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# LIGHT RAILWAYS

Australia's Magazine of Industrial & Narrow Gauge Railways

## SPECIAL 40-PAGE ISSUE

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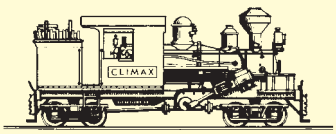


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| | |
|---|---|
| 1 inch (in) | 25.40 millimetres |
| 1 foot (ft) | 0.30 metre |
| 1 yard (yd) | 0.91 metre |
| 1 chain | 20.11 metres |
| 1 mile | 1.60 kilometres |
| 1 ton | 1.01 tonnes |
| 1 pound (lb) | 0.454 kilogram |
| 1 acre | 0.4 hectare |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

## Contents



## Comment

Times are tough. Few Australians have not felt the effects of the Global Financial Crisis, and most of us have had to tighten our belts to some degree.

However, life during the GFC need not be totally devoid of pleasure. 19th century British clergyman, teacher and writer Charles Kingsley once wrote "*We act as though comfort and luxury were the chief requirements of life, when all that we need to make us really happy is something to be* ***enthusiastic*** *about*". If you're reading this magazine, then there's a fair chance you already know what Kingsley meant.

To those so-called 'aspirationals' who embraced the cult of mammon during the boom times, and came to value their lives by the size of their houses or the make of their cars, 'no money' translates as 'no joy'. But to those whose interests are on a more spiritual plane – those with a love of railways, for instance – there's no reason why the joy should come to an end. The fact is, when the going gets tough, the enthusiastic get going!

*Bruce Belbin*

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.

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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:*** *As the elegant 'somersault' starting signal gives the all clear, NA class 2-6-2T 14A (Newport 1914) and its train depart Belgrave, on the Puffing Billy Railway, 13 March 2009. Photo: Kevin Waid.* ***Upper Back Cover:*** *A scene reminiscent of a Queensland sugar mill loco shed in the 1950s, as (left to right) Orenstein & Koppel 0-4-0WT* GERMANY *(6805 of 1914), Bundaberg Fowler 0-4-2T number 3 (3 of 1952) and John Fowler 0-6-2T* INVICTA *(11277 of 1907) raise steam at the Australian Sugar Cane Railway, Bundaberg, in preparation for the special Australia Day 2009 event (see LR 206, pages 27 & 31). Photo: Ross Driver.* ***Lower Back Cover:*** *A special train for a tour group at the Illawarra Train Park is hauled past Yallah station by former Victoria Mill 0-6-0* CAIRNS *(Hudswell Clarke 1706 of 1939) on 7 April 2009. Photo: Robert Marczan.*

*Ruston & Hornsby locomotive and skips on the elevated track beside the raw sand receiving hopper at the treatment works, 30 September 1955.* *Photo: Wal Larsen*

# The titanium tramway at Cudgen

*by Jim Longworth*

From time to time, references appear in this magazine to a small internal combustion locomotive, built by Caldwell Engineering (Australia), that was used on a rather enigmatic tramway operated by the Titanium Alloy Manufacturing Company (TAM Co), at Kingscliff, on the NSW far north coast.[1] While light railway enthusiasts refer to the line as having been at Kingscliff, it was in fact was closer to Cudgen. Although Kingscliff was the larger settlement, the names of the surrounding geographic features refer to Cudgen.

The TAM Co's tramway was an unusual, though not unique, light railway operated as part of the sand mining industry. This article presents what I know about these 2ft gauge mineral sands tramways at Cudgen and earlier lines operated by the company in the hope that it will draw additional information from readers.

## Mineral sand

Attention was first drawn to so-called 'black sand' on the NSW far north coast in 1870, but the first zircon-rutile leases were not applied for until 1927.

What we now call mineral sand was originally known as 'black sand' because of the dominance of heavy dark coloured minerals, varying in content from 15% to 90%. Elsewhere, sand was also mined for its silica content, but not in the TAM Co operation. Mining commenced in 1935 and, following the outbreak of war, demand for zircon and rutile increased greatly.

Raw mineral sand is a mixture of individual grains of different minerals, mixed with ordinary quartz beach sand. Mineral sand contains concentrations of the economically important minerals rutile, ilmenite, zircon and monazite. Each grain remains as an individual clean grain of the respective minerals, which are heavy with relative densities of 4 to 5.5. The relative density of the commonest sand mineral, quartz, is around 2.65 so differentiation by weight can be used to separate the heavy minerals from the lighter quartz sand. Electrostatic separation is also used in treating ores.

