readers are referred to a series of excellent articles by Norm Houghton, '*The Cheetham Chronicles*' in *Light Railways.* This describes various salt railways used by Cheetham Salt Limited and the companies absorbed by it. This is probably the most comprehensive explanation of how tramways were used in the salt industry over time. The Castle Company was one of a number of companies operating salt harvesting concessions on Lake Bumbunga in SA from 1910 until around 1923. The Castle Company operated a Caillet monorail to bring salt from the harvesting zones to the bank where it was stacked before being washed and bagged. Four wagons were used. A photo of the remains of a flat wagon and the dimensions quoted in the article [13'6" x 5'] suggest that they were human powered versions very similar to Caillet illustrations. This suggests that G T Lane, the SA agents of Caillet may have been the supplier. Norm speculated that they may have required a great deal of shovelling on and off the wagon. But after thinking about loading a V skip by hand, I think their low height would be easier to load and the monorail nature of the wagon would allow it to be tipped over at the destination and the salt to slide off the flat base, maybe with shovel assistance. Norm quotes a 1921 report as stating the monorail as 'peculiarly flexible and well adapted for keeping up to the salt'.[9] It was eventually replaced by a conveyor belt. This seems to have had the longest life of any of the Caillet systems used in Australia. The remains of a wagon was photographed in 1992 at Lake Bumbunga by Norm Houghton who understands that it still exists.[10] It is hoped it can be suitably preserved.

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6. *Electrical Review*, Vol 44, 19th May 1899, p820
7. *Light Railways* 112, April 1991, rear cover
8. Jolley, Bridget, "Thin lines of transport: The short life of the monorailway in early twentieth-century South Australia", *Journal of the Historical Society of South Australia*, Number 39, 2011
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10. Norm Houghton personal correspondence.

Thanks and acknowledgements

Monorails are a rather obscure light railway interest. Bridget Jolley, David Whiteford and Norm Houghton have all helped in bringing this topic to light. Thanks also to Bette Langham and Tracey Bye at Loxton Historical Village and Nicky Horsfall, Manager Research Centre, Cairns Historical Centre.

Editor's note: *Two further articles are in preparation covering the use of monorails in South Australia, and at Pink Lake, Esperance Western Australia.*

Industrial Railway NEWS

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

NEW SOUTH WALES

GLENCOE AGRICULTURAL TRAMWAY, Southern Tablelands
(see LR 234 p.22)
610 mm gauge
In the true spirit of cooperation between light rail operators there have been some recent transfers of stock and equipment from the Tinbeerwah Mountain Tramway on the Sunshine Coast to the cooler climes of the Southern Tablelands, near Murrumbateman. This includes a 32 year old ballast wagon, 14lb/yd rail and an ex QGR Lincoln arc welder/240 volt generator, powered by a Lombardini petrol engine. After some minor refurbishment, all items are in service, with the welder fitted on the frame of a 6ft bin, ex Cattle Creek near Mackay. This and another identical bin were buried in a creek for many years until rescued in 2010 through the efforts of Peter MacFarlane, a local cane famer in the Mackay area. Despite the harsh environment, the wagons just needed some minor attention mainly flushing and oiling the axle boxes before entering service at Glencoe.
This operation has a total of 16 wagons including three 6 foot cane bins or trucks from Cattle Creek Mill plus two 8 footers and one 6 footer from North Eton Mill.
Gary Barker and Russell Savage 5/14

QUEENSLAND

BUNDABERG SUGAR LTD, Bingera Mill
BUNDABERG SUGAR LTD, Millaquin Mill
(see LR 237 p.18)
610mm gauge
Bingera Mill is set to start crushing on 21 July after repairs to equipment damaged in a fire on 14 May. Millaquin Mill was expected to start crushing three weeks before Bingera and some cane will be trucked across from the north side of the Burnett River in those weeks.
Bingera and Millaquin expect to crush 1.45 million tonnes of cane this year and hope to expand that to 2 million tonnes within five years.
Bingera Mill's new branch line of two kilometres at Witts Road was completed by mid June. This line and its new siding will substantially decrease vehicle movements on Rosedale Road and haul distance for infield transport.
Seen in storage at Bingera Mill on 29 April were Com-Eng 0-6-0DH (AJ2359 of 1962) and Ruston & Hornsby 0-6-0DH *ST.KILDA* (rebuilt EM Baldwin 6/2179.1 6.67 of 1967).
Luke Horniblow 4/14; Mitch Zunker 5/14; ABC Rural 20/6/2014; *News Mail* 1/5/2014, 14/5/2014, 13/6/2014, 21/6/2014

DOWNER EDI, Maryborough
(see LR 234 p.22)
1067mm gauge
Seen in the workshops here on 29 April was ex QR Walkers B-B DH DH73 (718 of 1974). The bogies were out and it was obviously undergoing some sort of refurbishment.
Luke Horniblow 4/14

ISIS CENTRAL SUGAR MILL CO LTD
(see LR 237 p.18)
610 mm gauge
Commenced in February 2013 and completed by February this year at a cost of $17 million was a realignment of the Isis Highway which included an overpass of a mill line between Hendricksens and Hapsburg Roads. This eliminated a level crossing with a history of serious incidents.
Owing to dry conditions, Isis is only expecting to crush 1 million tonnes of cane this year with a start date of 14 July.
News Mail 1/5/2014, 27/6/2014

MACKAY SUGAR CO-OPERATIVE ASSOCIATION, Mackay mills
(see LR 237 p.19)
610mm gauge
The Mackay mills got off to a staggered start to the crushing during June as, owing to wet weather, not enough cane was available for all mills to start together. Marian Mill started on 2 June with Racecourse Mill and Farleigh Mill starting up in the days following.

Top: *Some interesting rolling stock at North Glencoe Siding on the Glencoe Agricultural Tramway on 6 May. Left to right: The ex Tinbeerwah ballast hopper, ex Cattle Creek Mill cane bin with welder and the ex Cheetham Salt Days 0-4-0PM. Photo: Gary Barker* ***Above:*** *Seen undergoing work at Downer EDI in Maryborough on 29 April is their Walkers B-B DH, ex QR DH 73 (718 of 1974). Photo: Luke Horniblow*

Racecourse Mill's EM Baldwin 0-6-0DH *MELBA* (12512.1 7.85 of 1985) which was fitted with a new Mercedes Benz motor and Allison automatic transmission during the slack season, was seen on a test run on 29 May and was later seen in service on 23 June and 25 June. The cabside number "15" has been removed.

To improve cane train visibility, Mackay Sugar has replaced the reflectors on all cane bins and installed additional reflectors during the maintenance season. Also, it is currently trialling a reflective paint with 50 cane bins painted white.

Scott Jesser 5/14, 6/14; The Observer 3/6/2014; Daily Mercury 17/6/2014

MACKAY SUGAR CO-OPERATIVE ASSOCIATION, Mossman Mill

(see LR 237 p.19)

610 mm gauge

This mill is taking approximately 700,000 tonnes of additional cane from the Atherton Tableland, more than doubling its normal crush of around 500,000 tonnes. To cope with the increase, it started crushing in May and has gone to continuous crushing. Cane is brought down from the tableland by B double semi trailers to a road-rail interchange that has been established on the Cassowary line at the foot of the Julatten Range. There are three of the mill's 13 tonne bins on each B double and these are slid across onto bogie skeleton wagons at the interchange.

Com-Eng 0-6-0DH *FAUGH-A-BALAUGH* (AL4190 of 1965) has been renamed *FAUGHY.*

Not noted in these pages before, has been the passing on of Malcolm Moore 4wDM *STUMPY* (1042 of 1943) to the Bally Hooley Steam Railway at Port Douglas. This had occurred by 2012.

Matthew Palmer 6/14; John Browning 6/14; Luke Horniblow 6/14

Top: *Millaquin Mill's Bundaberg Foundry B-B DH* ELLIOTT *(002 of 1991) being fitted with a new motor at the Bingera Mill garage on 29 April. Photo: Luke Horniblow* ***Centre:*** *Mossman Mill's road-rail interchange on the Cassowary line at the foot of the Julatten Range on 10 June. Photo: John Browning* ***Above:*** *Racecourse Mill's EM Baldwin 0-6-0DH* MELBA *(12512.1 7.85 of 1985) back in service at Munburra 6 on 25 June after a slack season repowering. Photo: Scott Jesser*

Industrial Railway NEWS

TULLY SUGAR LTD
(see LR 236 p.23)
610mm gauge
Tully Mill started this year's crush on 17 June.
Walkers B-B DH *TULLY-6* (653 of 1970 rebuilt Walkers 1993) was seen in service on 29 June after being fitted with a new Cummins motor during the slack season.
Luke Horniblow 6/14; Dale Thomas 6/14

WILMAR SUGAR (HERBERT) PTY LTD, Herbert River Mills
(see LR 237 p.19)
610mm gauge
Victoria Mill began crushing on 24/6 and Macknade on 26/6, staggered owing to wet weather.
The Suzuki Jimny hi-rail vehicle has been noted to have the radio call sign Linecar 2.
During this year's slack season, Victoria Mill's Walkers B-B DH *HERBERT II* (612 of 1969 rebuilt Walkers 1993) was refurbished and fitted with a new MTU motor. As of cut off date for news, it was still being commissioned.
Assembly of 145 new bins for the Herbert was commenced at the start of June with most components coming from China. Of these, 135 will be the standard 8 tonners and the remaining ten will be 11 tonners on bogies. Assembly is taking place at the Wilmar workshop in Ingham and the bins are being road delivered to Rinaudo's siding which is a short distance away.
Two loco hulks stored at Macknade Mill for many years were taken away to Simsmetal in Townsville for scrap on 18 June. They were Clyde 0-6-0DH, DHI.2 of 1954 and Motor Rail Simplex, 11255 of 1964. The former was originally at Inkerman Mill

Top: *Tully Mill Walkers B-B DH Tully-7 (657 of 1970 rebuilt Tulk Goninan 1994) lying on its side after encountering some dirt on a road crossing at the mill on 28 June. Photo: Luke Horniblow* ***Centre:*** *Victoria Mill's Walkers B-B DH* HERBERT II *(612 of 1969 rebuilt Walkers 1993) outside the locoshed on 20 June following its slack season refurbishment. Photo: Christopher Hart.* ***Above:*** *Victoria Mill's Hudswell Clarke 0-6-0* HOMEBUSH *(1067 of 1914) passes through Ingham with the first rake of cane for the 2014 season on 23 June. Photo: Hayden Quabba*

and the latter originally at Harwood Mill. By 20 June, both had already been loaded on a ship.
To commemorate its 100th anniversary this year, Victoria Mill's Hudswell Clarke 0-6-0 *HOMEBUSH* (1067 of 1914) was used to haul the first rake of cane to the mill for the season. This actually happened on 23 June, the day before Victoria started up, to avoid disruptions to the normal running of rail traffic. A load of 25 x 8 ton bins was hauled from Milton's Loop on the Abergowrie line just west of Ingham to the mill and extended to Scuderi's siding on the 4 Mile line to enable the media to get more footage.
Owing to loco breakdowns at Victoria, a swap of locos between that mill and Macknade Mill occurred on 27 June. Macknade's EM Baldwin B-B DH *DARWIN* (6171.1 9.75 of 1975) with its Clyde brakewagon was swapped for Victoria's Clyde 0-6-0DH *PERTH* (69-682 of 1969).
Editor 6/14; Ryan Vicarioli 6/14

WILMAR SUGAR (INVICTA) PTY LTD, Invicta Mill, Giru
WILMAR SUGAR (KALAMIA) PTY LTD, Kalamia Mill
(see LR 237 p20)
610mm gauge
Both of these mills started crushing early in June.
Clyde 0-6-0DH *KALAMIA* (67-569 of 1967) was seen in service for Kalamia Mill at Central Junction on that mill's system on 7 June. It had last been noted on the loco roster at Invicta Mill.
Luke Horniblow 6/14

WILMAR SUGAR PTY LTD, Pioneer Mill, Brandon
(see LR 237 p20)
1067mm gauge
This mill started crushing early in June.
During the slack season, the sugar line was relaid. This is the branch owned and used by the mill that is also used by Aurizon sugar trains working to the mill.
Luke Horniblow 5/14, 6/14

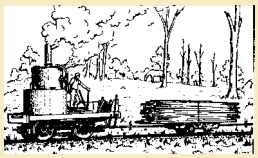
WILMAR SUGAR (PLANE CREEK) PTY LTD, Plane Creek Mill, Sarina
(see LR 237 p.20)
610mm gauge
During the slack season, Com-Eng 0-6-0DH 7 (FC3776 of 1964) was fitted with a new Mercedes Benz motor and Allison transmission. Com-Eng 0-6-0DH 4 (FA1037 of 1960) is expected to be fitted with a new Mercedes Benz motor next year.
Com-Eng 0-6-0DH D8 (FC3777 of 1964) was being used on navvy trains during April, May and June.
Luke Axiak 5/14, 6/14; Luke Horniblow 4/14

WILMAR SUGAR (PROSERPINE) PTY LTD, Proserpine Mill
(see LR 237 p20)
610mm gauge
Crushing commenced here on 24 June.
The mill's 1100 cane bins have all been fitted with Willison couplings this year.
Whitsunday Times 29/6/2014

OVERSEAS

FIJI SUGAR CORPORATION
(see LR 237 p.20)
610mm gauge
Crushing at Penang, Labasa and Rarawai Mills was set to get underway during June with Lautoka starting on 1 July.
The Fiji Roads Authority and the Fiji Sugar Corporation were working together in June to repair a damaged road and rail bridge in Koronubu, Ba. It was receiving major structural repairs and expected to reopen in July. About 50,000 tonnes of cane is hauled across this bridge.
Slack season work on the Labasa Mill rail system has included major maintenance on the Wainikoro line and an upgrade of the Nagigi line.
The Fiji Times Online 14/5/2014, 17/5/2014, 6/6/2014, 7/6/2014; Fiji Village 9/6/2014

Kalamia Mill's Westfalia B-B DH STRATHALBYN *(13863.1 8.91 of 1991) at Maidavale Junction on 22 June. Photo: Luke Horniblow*



LRRSA NEWS

MEETINGS

ADELAIDE: "Dry Creek salt fields and explosives magazine."
We will be discussing the Dry Creek salt fields and explosives magazine. News of light rail matters will be welcome from any member.
Location: 150 First Avenue, Royston Park
Date: Thursday 7 August at 8:00pm

BRISBANE: "The restoration of *Jack*"
David Rollins is presenting a DVD of rebuilding Krauss Locomotive *Jack* B/N 6063 of 1908 at Lake Macquarie Light Rail Museum at Toronto NSW.
Location: BCC Library, Garden City Shopping Centre, Mount Gravatt. After hours entrance (rear of library) opposite Mega Theatre complex, next to Toys'R'Us.
Date: Friday 8 August at 7:30pm

MELBOURNE: AGM, followed by "Indian narrow gauge".
Following the Annual general meeting, an Indian narrow gauge presentation from Phil Rickard will be shown, covering the 1970s and 80s, featuring 2ft 6in gauge operations and the Delhi railway museum's monorail.
Location: Ashburton Uniting Church Hall, Ashburn Grove, Ashburton.
Date: Thursday 14 August at 8:00pm

SYDNEY: "Cobar: The tramways, railways and mines."
Bob McKillop is very well acquainted with the industrial history of the copper mining town of Cobar, situated in the far west of NSW. Bob has researched in detail the fascinating history of this mining field for many years. The railways varied in ownership and gauge from the Government system to the narrow gauge firewood tramways to the Great Cobar Company's standard gauge electric railway, of which bits and pieces remain, including a locomotive on display at the local museum. A comprehensive selection of photos will illustrate the presentation.
Location: Woodstock Community Centre, Church Street, Burwood, (five minutes walk from Burwood railway station).
Date: Wednesday, 27 August at 7:30pm

LETTERS

Please send letters to:
Editor: Scott Gould
PO Box 21, Williamstown, Vic 3016
e-mail: editor@lrrsa.org.au

Dear Sir,

South Maitland Railways Pty Ltd (a division of H&M Holdings Pty Ltd) and Hunter Valley Training Company Pty Ltd, East Greta Junction

The title of the report on pages 35 and 36 of LR 237 covering the SMR and HVTC was recorded as 'East Greta' instead of 'East Greta Junction'. For those familiar with the subject, the distinction is quite significant. East Greta is (was) about 4 km from the Junction with the government line, and was the original terminus of the private line. The township of East Greta still exists, but to appease the real estate developers, the name was changed to Gillieston Heights in the 1960s. The streets still bear the names of leading identities in the East Greta Co but its historical significance is scarcely known today. East Greta Junction lives on as the headquarters of the SMR, with the signal box of that name still in use, while the steam locomotive complex at East Greta Junction and associated sidings, which is State Heritage listed, is now leased out to rail oriented industries.

Robert Driver
via email

Dear Sir,

Shay axle breakages

Following the review in LR, I bought the PBPS publication *Climax, A Locomotive Resurrected*, especially to read the section on wheels and axles, p 27, by John Brady.

I was especially interested because broken axles were common on the two Shays on the Mapleton Tramway, Nambour, Queensland, 2ft gauge, and on the single Shay on the Buderim Tramway, Palmwoods, some 10 miles south of Nambour, 2ft 6ins gauge.

On the Shay which survived the closure of the Mapleton line and subsequent ownership by Moreton Mill at Nambour, the wheels are keyed to the axles. That was found to contribute to axle breakage on the Climax. I am grateful to Clive Plater and John Henley of Nambour for this information.

In addition, the distribution of weight along the axles was obviously uneven. On the driven side, on which there was a longitudinal shaft taking effort from the crankshaft to each axle, the axlebox was a greater distance from the wheel than on the other side. This greater distance allowed for the same box to accommodate the longitudinal shaft, then the space taken by the pinion on that shaft, and the crown wheel bolted to the wheel itself which meshed with the pinion. The axle was therefore subject to bending from four points, the boxes and the wheels, unequally spaced.

There is also the point that the torsion applied to each axle at one wheel was transmitted through the axle to the other wheel.

Curves were sharp especially on the Mapleton line, leading to relative slipping between the two wheels.

Does any reader know of experience with axle breakages on other Shays, any reasons offered for them, and any measures taken to alleviate or solve the problem?

John Knowles
New Malden UK

Dear Sir,

Locomotive at Florentine, Tasmania (LR 237)

The origin of the loco displayed at Florentine shown in the article on p.31 of LR 237 is a mystery.

The rear bogie wheels of this locomotive are very similar to a steam 0-4-4-0 logging locomotive built by Buyers in Hobart in 1913 that can be seen at http://www.australiansteam.com/Byers.htm The original photo on this web page is from the *Weekly Courier* of 29 May 1913. However as you can see from the photo in LR 237, the mystery loco wheels have six round holes in them whereas the Buyers loco wheels are solid. This is a mystery as they are very similar and probably came from the same manufacturer. The wheels are dated Feb 1913 which is about right for the Buyers locomotive which was in use in May 1913.

It could be argued that the original solid wheels were not robust enough so new ones were cast with the strengthening holes. The problem with this is that the wheels were cast in 1913 prior to the loco going into use. Obviously then they are from another loco of similar design. Any ideas anyone?

When we visited the loco at Florentine in November 2013 the information panels seemed to indicate that it came from Taranna near Port Arthur. A check of the photos at Taranna show they had a different style of loco so it is doubtful it came from there.

More likely it came from the Dover–Hopetown area near where the Buyers loco was used but we have no proof of this.

Tony Parnell
West Moonah, Tas.

Dear Sir,

'*Tom Thumb*' (LR 158, 223, 232, 233)

Following Jim Longworth's original piece in LR 158, I read with interest the recent comments of Phil Rickard and Bruce Belbin about this intriguing little locomotive, as well as those made previously by Ron Madden. Evidence about the origins of '*Tom Thumb*' remains scanty, leaving plenty of room for speculation, unfortunately some of it rather fanciful in my opinion.

I have seen little substantive evidence of the origins of '*Tom Thumb*' beyond that contained in the portrait photo of the locomotive, which incidentally was taken when it was standing on circular track with the photographer on the outside of the circle, as the angle of the trailing wheel shows. The circular track at the Sir Joseph Banks Pleasure Gardens that '*Tom Thumb*' operated on from 1883 had a radius of 250 feet.[1]

Bruce suggests that in this photograph of '*Tom Thumb*', the gentleman standing in front of the locomotive has been increased in height by 50% to create the impression that the loco is very small. However, if we make the very realistic assumption that '*Tom Thumb*' had driving wheels of 18 inches diameter, then, even if no scaling has been applied, the man would be around 5ft tall (about 6 inches below the average of the time). This suggests that even if '*Tom Thumb*' had 2ft diameter driving wheels, the man's image could have been enlarged by a factor of no more than around 20%. A look at the relative size of the carriages in the photo showing the entire train tends to confirm this.

The evidence that '*Tom Thumb*' was built by Thomas Wearne at the Glebe Foundry requires close examination. The 1883 South Australian newspaper report quoted by Phil implies that it was built by Wearne but does not in fact say so – it merely refers to it as having been 'completed' by Wearne. I am unaware of evidence of Wearne displaying any expertise in steam locomotive work before this time.