Crystals of the minerals originally grew in igneous rocks and in some metamorphic rocks, which over millions of years were weathered and eroded. Grains of quartz and other minerals from the decomposing rock were washed by rain and fast flowing streams down to the sea.

The heavy mineral grains were then carried back up onto beaches by wave action that separated out and then concentrated the heavy grains. Over the years tides and wind helped concentrate the heavy minerals by washing or blowing away the lighter dry quartz sand, eventually creating concentrated deposits of mineral sand on certain beaches. Due to the effect of changing sea levels through time, beach deposits can contain discrete bands of concentrated heavy minerals, sometimes on top of each other.

Commonly mineral sand was mined by a dredge floating in its own pond that had been excavated in the sand dunes. A sand slurry was sucked up at one end of the dredge, the heavy minerals removed, and the waste beach sand dumped to fill in the pond behind the dredge. Some small dredges pumped the excavated raw material to an on-shore concentrator. Either way, both the pond and its captive dredge moved forward together.

The TAM Co, on the other hand, utilised a light narrow gauge industrial railway to transport mineral sand in a dry state

from the mining area to a fixed treatment works. Dry transport was used by other firms, but they transported the dry raw mineral sand by road truck.

### Titanium Alloy Manufacturing Company

The TAM Co was an American firm founded in 1906 by Auguste Rossi, who held the patent for technology that extracted titanium metal from its ore. The company established its operation in Niagara Falls to access the electric power required to manufacture ferro-titanium alloys for use in steelmaking. Rossi found that when mixed in an oil, titanium oxide made the resulting liquid opaque, setting in motion developments that would lead to the genesis of modern paint technology. Rossi and his associates demonstrated the material's effectiveness as a white pigment with unique properties, displacing white lead in paint manufacturing.

### At Angourie Beach

During 1934-35, WH Derrick obtained title over some old mining leases north and south of the mouth of the Clarence River. The TAM Co subsequently took over the leases and Derrick became the company's local manager. Mining started at Angourie Beach at Yamba in mid-1935, with the products being used in the TAM plant in America. The company's main interest at the time was in zircon.

Initial mining on the beach was by shovel, horse, and scoop. Ten men were employed digging and scooping up the denser concentrations of mineral sand. Horse and cart transported the material away for drying, bagging, and shipping to America. The seam was so rich, consisting of more than 50% heavy mineral, that the material required minimal concentration, although concentrating tables were installed subsequently.

Horse and cart transport was soon superseded by a 2ft gauge tramway, on which a horse drew skips loaded with raw black sand along the line.[2]

By 1939 it was stated that '*Transport of crude sand from the beach is performed by a 12-h.p. Diesel locomotive, hauling on a narrow gauge track a rake of six trucks*'.[3] The locomotive was built by Humboldt Deutzmotoren AG in Germany. It was almost certainly builder's number 18306, dispatched on 5 March 1937. This was a 3-ton 600mm gauge, 0-4-0DM locomotive, Model OME117F with a one-cylinder 12hp 4-stroke Deutz diesel engine and had been ordered by WA Fritze & Co, Bremen, for Herbert del Cott, Melbourne.[4] This firm was the Australian representative of The Foundation Company, a British-based firm that converted the St Kilda tramline in Melbourne for cable to electric power in 1925.[5] Herbert del Cott's association with mineral sand mining on the NSW north coast may have been in providing electrical expertise for process engineering.

Max Rutledge, of Yamba, was a locomotive driver at Angourie Beach. One day, having stopped the locomotive, he was surprised when what appeared on first sight to be a nearby log moved. The 'log' was a 15ft long crocodile. Thinking the crocodile was about to charge the train, Max hurriedly started the locomotive's engine, and sped off along the line. The crocodile disappeared into a hind-beach swamp. Max's sighting was later confirmed by other witnesses who had seen the animal on other occasions, on the line and elsewhere. It may have liked basking on the warm trackbed. Despite much searching the animal was never caught.[6]