The mystery wheels at Florentine. Can any reader provide details of their origin? Photo: Tony Parnell

The presence of Middleton and Downes of the government Railways and Tramways Departments does not indicate that '*Tom Thumb*' was built new by Wearne, merely that these gentleman were being courted by the Sydney engineers and ironfounders, who as early as 1871 were supplying ironwork and materials for railway construction, and built wagons and carriages for NSWGR during the 1870s.[2] Wearne was building tramcar trailers in 1881,[3] and contracted with NSWGR to supply ironwork for a bridge in Petersham in June 1883,[4] while the first of Wearne's two steam tram motors for the NSW Government was trialled in October 1883.[5] The hiring of '*workmen from the trades usually associated with locomotive building*' is what would normally be expected from an expanding metal trades engineering company, and therefore says little definite about possible locomotive construction.

As first indicated by Jim Longworth, the photographic evidence is consistent with the locomotive having been modified by Wearne. The apparently cut-down cab side sheets and added end plates, and the extraordinary boiler mountings and chimney are evidence of this. They all appear to be embellishments associated with its intended use on a pleasure railway. In addition, as pointed out by Jim, it seems clear that the boiler mountings and chimney have been heavily retouched in the photograph, and therefore any detail shown cannot be relied upon for accuracy. My belief is that below the boiler centre line, the locomotive's appearance is accurate and consistent with it having been manufactured by an experienced locomotive builder, most likely overseas.

In considering the appearance of the locomotive below waist level, it should be kept in mind that 1883 is at quite an early stage in the development of small narrow gauge steam locomotives. There appears to be a level of sophistication in the design of '*Tom Thumb*' that is at odds with other examples of native Australian locomotives, for example the apparently crude contemporary products of Morts Dock. This suggests to me that it is more likely than not that Wearne took an existing locomotive and modified it.

If the possibility of the locomotive having been modified rather than built by Wearne is entertained, there are only a few potential overseas builders to consider, with Fowler and Couillet being the most obvious front runners. Bruce Belbin provides a number of objections to the design originating with Fowler. However, what he fails to acknowledge is the extraordinary variety of experimentation being carried out by this manufacturer in its narrow gauge designs between 1879 and 1882, which makes comparison with just one other locomotive somewhat tenuous, even though the use of outside steam chests with inside valve gear is not an expected feature of a Fowler product.

Mark Smithers, an English narrow gauge locomotive researcher and historian, takes an opposing view and leans towards the possibility that the locomotive that became '*Tom Thumb*' was constructed by Fowler. He indicates that the type of semi-circular inverted saddle tank carried by '*Tom Thumb*' is known on only one other locomotive, Fowler 4020 of 1880, a 2ft 6in gauge 0-4-2T for Brookes & Co. He also states that the overhung rocker shaft indirect drive to the outside valve chests appears to be a relic of the design of Sir Arthur Heywood's 15 inch gauge 0-4-0T *EFFIE* of 1875, which in turn has been linked to the early Fowler narrow gauge practice of 1879 seen in a number of builder's photographs, and that its collar-and-pin motion bearings also derive from Heywood practice. If built by Fowler, '*Tom Thumb*' would be one of the first, if not the first, Fowler narrow gauge locomotive to follow what was to become the 'mainstream' pattern, involving full length outside frames, outside cylinders and a conventional (as opposed to marine) firebox. Its experimental nature for the makers at this time would account for its peculiar appearance.

Other UK researchers are more circumspect on this subject, so it is maybe safer to suspend judgement on this at present.

The claims of Ron Madden in LR 223 demand some kind of response but it is difficult to know where to begin, other than to agree with him that we can probably discount as candidates for '*Tom Thumb*' the Fowler locomotives consigned to Brooks & Co. Ron has shown that Brooks & Co was a trading company active in Cuba that seems to have operated a standard gauge railway as well as a number of sugar mills. This finding discredits any supposed links between Brooks and Australia. I should add that Ron is an indefatigable researcher who has tracked down much interesting and relevant material.

However, the 'chain of events' that he alleges to establish a link between John Fowler 3788 of 1879 and '*Tom Thumb*', via an unknown locomotive builder, Boston Massachusetts, Cuba, Captain JV Lane, and the barque *Glenfalloch* requires some consideration.

Ron claims that '*Tom Thumb*' was Fowler 3788 and adds that it was not actually constructed by Fowler. He says it was '*clearly built as a prototype by an unknown outside firm*'. However, he provides no evidence to persuade the reader that either of these suggestions might be justified.

According to the published Fowler builder's list, B/n.3788 was despatched from Leeds in December 1879 and was a tank locomotive of unknown gauge with 4½ inch cylinders. The accompanying detail recorded by Fowler was '*J.V.Lane (originally sold to Casas Aulet Co. but returned and replaced by 4451).*' Casas Aulet & Co are known to have been Cuban sugar millers and Fowler 4451 was despatched to Casas Aulet in December 1882.[6]

Ron states that there is circumstantial evidence that Fowler 3788 was not returned to the Fowler factory but does not say what this evidence is. He says it is highly probable that it was sent from Cuba to Boston but does not provide any supporting evidence as to why this should be suspected.

He goes on to link the voyage of a vessel from Boston to Australia, under the command of a Captain John Lane, arriving in November 1882, with the appearance of a locomotive in the Hunter Valley in April 1883. However, he provides no evidence to suggest that any locomotive was on board the vessel he names on the voyage he specifies. After arriving at Launceston from Boston on 26 September 1882,[7] the American barque *Glenfalloch* left the Tasmanian port on 18 October with cargo for Brisbane, reportedly under the command of Captain Saul.[8] It arrived on 3 November and did not clear port for Newcastle, in ballast, until 1 December, once more under Captain Lane's command.[9]

While it is not impossible that Fowler 3788 was '*Tom Thumb*', and that there could be some truth in one or other aspect of Ron's ingenious theory explaining how it came to be in Australia, I cannot see that he has brought forward any significant evidence to support his claims. Should anything be forthcoming, it would be worthy of earnest examination, but until then I would suggest that his claims should be regarded as speculative.

It is reasonable to suppose that the locomotive outshopped by Wearne in February 1883 could have operated on a pleasure line at the Maitland Show in April 1883 (although not if the quoted track circuit radius of 25ft is correct),[10] and been used at the Tivoli Gardens in Waverley in May 1883 while being offered for sale,[11] later to become '*Tom Thumb*', used at the Sir Joseph Banks Pleasure Gardens at Botany between 1884 and 1895.[12] These possibilities are linked by a close time sequence, the relative proximity of locations and the types of railway concerned. Even though the gauge of '*Tom Thumb*' is not definitively known, it may have been the 20 inch gauge locomotive advertised for sale with an unspecified number of carriages and track in the *Sydney Morning Herald* in March 1899.[13]

My conclusion is that while newspaper references have established the presence of '*Tom Thumb*' in Sydney in February 1883, and suggested a little more detail about its possible movements and uses after that date, our knowledge of its origins has not advanced a great deal beyond the suggestions made by Jim Longworth back in 2001. The search for factual evidence needs to continue.

1. *Sydney Morning Herald*, Thursday 6 November 1884, page 2 http://nla.gov.au/nla.news-article13578132
2. Antcliff, Veronica, 1981. Manufacture of railway carriages in NSW in the 1880s in *ARHS Bulletin* 521, p.86.
3. *Evening News*, 17 May 1881 p.3 http://nla.gov.au/nla.news-article107221102
4. *Sydney Morning Herald*, 13 June 1883 p.5 http://nla.gov.au/nla.news-article13536700
5. *Sydney Morning Herald*, 13 October 1883 p.11. http://nla.gov.au/nla.news-article28371390
6. Jux, Frank, 1985. *John Fowler & Co. Locomotive Works List*.
7. *The Mercury*, 27 September 1882 p.2. http://nla.gov.au/nla.news-article9015521
8. *Brisbane Courier*, 2 November 1882 p.4 http://nla.gov.au/nla.news-article3407589
9. *Brisbane Courier*, 2 December 1882 p.4. http://nla.gov.au/nla.news-article3411527
10. *Maitland Mercury & Hunter River General Advertiser*, 10 April 1883 p.4. http://nla.gov.au/nla.news-article903542; *Maitland Mercury & Hunter River General Advertiser*, 21 April 1883: Supplement p.6 http://nla.gov.au/nla.news-article903814
11. *Sydney Morning Herald*, Thursday 24 May 1883, p.2 http://nla.gov.au/nla.news-article13535438
12. *Sydney Morning Herald*, 5 April 1884, p.2 http://nla.gov.au/nla.news-article13560306
13. *Evening News*, 13 April 1895 p.2. http://nla.gov.au/nla.news-article108095347
14. *Sydney Morning Herald*, 18 March 1899 p.14. http://nla.gov.au/nla.news-article1420509

John Browning
Annerley, Qld.

Field Reports

Please send contributions to:
Field Reports Editor, Peter Evans
PO Box 21, Williamstown, Vic 3016
e-mail: fieldreports@lrrsa.org.au

Beachport Jetty tramway, Beachport, SA.
1067mm gauge

Light Railways 236 April 2014 carried an interesting note by Phil Rickard on South Australian jetty tramways that historically served the small ports of the south east, including Beachport. The Beachport Jetty dates from 1878, being completed in 1882. According to an information board at the jetty, it was constructed with steel screw piles imported from England and timber (presumably Jarrah) from Jarrahdale in WA and Red Gum from Mt Burr in SA. This jetty carried a light railway of 3ft 6in (1067mm) gauge, which ran along the port side enabling foot and cart traffic along the starboard side; this jetty railway is extant in relatively recent photographs - see http://www.wattlerange.sa.gov.au/webdata/resources/images/beachport_jetty_boys.jpg These tracks are not now in evidence, as the jetty has been redecked.

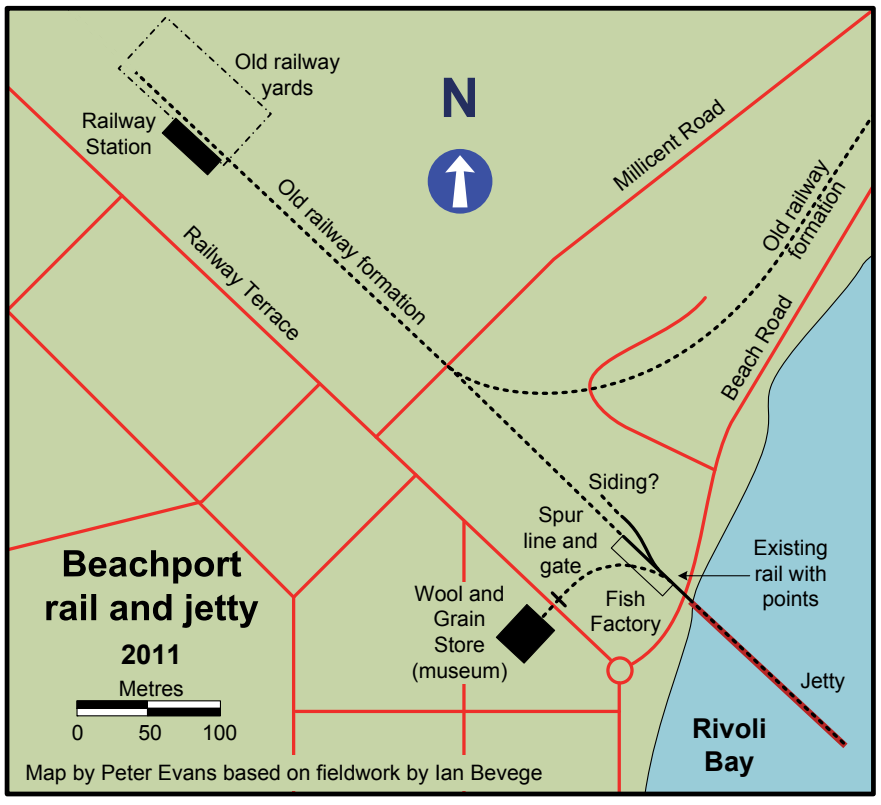
The Mt Gambier–Millicent–Beachport Railway was completed in 3ft 6in (1067mm) gauge in May 1879, contemporaneous with construction of the jetty. The old still-existing Beachport Railway Station aligns with the jetty, the distance from the jetty to the station yard being some 500m. Current Google Earth aerial images clearly show the remains of the track work formation from the yards for approximately 200m on this alignment as far as the Millicent–Beachport Road (See map). There is also an old photograph in Newcastle University archives (ex the Australian Railway Historical Society NSW Division, and accessible at www.flickr.com/photos/uon/8111196027/) that shows a single rail track heading from the station yard directly to the jetty area along this alignment. The railway closed in 1956, after which all yard track work was removed; subsequently three bowling greens were built over the railway yards, and the station converted to the Beachport Bowling Club house, which remains the current use.

However, contrary to the report in LR 236, there remains surviving track work in the jetty area adjacent to the fish factory (established 1945). The accompanying photographs were taken in December 2010 and June 2011. There is a single track set into the concreted hardstand of the fish factory that proceeds directly south east to the jetty and aligns with its port side. This track also proceeds north-west on the alignment to the railway station for approximately 50m, and shows evidence, judging from surviving point work in the concrete, of at least two branches. The south set veers into the area that now houses the fish factory. When the railway and port were active, a spur line crossed Railway Terrace to the Wool and Grain Store where goods were stored prior to shipping (source: historic notes, Wattle Range Council). The railway gate where the line crossed Railway Terrace is on the now-footpath opposite the Wool and Grain Store. It would appear from

Looking south east from the fish factory, the track alignment with the port side of the jetty is clearly visible. Photo: Ian Bevege

The northern-most set of points on the north-east side of the fish factory heading to the presumed siding. Photo: Ian Bevege

The southern-most set of points adjacent to the fish factory veering south-west towards the wool and grain store. Photo: Ian Bevege



the alignment and location of these points that possibly these were for this spur line. The northern set of points veers to the north-east from what was the main line and probably serviced a siding. The construction of the current fish factory building obviously postdates the time when the railway was in active use, but it is possible that the short length of track retained from the jetty to the fish factory may have been used to facilitate movement of fish stocks by hand trolley (as shown in the photographs of the Jaffa jetty in LR 177).

The map illustrates locations of the original railway, remaining track work and associated artefacts of the spur line and siding. Further work is needed to confirm the layout of the railway (relative to the jetty), and to establish the actual working arrangements. Given the light weight structure of the jetty, it may be that traction on the jetty proper was provided other than by the steam locomotives used on the railway. One might speculate that horse trams were used as was the case at Victor Harbour at this time, as indicated by Phil Rickard in his second article in LR 236.

Ian Bevege 05/14

Mount Barrow, Launceston, Tasmania

Gauge approximately 970mm (see LR 237, page 24)

Further to the field report on the Mount Barrow tramway site in LR 237, page 24, measurements have now been taken of the surviving spar rails, the results of which (along with their location) are shown in the accompanying map and diagram. The gauge is taken to be the centres of the two spar rails. The results are fairly consistent except where the logs have moved in two cases. The base map for this illustration is the map for the Mount Barrow discovery trail brochure. The walking track where the tramway crosses the creek is not marked with a sign on the road, and it is possible that the tramline walking track shown on the map in the brochure is in the incorrect position.

Tony Weston, 06/2014

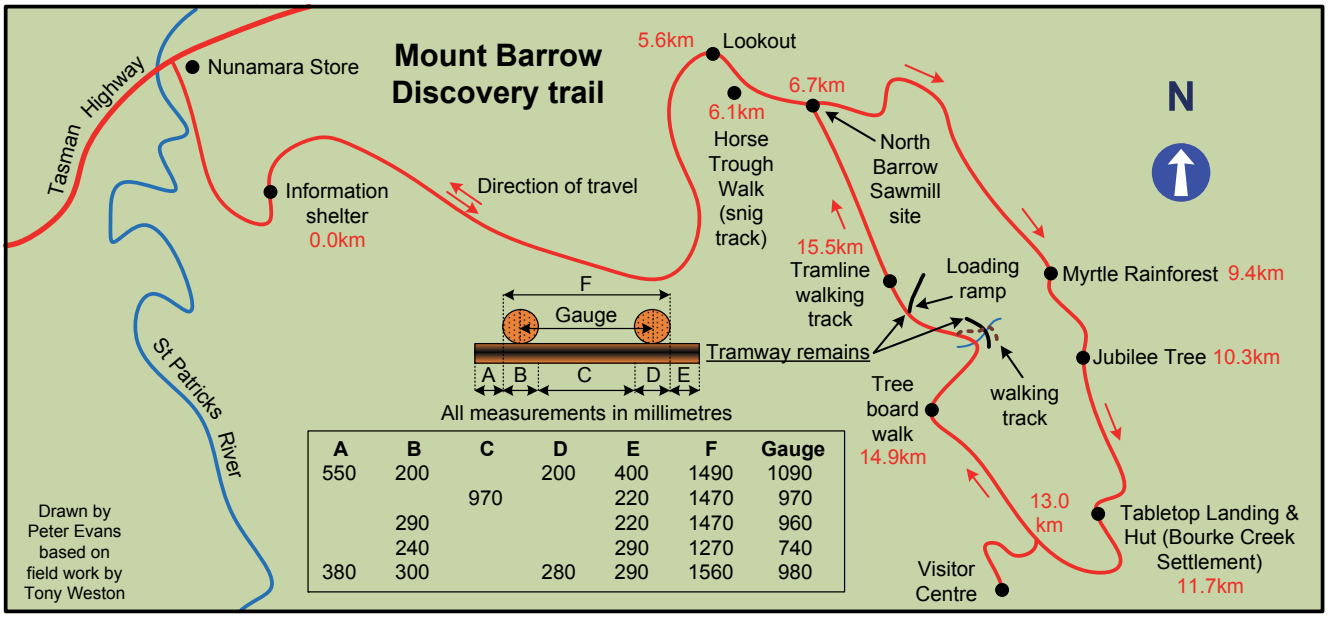
General view of trollies at Paronella Park with headboard, turntable with draw bar, and portable welded rail set. Inset: Remains of an individual trolley showing construction of timber frame, draw bar, turntable and wheel sets. *Photos: Ian Bevage*

Paronella Park tramway, Innisfail, Queensland

610mm gauge

Paronella Park beside Mena Creek Falls south west of Innisfail, North Queensland, was established by Jose Paronella. Jose had emigrated from Spain in 1913 and became involved in the sugar cane industry around Innisfail, accumulating sufficient capital by 1929 to purchase some 13 acres (5 hectares) of land at Mena Creek, which was partly cleared cane land with some residual rainforest.

Jose's vision was to establish a pleasure garden based on traditional Catalonian styles. Over the ensuing decades he built his castle, pavilions, staircases and grottos connected by winding



A	B	C	D	E	F	Gauge
550	200		200	400	1490	1090
		970		220	1470	970
	290			220	1470	960
	240			290	1270	740
380	300		280	290	1560	980

pathways through the forest and along the creeks. He also undertook major tree planting using species native to the area; some 7000 trees were planted. In this early endeavour he was supported by the Queensland Forest Service, which provided many of the trees from its Danbulla nursery including the stock for the magnificent kauri pine avenue, planted in 1933, which is today one of the signature features of Paronella Park. Paronella has successfully weathered several cyclones, including *Winifred* (1986), *Larry* (March 2006) and *Yasi* (February 2011), with associated major wind and flood damage from Mena Creek.

Languishing beneath the visitors' centre are relics of the tramway and trolley system Jose built to transport construction materials around the site; but at least they are out of the weather. This tramway was evidently based on the light cane tramways of his day, with which Jose would have been very experienced and for which material would have been readily available. The tramway comprised portable rail sections (sets) capable of man-handling; these sets were 16 feet (4860mm) long of 2ft gauge (610mm), the two rails joined by equi-spaced flat steel ties welded to the base of the rails, four to a set. In the cane fields such sets were laid directly on the ground; at Paronella, possibly because of the very wet conditions underfoot, the remaining set is attached to half-round wooden sleepers 6 feet (1800mm) apart with two metal dog spikes per sleeper.

Jose's trolleys were modified cane trucks with steel spring suspension. The remaining trolley has a frame of heavy hardwood timber (species not determined but possibly satin ash, *Syzygium* sp., as this was commonly used for heavy construction at the time) approximately 6 inches square (150mm) bolted to wrought iron strapping that supports the suspension box frames. Trolley wheels are 6-spoked cast iron of 16 inch (400mm) outside diameter fixed to 3.5 inch (90mm) cast iron axles that float in the steel sprung axle boxes: the axles boxes are 36 inches (920mm) apart. The headboards are also of heavy timber and there are simple wrought iron draw bars at each end: these were once connected to the trolley by semicircular articulated timber turntables.

These construction details can be discerned in the accompanying photographs taken during my visit on 14 July 2013. The traction source for this simple system remains to be confirmed, but it was possibly horse or man power, as these were commonly used contemporaneously in the cane fields.

The Evans family that now manage Paronella Park have plans to rehabilitate these relics as part of a static display '*but it is unlikely that anything significant will happen in the short term*' (Luke Evans pers comm 17 June). In the meantime, they will remain under cover.

Ian Bevege June 2014

Reference:

Dena Leighton (1997). *The Spanish Dreamer*. Rosemount Press, 108pp.