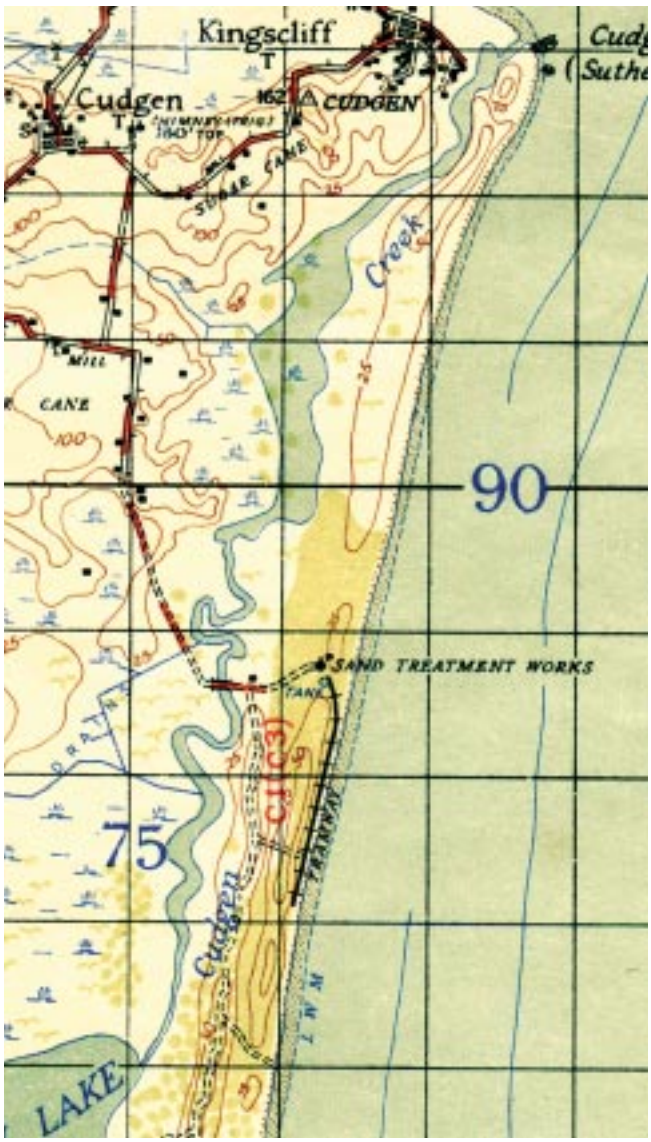
After depleting the rich mineral sand deposits at Angourie Beach, the company proceeded to mine mineral sands at Wooli, Iluka, and Minnie Water. During 1940, the TAM Co. mining and processing plant was relocated to Cudgen, where there was another very rich deposit of mineral sand.

### At Cudgen

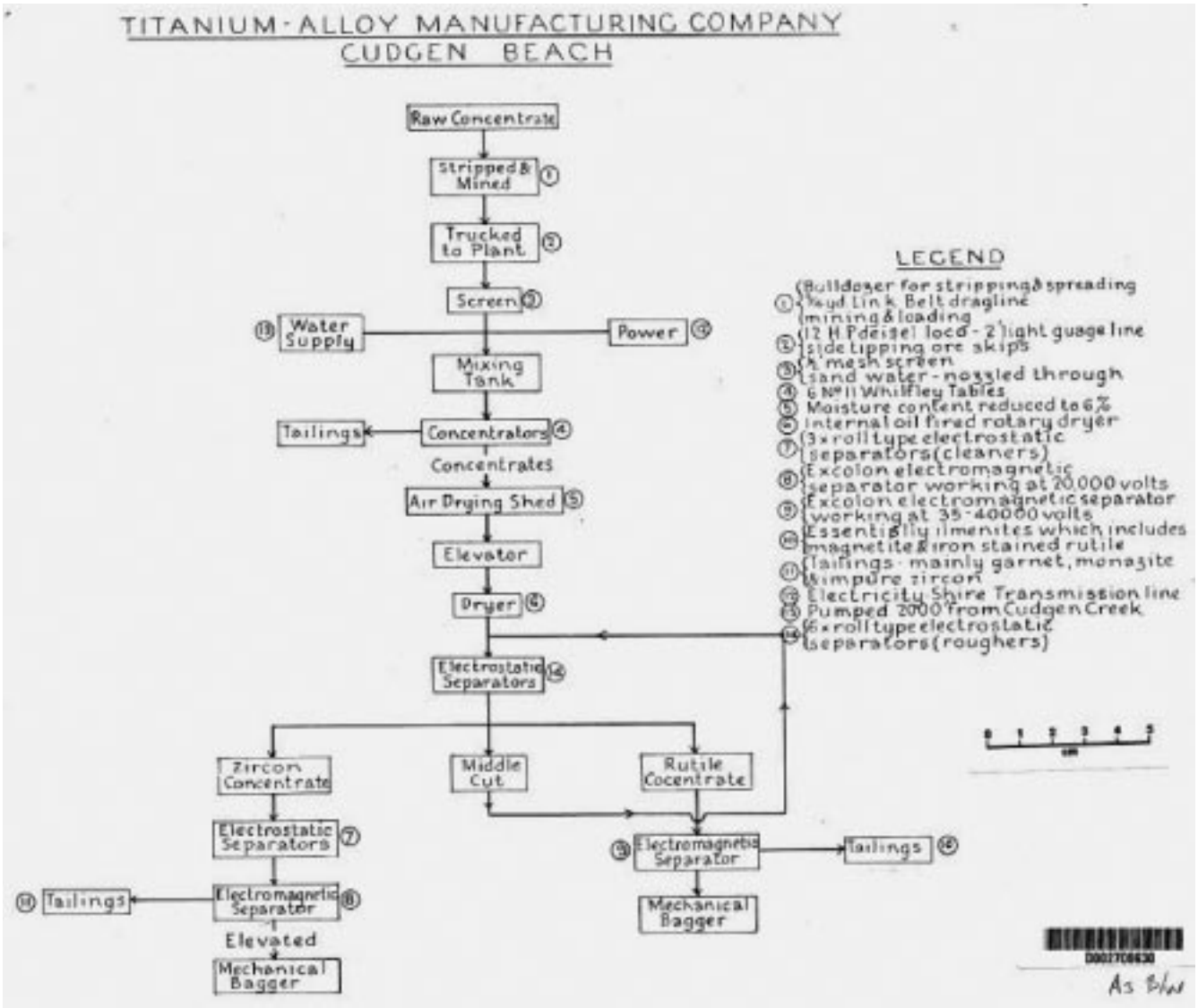
Initial reports about the operation at Cudgen refer to the proprietors as Messrs. Porter and Derrick, and later reports refer to the TAM Co. The names seem to have been used interchangeably and it is quite possible that the two gentlemen were shareholders or directors of the local company, the Titanium Alloy Manufacturing Company Pty Ltd. The whole of the Cudgen mineral production was shipped to the TAM Co in the USA.