Buccan railway ballast siding and tramway, Queensland

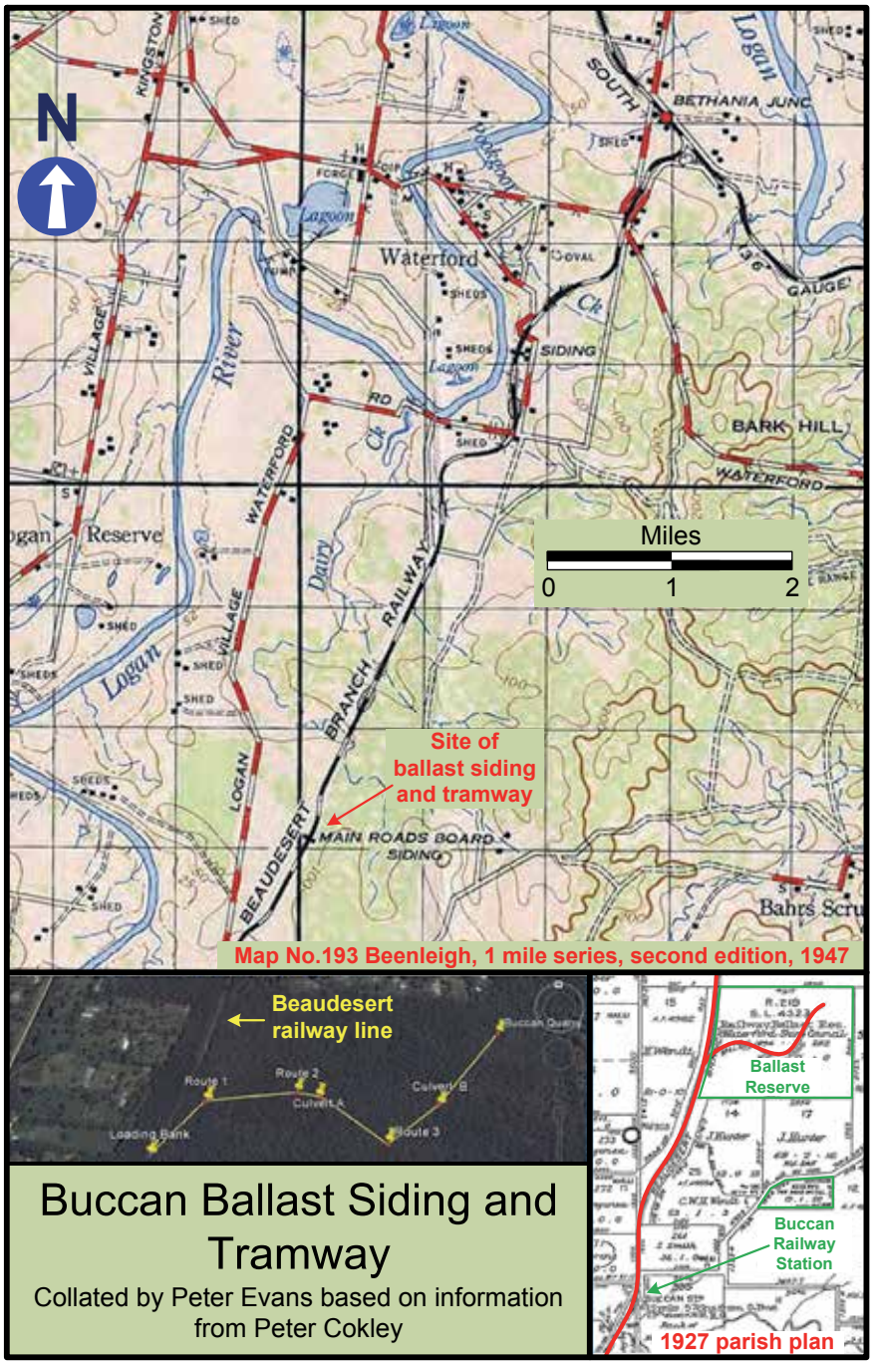
1067mm gauge

One interesting tramway engineering relic from the nineteenth century lurking away in the semi-rural Logan Valley is Railway Ballast Reserve 219. This 166 acre Government Reserve was a quarry that, during its lifetime, supplied material for both rail and road construction. The Buccan ballast quarry line was a spur line that led off Queensland Railways [QR] Upper Logan line, which eventually went to Beaudesert. The quarry was initially excavated for the construction of this 1880s line and supplied crushed rock, which was laid between the sleepers and rails to provide stability and drainage for the railway track.

The Buccan Ballast spur's location was on the eastern side of the line, 24 miles 58.5 chains from South Brisbane. Buccan Station was 25 miles 57 chains from South Brisbane, so the spur was about a mile north of Buccan Station. Waterford, the preceding station, was 22 miles 5 chains from South Brisbane. The spur line from the mainline to the quarry works was about 53 chains long, which translates to metric as 1066 metres, so a little over a kilometre long.[1,6]

The quarry spur line was initially removed after the line to Logan Village and Beaudesert opened in 1888, but was proclaimed a Reserve in 1894 in case of future need. The spur into the quarry was reinstated for the construction of the QR Logan Village to Canungra line, which opened in 1915. This time it remained in place until 1922, in the meantime, having periodic usage supplying gravel for local council road construction.[1]

Three years later, a loop siding was installed on the mainline as the quarry's products were required by the Queensland Main Roads Board. This time QR did not reinstall their 53 chain



The interior of the Buccan ballast quarry showing one of the working faces. Photo: Danny Sheehan

Part of the formation of the Buccan ballast quarry tramway. Photo: Danny Sheehan

Another section of the Buccan ballast quarry tramway. Photo: Danny Sheehan

spur but, instead, the Queensland Main Roads Board constructed a tramway from the quarry works out to the QR siding on the main line to Beaudesert and Bethania. This tramway was removed by 1931, with the QR siding removed in 1937.[1,2,3,5] Neither the gauge nor the motive power of the Main Roads Board's tramway is known. The loading ramp on the main line remained until the Beaudesert line was closed and parts are still evident today.

On Saturday 26 October 2002, the area was inspected by a group of rail historians as part of an LRRSA (SEQ) field trip. This group walked along the formation of the tramline to the loading bank.[4,6] Greg Stephenson inspected the area around Easter of 2013. The quarried area is in the north east corner of the reserve and is about 6 metres deep and densely overgrown, so doesn't really show up in aerial photos. Several adjoining faces have been worked. Much of the formation from the railway to the quarried area still exists. However, adjacent to the railway, it has been disturbed and any loading banks have been removed. Much of the surrounding area is now rural-residential subdivision, and was worked over for ridge/surface gravel in the 1960s and 1970s. (Not far from the Ballast Reserve is a Main Roads Reserve which would also have been used as a source of gravel, but it is unlikely to have included any tramways).

More recently Owen Betts, Danny Sheehan and Peter Cokley inspected the site and ran a GPS unit over the formation, and the data is summarised in the accompanying map. The distances measured by this method accord well with the historical data. The items labelled culverts in the GPS plot were on a minor small watercourse, so it is assumed both were culverts, although the first did have culvert-like remains in the base of the water course. Both spots were clearly locations where flood water had washed away the formation or culvert.

Imperial Measurement conversion: *The British imperial measurement system used miles and chains. 1 Mile is 1.61 Kilometres. There are 80 chains in a mile. One chain is 66 feet or 22 yards or 20.12 metres. A standard cricket pitch is one chain long.*

Research by Peter Cokley with field recording by Owen Betts, Danny Sheehan and Peter Cokley. Additional field information from Greg Stephenson. 06/2014

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Also Parish map (Moreton district 40 chain to the inch 5 South from 1927) by courtesy Dept. of Natural Resources and Mines. The Moreton district 40 chain maps consulted were published by the Survey Office, Queensland Department of Public Lands.

RESEARCH

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Beyond the Monorail

John Peterson's monorail article reminds us of the many types of railways that fall within the interest of the LRRSA; another one of these is the Telpher system, the first of which was installed in 1885 at Glynde, in Sussex, UK. It was an aerial system using semi-rigid electrically live steel rods along which ran suspended hoppers carrying clay for the Sussex Portland Cement Company.[1] The hoppers were hauled in blocks of 5 or 10, with an electric 'locomotive' providing the haulage. The 'locomotive' took its power from the rod and to provide control over the system, sections of rods were electrically isolated from each other, enabling the train to be started and stopped remotely. To spread the weight over the suspended rod, the hoppers were connected to each other by 14 foot long poles.

In Australia, the Port Pirie smelter in SA has a Telpher system, built in 1928. This system uses a rigid 'H' section beam with both the skip and driver's cabin suspended beneath. The skip picks up lead concentrates from the sinter plant, which is filled from a loading hopper (referred to as the Eagles Nest) and drops the concentrates into the hopper at the top of the blast furnace. Still in use today, its days may be numbered.[2]

Aerial lift systems[3,4] are arguably another variation, which may be considered a form of light railway in some contexts. Different types of aerial lift systems have been used around Australia over the years. These have often been used in operations that also utilised light rail. These include the Mount Lyell mine and Curtin Davis mine in west Tasmania, the Warragamba Dam ropeway and the Kandos Cement works ropeway, both in NSW.

Stuart Thyer, collation of postings to the LRRSA yahoo group

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Researcher hits the headlines

Recently, Victorian researcher Ray Peace, made front page news with his work on the Dandenong Shire quarry tramway. The tramway opened in 1914 and Ray has been gathering information for several years. The *Knox Leader*, part of the *Leader* group of community newspapers, ran a story on Ray's work in the 6 May 2014 edition. His work will form an article in an upcoming *Light Railways*. The online newspaper story can be viewed at http://leader.newspaperdirect.com/epaper/viewer.aspx Navigate to the paper via the 'select title', then the 'eastern suburbs' pull down tab. Use the 'calendar' tab to select the date.

Steven Haby

The Coliban System of Water Works (VIC)

Following the 1851 discovery of gold in Bendigo (known as Sandhurst until 1891). The water in Bendigo Creek was used for puddling, panning and specking for gold and was the only supply of domestic water.

The gold mining industry required massive amounts of water to function all year round. The first dams were not big enough for the growing population so the shortage continued to plague the town. In 1862, the Government offered a prize for the best solution to the ever-growing problem. The engineer, Joseph Brady, won the Victorian government's premium of £500 for the best scheme for a water supply to the Bendigo and Mount Alexander goldfields, and he was appointed to survey and design this system now known as the Coliban River water supply.[1]

The Malmsbury Reservoir, completed in 1877, was built as the supply reservoir to feed the town, and its waters were fed to town via the 70 km long main water channel, meandering along the contours.

While the project was a great technical success, Malmsbury Reservoir was soon insufficient for Bendigo's needs and so, in 1903, the Upper Coliban Reservoir was completed, adding to the capacity of water available to the system. By the 1930s, inadequate capacity saw Lauriston Reservoir constructed and finished in 1941.

Dr Geoff Russell's thesis *Water for Gold* documents the 27-year-long task to satisfy Central Victoria's thirst by building the Coliban system of water works. The only reference to a tramway being used is "*An exasperated Sullivan demanded a personal explanation and work slowly resumed again on laying a tramway 'which is to be used for the excavations of the tunnel and water channel' at the embankment's western end.*"[2]

This tantalising reference indicates the use of tramways in some of the construction works. However, while the channel follows the contours, it also passes through several tunnels, aqueducts and syphons. Any further information on the use of tramways in the construction of this project is sought.

Chris Wurr

1. *Australian Dictionary of Biography*. Retrieved 21 June, 2014, from http://adb.anu.edu.au/biography/brady-joseph-3042
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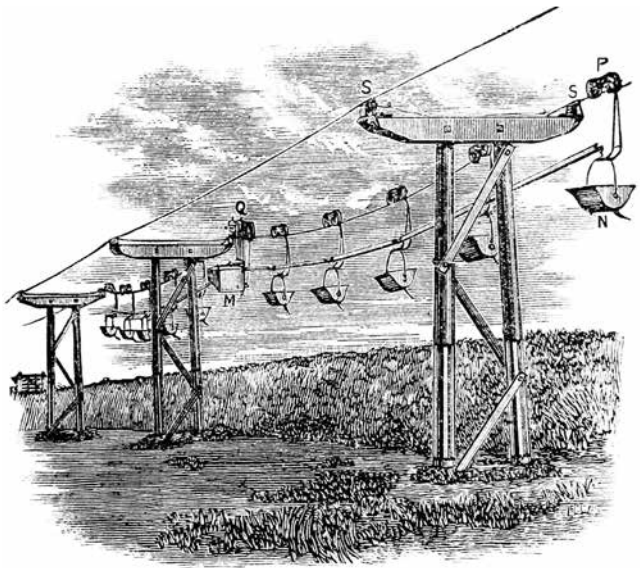
Agricultural Tramways (WA)

In LR 236 'Research – odd spot' a 1931 *Western Mail* newspaper article on a cabbage farm tramway at Narrikup was quoted. There is much scope for research into agricultural tramways in Western Australia and the piece opposite summarises those I have details of (references are shown below).

David Whiteford



Part of the Telpher line at Glynde. Image from Popular Science Monthly

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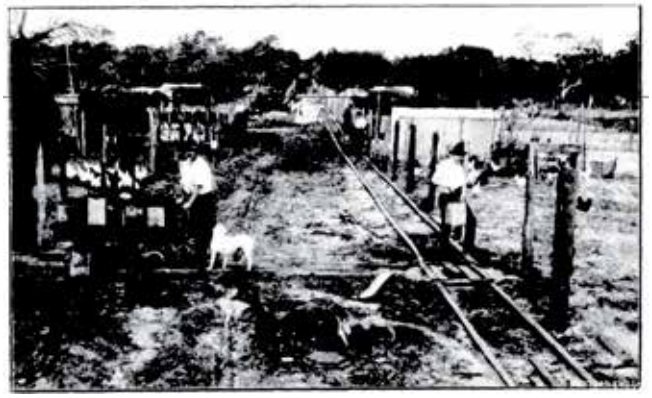
OSBORNE PARK MARKET GARDEN TRAMWAYS

The northern Perth suburb of Osborne Park, particularly in and around Herdsman Lake, was a centre of market gardens for many decades. The photographic feature in two *Western Mail* issues included Osborne Park tramways. The issue of 30 November 1922 had some broad views of gardens showing long tramways between rows of vegetables. The pictorial feature above shows a four wheel flat top trolley on wooden tracks, carrying a load of produce to a waiting road truck.[1] It is thought that tramways continued in use in the area into the 1970s and while I have heard that former Lake View & Star gold mine (Kalgoorlie-Boulder) hoppers were once used there, I have no evidence of this.

POULTRY



The *'largest poultry yard in Australia'* is what the *Western Mail* called Stephen Craig's Belmont poultry farm when it reported a Vice-Regal visit by His Excellency the Governor, Sir Gerald Strickland.[6] Mr Craig had about 7,000 fully grown birds and 1,000 chickens on his 40 acre farm. *'Between the rows of pens are roomy roadways or lathes in which wooden tramlines are laid over which the food is carried in special trucks. Altogether there is over half a mile of tramline...The truck is pushed along the tramline by workers...'*

WOOL

Ningaloo Station, on the north west coast, had a tramway from the shearing shed to the beach. Owned by the Lefroy family, the tramway (above) was used to transport wool bales to a small boat, which then transhipped with a larger boat beyond Ningaloo reef.[2] Around 50km south, Maud's Landing, near Coral Bay, was the site of a long jetty extending 1500ft out to sea (See David's article on Maud's in LR119, Ed.). Constructed in 1897, a 2ft gauge tramway, a well and a big woolshed were also built.[3] It served as a shipping point for wool, sheep and cattle up until the late 1940s, with the last shipment made in 1946. The need for constant repairs and lack of sufficient funding led to its closure as a coastal port in 1947.

NARRIKUP CABBAGES

The Narrikup farm was owned by the Townsend family and the 20in gauge wooden railed tramway was used to convey cabbages and potatoes grown in swampy land.[4]
The farm is featured in other newspaper articles and in a book, with at least two photographs showing the track and the wagon used (a four wheel flat top wagon usually fitted with a detachable crate).[5]

DAIRIES and PIGGERIES

Keith Trigwell's book *Landsdale: the first hundred years* is a history of a Nannup farm in the South West.[7] Randall Trigwell used part of the old Claymore sawmill bushline to build a tramway from the cowshed to the pig sty. It conveyed the produce to the sties for pig feed. Other rail was re-used as fence posts. The photo in the book shows a possible 3ft 6in line so a wagon or trolley from the mill may also have been acquired. The Claymore sawmill closed in 1939.
Files of the Health Department held in the State Records Office of WA (SROWA) reveal some more tramways in inspection reports by staff of the Central Board of Health.
Edward Owens' Cannington dairy, south of Perth, had a 25in gauge tramway. The inspector noted *'A wheeled truck on tramway was nearly full of scalded bran and grain feed in readiness for the cattle. Its position was abreast of the milk cooler and can room and the surface of the material was black with myriads of flies'*. He recommended a suitable cover be provided for the feed truck.[8]
Two piggery tramways just south of Fremantle were included in reports. Mulcahy Brothers, Spearwood, had a *'2ft 6in wide tramway provided along the gangway in front of the sties. An open truck containing pigwash standing near the 200 gallon cooking pot and uncovered, formed an attraction for myriads of flies.'*[9]
At SW Copley & Co, Rockingham Road *'16 new sties 10 x 10 feet have been provided, eight on each side of a 5 feet wide central passage, the latter having a tramway and truck for conveying food from the cooking pots to the feeding troughs.'*[9]

Heritage & Tourist NEWS

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Digital photographs for possible inclusion should be sent directly to editor@lrrsa.org.au including location and photographers name.

QUEENSLAND

FRIENDS OF ARCHER PARK STATION AND STEAM TRAM MUSEUM INC., Rockhampton

1067mm gauge

The transition of management from Rockhampton Regional Council (RRC) to Friends of Archer Park Station and Steam Tram Museum took place as scheduled on 1 April 2014 and is progressing well. The Friends are now trading as Archer Park Rail Museum (APRM). At present the tram is still running under the control of RRC but APRM is progressing with its accreditation which is going well with just some minor questions to be answered.

The Friends had to close the tram down on Sunday 18 May due to a problem with the boiler feed water pump not pumping water to the boiler. This has now been fixed by the fitters from RRC and the tram is up and running again as normal.

In the last two months the Friends – and particularly the management committee – have been on a steep learning curve and have appointed a new co-ordinator, Janice Seymour.

On the operations side the Friends have conducted a Family Fun Day and two school holidays activity days, each of which has given reasonable results. There have also been several tour groups and Legacy ladies functions and a few tourists, so it does not appear that the reduced operating hours have had much effect yet. The most positive outcome from the past two months has been the interest and enthusiasm shown by the volunteers to make a success of this enterprise.

Ross Carter and Phil Augustine, *Tram Tracks*, Volume 8 Number 3, 6/14

DURUNDUR RAILWAY, Woodford

610mm gauge

President Terry Olsson reports that last year the Moreton Bay Regional Council purchased the block of land at the back of the Woodford station site. The Council has decided to develop this land for use by various local community groups, as well as for future expansion of ANGRMS depot facilities as it extends the railway towards D'Aguilar. While the railway does not need these additional facilities at this time, it is very important that it plans for the future so that the land is available when needed. It will also be good for ANGRMS to be part of a community group hub.

Durundur Railway Bulletin, Volume 35, No. 327, 5-6/14

MACKAY HERITAGE RAILWAY, Mackay

1067mm gauge and 610mm gauge

Located on an industrial precinct near the Mackay Harbour, the restoration group has a short length of track and potential access to QR trackage when its BB18¼ restoration project is completed. Access is by arrangement only. At present the organisation is still negotiating for a new site.

Its collection includes a number of ex-QR freight wagons as well as two ex-cane railway diesel locomotives (2ft gauge): ex-North Eton Mill D1/6 (Bundaberg Jenbach BJ100 of 1953, b/n 10) and ex-Pioneer Mill McDesme Clyde 0-6-0DH of 1954, b/n DHI.3 *McDESME* is almost finished restoration.

From minutes of the meeting of the Association of Tourist Railways Queensland, Inc, 3/14

NEW SOUTH WALES

ZIG ZAG RAILWAY, Clarence

1067mm gauge

The railway is still being plagued by vandalism, but there have been some breakthroughs. Recently a member noted strange activities involving the carriages at Edgecombe and contacted the police with a description and vehicle registration numbers. Hopefully this will result in some action. CEO, Michael Forbes, reports that a set of lead timbers to replace the set lost at Edgecombe were due to be delivered and these will be stored with the 500 new timbers replacing the losses at Big Flat Rock in the Hartley Valley.

The roofing contractor has replaced two-thirds of the melted Alsonite roof panels in the Bottom Points workshop. He will finish off when it stops raining. The roofer is quoting on fixing the compressor room roof (it is electrically connected again) and fixing the leaks in the surviving meal room/ops office roof.

The back wall in the machine shop has increased its angle of lean and is now in physical contact with one of the steel uprights which supported the mezzanine office floor. A structural engineer is being engaged for an opinion on this and the life expectancy/condition of the main crane beams in the shed. The main beams being inspected are the ones which were actually flamed in the fire.

Director of Rolling Stock, Chris Eagle, reports that over the next few months there will be a number of workdays working on 218A (Baldwin AC16 2-8-2 69453 of 1943) and the Evans cars to make them available for crew training and have them ready for passenger service. There are also many other jobs in the Bottom Points workshop to be completed such as: sorting through the spare part inventory and cataloguing, overhauling 1072 (Walkers BB 18¼ class 4-6-2, 540 of 1956), servicing the rail motors, overhauling the bogies of 1004 (Tasmanian Government Railways B-B DH, built 1966) and setting up new machines.

At the Board meeting on 7 May 2014, it was stressed by the Chairman that there is a need for the Railway to begin following its new structure. This will mean that all work and associated activities will be delegated via the appropriate Officer in Charge. This person will be responsible for organising the activity through the Policies and Procedures, and having the necessary documents completed. This process will allow reports to be collated and then be available for the Board to assess progress and show governance.

Aaron Reynolds, site co-ordinator, reports that work was be undertaken at Clarence station in June to improve the drainage of the track ballast in the platform road and any nearby point work in the Clarence station vicinity, as it has become spoilt with dirt, ash, oil and coal in various locations over the last 25 years. He says the open visibility of these areas of the track can give the public the image of a railway that is poorly maintained and un-loved. Despite the dedicated work completed already, the area can do with a major clean up to improve the appearance of the Clarence Station and car park area and begin to give the public the belief that operations will recommence. There is still an endless stream of visitors to Clarence who use the toilets and walk along the platform.

Switchback, Issue 133, 4/14

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

1435mm gauge

Since May 2013 steady progress has been made by members involved in returning 4wDH X217 (Chullora Railway Workshops 1968) to traffic. Initially there was the job of inspecting, cleaning and ensuring the safe operation of all the mechanical components including the diesel engine, transmission, radiator, air cleaners, oil filters, air compressor, fuel system etc. The electrical system was then checked and new batteries installed, the fuel tank drained and cleaned, the injectors fuel pump inspected and tested, the radiator system drained and flushed, the hoses checked and repaired and new oil and oil filters added. After some trouble with electrical sensors, the engine was eventually started and ran smoothly.

After this, the body work was started. Lots of work needed to be done including cleaning, sanding, rust removal, filling, replacement sections added, applying three coats of paint and finally wet and dry sanding. New window rubbers and windows were obtained and fitted. While all this was going on, the air system was tested and found to be fit for service. Paper work was finally completed and the locomotive

Ex NSWGR X217 hauls former BHP 32 on its return to the Richmond Vale Railway. Photo: Graham Black

was ready to go; successful load trials were conducted on March 1 and the locomotive was used during the Kurri Kurri Nostalgia festival on March 29 in conjunction with steam locomotive *MARJORIE* (Clyde 0-4-0ST 462 of 1938) in push-pull mode.

This has been a major restoration and the locomotive is now is superb condition. The locomotive will provide a much needed substitute for the small steam engine when it is needed.

The RVRM has also received back ex-BHP No.32 (Goninan Bo-Bo DE 1 of 1954). This locomotive was originally donated to the railway, in March 1988, from the BHP Steelworks in Newcastle.

In April 1990 a request was received from the Steelworks to move the loco to the main gate at the Steelworks to go on display. This was approved on the condition that it be returned to the railway when no longer required. On Friday 6 June it was returned to the railway and is now on display along with other BHP wagons.

The Link Line, No. 169, Summer /14, Graham Black 6/14

VICTORIA

WALHALLA GOLDFIELDS RAILWAY, Walhalla

762mm gauge

The Walhalla Goldfields Railway (WGR) has received a $60,000 grant from the Victorian Government to build the verandah on Walhalla station and to re-build the station platform. The WGR will contribute an additional $30,000 to the project. Walhalla's station was removed in 1938 to become the Hartwell station on the Melbourne suburban network six years prior to the line's closure to Walhalla in 1944. When the railway re-opened to Walhalla in 2002, the present replica station was built as a training exercise at a nearby TAFE college, but funds were not available to complete the building by incorporating the verandah. The new verandah has been designed to the original Victorian Railway's specifications and should be completed by the end of 2014.

Over the last ten years, most of the railway has been fitted with sleeper plates. Only some sections of the yards remain to be done. Plates were sourced from across the former Victorian Railways network, and were re-punched to suit the 60 lb per yard rail.

The inspection pit at Thomson workshop has been a mess for some time and the decision was made to clean it up and concrete the floor. The ballast was removed from the pit, which was then cleaned with a Gerni, washing down the steel and timber side walls. The actual concrete pour started on 29 April ; the workers believed they could complete the pour in one day, but it took longer than anticipated.

Four timber frames for drainage pits were prepared and the centre section poured on a Tuesday and the outsides completed by Friday of the same week. Plastic sheeting has been placed on the floor of the pit to protect it from oil leaks. The Way and Works gang did most of the concreting work. WGR received four trailer loads of premixed sand and screenings which was used in concreting the floor of the inspection pit. When the concrete is cured, it will be painted, along with the sides of the pit. Since the completion of the project the pit is so much better to work in; it is much cleaner and lighter.

On May 9 work started on the condition assessment of DH72 (Walkers B-B DH 717 of 1974). Assessors met at Loy Yang (where the engine is housed) and commenced the removal of the cylinder heads to inspect the engine damage which had been identified some six months ago. It was originally intended to remove both heads but upon removal of the inlet and exhaust manifolds, it became clear that water ingress was restricted to number two and three cylinders only. Therefore the head casting for the first three cylinders only was removed. On a previous inspection, water damage to the No 2 and 3 cylinder bores had been detected. Unfortunately the damage has been exacerbated over the time it has been left unattended and now the rings have rusted to the bores so that it was not possible to turn the engine over. Hence it was not possible to remove the bearing cap from the crankshaft at No 2 cylinder even though there is surface rust on the exposed part of the crankshaft journal. Consequently, the inspection could proceed no further. Since then workers have cleaned out the cylinders and dosed them with a penetrate and oil so the pistons can be moved enough to pull the two cylinders apart for further attention.

The Victorian Railways GY freight wagon has arrived at Cowwarr and is to be welded securely to the tracks by the Way and Works team from Walhalla Goldfields Railway. (*Light Railways* 237 p. 37)

Michael Leaney, *Dog Spikes and Diesel*, 5/14

PUFFING BILLY RAILWAY, Belgrave

762mm gauge

No funding for the Railway's sustainable future was made available in the recent State Budget. This was despite a second detailed business case being prepared and lodged which met all procedural requirements. The result will be a considerable reduction in capital works and other projects during the next twelve months.

Work continues on the engine rebuild of diesel locomotive DH5 (Walkers B-B DH 587 of 1968) which the Railway hopes to have back in service in July. Meanwhile work is continuing in Sydney on construction of a new boiler for NGG 16 129 (Beyer Peacock 7430 of 1950). The boiler is approximately 50% complete at this stage and should be completed by the end of October.

Later this year, the Young Volunteers Representative Team will be celebrating 60 years since the running of the "Young Sun Specials", an event which led to the establishment of the Puffing Billy Preservation Society and the birth of what has grown into the Puffing Billy of today. Next year will see further milestone anniversaries, including the 60th anniversary of the running of the first train organised by the Citizens' Committee, the 60th anniversary of the establishment of the PBPS and the 50th anniversary of the return of Puffing Billy to Emerald.

Following the return to service of the Climax geared loco (Climax Locomotive Company, 1694 of 1928) last year, the Climax Locomotive Operating Committee is organising a special Climax hauled evening train later this year. Scheduled for Saturday 11 October the train is planned to run from Menzies Creek to Lakeside and return. Food will be provided and a number of photo stops are planned.

At Menzies Creek Museum the final stage of the current phase of work was to seal the new concrete floor, making it impervious to spills, such as oil. The sealing is now complete, allowing the Society's collection of VR narrow gauge, wooden bodied vehicles to be moved under cover, many for the first time in decades. This will then allow an assessment of each vehicle to be made, prior to conservation/ restoration. On 23 May, the Shay locomotive (Alishan Forest Railway 14, Lima Locomotive Works, 2549 of 1912) and Sub-Nigel 0-6-0WT (Orenstein and Koppel, 12331 of 1931) were moved from Emerald into the museum to join

the existing exhibits. The collection is already looking very good.
Trials have been conducted using a converted John Deere farm vehicle on track patrols and fire patrols. Subject to some longevity testing this vehicle is showing promise as a replacement vehicle for the unreliable existing trolleys.
June 2014 was a very significant milestone for the Puffing Billy Preservation Society and Puffing Billy Railway with the centenary of the youngest surviving NA Class Locomotive 14. Built in 1914 by Victorian Railway Workshops, Newport, she was commissioned on 25 June 1914 to operate Colac to Beech Forest and Crowes, and was transferred to the Puffing Billy Preservation Society on 1 October 1977.
Monthly News no. 491 6/14

ALEXANDRA TIMBER TRAMWAY AND MUSEUM INC., Alexandra
610mm gauge
John Fowler 0-6-0T 11885 of 1909 has been out of service for several years due to the need for a heavy repair to the bottom section of the front tube plate. A new section has now been welded in and successfully riveted to the boiler barrel.
The final boiler hydraulic test was carried out on Friday 16 May in the presence of the boiler inspector, and went well, with no leakage and the pressure being held for the required period. The next job will be to reassemble all the fittings and perform a steam test. After that the work should be largely cosmetic in nature. The one small problem to face is that one of the fire bars broke on removal and a replacement will need to be sourced before the locomotive is returned to active service.
Timberline 137, Carl Hopkins, Bryan Slader 6/14

SOUTH AUSTRALIA

SOUTH AUSTRALIAN LIGHT RAILWAY CENTRE, Milang
1067mm and 610mm gauge
The South Australian Light Railway Centre is currently being developed in Milang, an historic port located on the banks of Lake Alexandrina, an hour south of Adelaide. Its railway museum is located on the site of the long closed Milang railway station, the original station buildings having been restored. The tracks are now home to South Australian Railways wagons and coaches which contain photographic and actual exhibits, describing the history of Milang and its railway. The museum also includes the remains of the 3ft 6in gauge tramway which once ran from the jetty to the SAR yard where goods from up river were trans-shipped.
Some years ago the museum acquired a Wingrove & Rogers battery powered loco, four wagons and about a kilometre of 2ft gauge track from the Smithfield munitions tramway when the latter closed. A building has been erected to house this rolling stock and the decision has been made to develop it into a South Australian Light Railway Centre. The National Railway Museum has offered the loan of the diesel loco and a wagon which used to run on the Edithburgh jetty 3ft 6in gauge tramway. Wall displays describing South Australian light railways are being prepared and a working model layout, in 16mm to the foot scale, is being developed. Ultimately, driver experience running is planned.
The museum is keen to hear about any two foot gauge locomotives, steam or diesel, which may be available for restoration.
Peter Lucas, 6/14

TASMANIA

Tony Coen reports on the Steamfest Tasmania Railways Tour that occurred during March.
The 2014 tour commenced at Launceston Airport on the morning of Saturday 8 March. Only a small group of 11 people took advantage of the trip; the late promotion was possibly responsible for this. Nevertheless, the tour was affordable and enjoyed by all of the participants, which numbered 13 for parts of the journey.
The coach used was a 1989 Denning Landseer complete with its sometimes difficult 6-speed crash gearbox, but it provided the comforts and ambience of a period of transport consistent with train travel in the better years of railways.
The Tour visited all heritage railway sites around the State during the eight days:

- Redwater Creek Steam and Heritage Centre, which is the home of the 2ft gauge Redwater Creek Tramway and its composite Krauss 0-4-0T (5682 of 1906, 5800 of 1907). The long weekend was timed to coincide with Steamfest Tasmania, a large and popular agricultural machinery festival which has won several awards for its showmanship and versatility.
- Don River Railway, where trips were made in railcar DP 22 and trailer PT 3 on one day and on the following day behind Pacific M 4. An inspection of the extensive workshop/museum was a highlight for the visitors.
- Wee Georgie Wood Steam Railway at Tullah, where President Graham Hawes presented an interesting talk on the North Mount Farrell Tramway's history and how the present Society came to be. A couple of trips on the 2ft gauge line behind Fowler 0-4-0WT (16203/1924) and a look at rolling stock overhauls in the workshop, where former Mt. Lyell diesel locomotive, Nicola Romeo (770 of 1925) 4wDM '*Romeo*' was stabled. It had been borrowed from the Zeehan Museum, overhauled and put to work at Tullah whilst '*Wee Georgie*' had a new boiler built.
- Zeehan Pioneers Museum and Heritage Centre. Participants could not spend enough time at this magnificent place which is loaded with hundreds of photographs of the boom mining days of Zeehan and its extensive railways and tramways. 3ft 6in gauge locomotives, EBR Dubs 4-8-0 No. 6 "Murchison" and TGR Beyer Peacock 2-6-0 C 1 are on display with Mt. Lyell 2ft gauge 0-4-0T No. 8 Krauss (5480 of 1906) and composite Krauss 0-4-0WT (4087 of 1899, 5800 of 1907) lurking in a backyard shelter. A couple of narrow gauge Mt. Lyell electric locomotives are also in the yard.
- West Coast Wilderness Railway was back in operation with trains running from Queenstown to Dubbil Barril and return (which includes the Abt section). Participants were thrilled by the journey, which was hauled each way by Dubs 0-4-2RT Abt 3 (3730 of 1898) with its Lempor exhaust and flared funnel. The Railway's Manager, Michael Saville, generously upgraded the Tour members to Wilderness class, which meant that they travelled in first class in an end-balcony carriage.
- Railtrack Riders, which operates pedal-powered vehicles on the top end of the Derwent Valley Line from Maydena to Florentine. Our party had a great time getting fit after the long drag from Queenstown on the way to Hobart.

14A about to be attached to its train has had much polish applied for its 100th birthday. 25 June 2014. Photo: Robert Wilson

- Derwent Valley Railway headquarters at New Norfolk where everyone attended a meet, greet and look around the depot and the large amount of rehabilitation work that is transpiring there. The railway line is not yet serviceable but the rolling stock and some locomotives certainly will be ready when the time comes to run trains.
- Ida Bay Railway 2ft gauge, Australia's southernmost railway, where owner/manager Meg Thornton catered magnificently for the group before a train trip to Deep Hole and return. One of the Malcolm Moore 4wDM Isuzu-powered diesel locomotives performed the honours whilst lying in the grass alongside the track at the western end of Ida Bay yard were the frames of 0-4-0WT Fowler (17732 of 1928) *MARY WOOD* and 0-4-0T Orenstein and Koppel (718 of 1901).
- Tasmania Transport Museum is the custodian of a fine collection of transport exhibits, particularly railway items and former TGR Pacific M 5 gave the visitors a few trips along the 300 metres of running line. Two locomotives of interest to LR readers are on display: Climax 1653 of 1923 and Markham 0-4-0VBT of 1890.
- Launceston Tramway Museum and Queen Victoria Museum. Both of these places are located in the former Launceston Railway Station and Workshops yards with track from the old round-house (turntable and some tracks still in situ) to the station area used for the running of Launceston Municipal Tramways bogie car No. 26, which has power generated from an attached trolley. The work carried out by the Tramway Society members is second to none and a number of single truck cars are in the process of restoration. In the former Workshops, Mt. Lyell 10 narrow gauge Krauss 0-4-0T (6067 of 1910) is on display whilst nearby is TGR diesel-electric Y 3 at the head of a made-up goods train of stock wagon, flat car with Holden car on board and a DB class Guard's van.
- A couple of former TGR locomotives "plinthed": H 6 (4-8-2) at Perth and E 1 (4-6-0) at Deloraine.

Of course, the Tour wasn't just about trains. Plenty of sight-seeing and attractions were also on the itinerary. Next year's tour has been renamed "Great Rail Experiences Tasmania Tour". It covers 10 days and includes two major events. The usual Steamfest on the March long weekend will be a fitting follow-up to the National Historical Machinery Rally, which occurs at Carrick (near Launceston) on the preceding weekend. Additionally, a visit to Beaconsfield Heritage and Mining Centre plus a stop at the Low Head Lighthouse Museum and options for an extra trip on the West Coast Wilderness Railway, Gordon River cruise and excursion to Port Arthur are added to the itinerary.

Enquiries can be made by contacting tour@redwater.org.au or telephoning 0458 190 591; bookings close on 31 December.

Tony Coen 6/14

Steamfest Tasmania tour participants during their visit to the Wee Georgie Wood Steam Railway at Tullah. *Photo: Tony Coen*

XANTHE *0-4-0T Avonside 1624 of 1912 at Sandstone Estate. Due to demand many trains scheduled to be hauled by small locomotives were hauled by NGG Garratts.* *Photo: Wendy Black*

OVERSEAS NEWS

SOUTH AFRICA, Ficksberg

610mm gauge

Terry Boardman reports: Having been inspired by John Browning (LR Dec 2013), David Rollins (LR April 2014) and Graham Black, my wife Pat, and I, took ourselves off to Ficksburg South Africa and spent eleven days at Sandstone Estates for the 10 day Stars of Sandstone heritage extravaganza held from 12 to 21 April.

We only had a rough idea of what to expect and were absolutely overwhelmed with the many spectacles.

On my count a total of 18 different steam locomotives were operated over the period in addition to some 35 vintage military vehicles (including tanks and armoured cars), about 10 heritage cars and trucks, six or so steam traction engines, vintage aircraft, two ox teams hauling farm wagons and farm tractors dating back to the early 1900s hauling various loads.

There were mobility displays by the military armoured and four wheel drive vehicles and in the evenings there was convivial drinks and talk around the evening meal and several interesting talks on military and railway matters as well as displays of dancing and singing by local villagers and farm workers.

I was able to drive military vehicles in the daily convoys and at the Military Salute held on the Saturday. I also fired steam locomotives, drove a 1910 BSA rail car and was the guard of several passenger trains. Pat travelled in trains and military vehicles and enjoyed herself with the farm activities and the many displays and never ceasing activities.

We both felt that our visit was one of the best holidays we have ever had.

We are saving for the 2015 Stars and can thoroughly recommend a visit to others – either as a participant or as an observer.

The 2015 event will take place 2-12 April, see www.sandstone-estates.com/index.php/general-news/2958-stars-of-sandstone-2015

Terry Boardman 5/14

New from LRRSA Sales ...

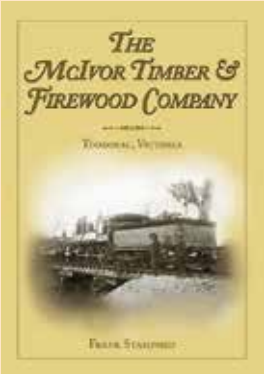
The McIvor Timber & Firewood Company

Tooborac, Victoria

By Frank Stamford

To be published by the LRRSA in August.

Soft cover, 104 pages, A4 size



The McIvor Timber & Firewood Company operated from 1906 to 1927. Its main product was firewood for the Bendigo and Melbourne markets.

To transport the firewood the Company built 5 ft 3 in gauge tramways from Tooborac to Mitchell's Creek, Puckapunyal, Moormbool West and Cherrington. The tramways were operated by two Baldwin 2-6-0 locomotives, and later an ex-VR W class 4-6-0.

This book records the history and routes of these tramways, and gives details of remains which were found on extensive site inspections made between 1971 and 1986.

Most of this area is now occupied by the army and is not accessible. At the time the Company operated, there were settlements at Major's Line and Moormbool West. This book gives an insight into the activities of these settlements, including social events, which the McIvor Company supported.

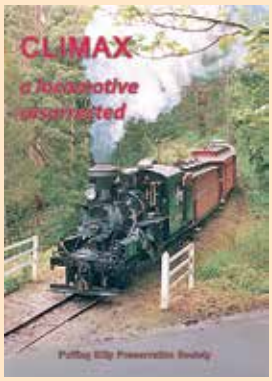
Over 103 photographs, 23 maps and diagrams, references, and index.

Price $30.00 plus postage ($22.50 to LRRSA members)
Weight: 490 gm

Climax a locomotive resurrected

Compiled by Peter Charrett

Published by Puffing Billy Preservation Society



Soft cover, 32 pages, A4 size

Includes a potted history of Climax locomotive No.1694, the Tyers Valley Tramway, the locomotive in service on the Tyers Valley Tramway and Puffing Billy Railway, and photographs of the Tyers Valley Harman and TACL locomotives.

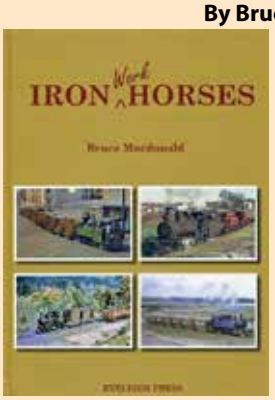
39 photographs - 24 in colour, four-colour map of Tyers Valley Tramway

Price $10.00 plus postage
($9.00 to LRRSA members)
Weight: 160 gm

Iron Work Horses

An Overview of Industrial Steam Locomotives in Australia

By Bruce Macdonald



Published by Eveleigh Press
176 pages, A4 size, hard cover, over 450 photographs.

Gives details of many of the most interesting locomotives in Australian industry, covering locomotives constructed in the UK, Europe, the USA and Australia. Most pages have two or three B&W photographs, with some in colour.

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