The Second World War provided a major impetus for growth in the mineral sand mining industry. Heavy industry associated with production for the war effort absorbed all the mineral sand that Australia could provide. In particular rutile was highly valued for use in producing flux for welding rods. Mineral sand was also a vital necessity in making smokescreen fuel used by the navy during the war – earning the mine at Cudgen the nickname of the 'Smokescreen Mine'.[7]

Like most light industrial tramways, the line at Cudgen formed a transportation link in the chain of an industrial process, in this case the mining of zircon and rutile. The company was able to invest in tramway technology because of the extraordinary richness and size of the mineral sands deposits at both Angourie and Cudgen. Material to be found under the frontal dunes along Cudgen beach occurred in a seam 6 feet thick, in enormous volumes.




*Location and contemporaneous geographic setting of the TAM Co titanium tramway, NSW Norries Head, 1:63,360 map, 1942.*




*TAM Co., Cudgen, Process Flow Chart. Note item No.2 on the chart and in the legend, 1949.* *Department of Mines.*

Mining practices at Cudgen were similar to those that had been used at Yamba. Mineral sand was shoveled from the beach into skips which were hauled by a small diesel locomotive along a 2ft gauge tramway. The tramway ran from the sand pit and between the back of the beach and Cudgen Creek to the sand treatment works, as shown on the map. In the expanding sand pit, a bulldozer was used to clear the vegetation and strip the topsoil and overburden. Sand appears to have been loaded by dragging a scoop up an inclined ramp to be emptied into the skips.[8] By 1942 the line was almost exactly one mile long. No evidence has been found to suggest that the tramway grew, shrank, or was relocated due to changing operations. After about 1950 a dragline was used for mining, and loaded the mineral sand into the side-tipping skips for transport to the works.

At the works the sand was tipped from the skips into a receiving hopper located beside a section of track that was elevated on a long timber trestle. From there the sand was washed, by pressurized water, through a ½-inch mesh screen, processed, and bagged for transport to market, as shown on the process flow chart. Processing at this works aimed at separating out the zircon and rutile. A third mineral, ilmenite, was extracted by the electromagnetic separator, but was dumped as tailings.

By the end of the war, Australia had become the world's largest supplier of rutile and zircon. High demand lead to significant advances in extraction and processing technology. Mining methods developed from relying on hand-digging and horse and scoop excavation to large scale mechanical excavation using a mobile self-contained treatment plant – to the eventual demise of the light railway. Nevertheless the tramway at Cudgen had a surprisingly long working life, starting about 1940 and lasting well into the late 1950s. Some mined areas were re-mined several times using increasingly sophisticated extraction technologies.

The tramway's environment can only be described as hot, dry, glary, windy, salty, and extremely gritty – not an ideal situation. The salt laden atmosphere quickly corroded metal parts. Hard sharp grains of the heavy minerals and quartz sand quickly abraded working parts of any mechanical equipment.

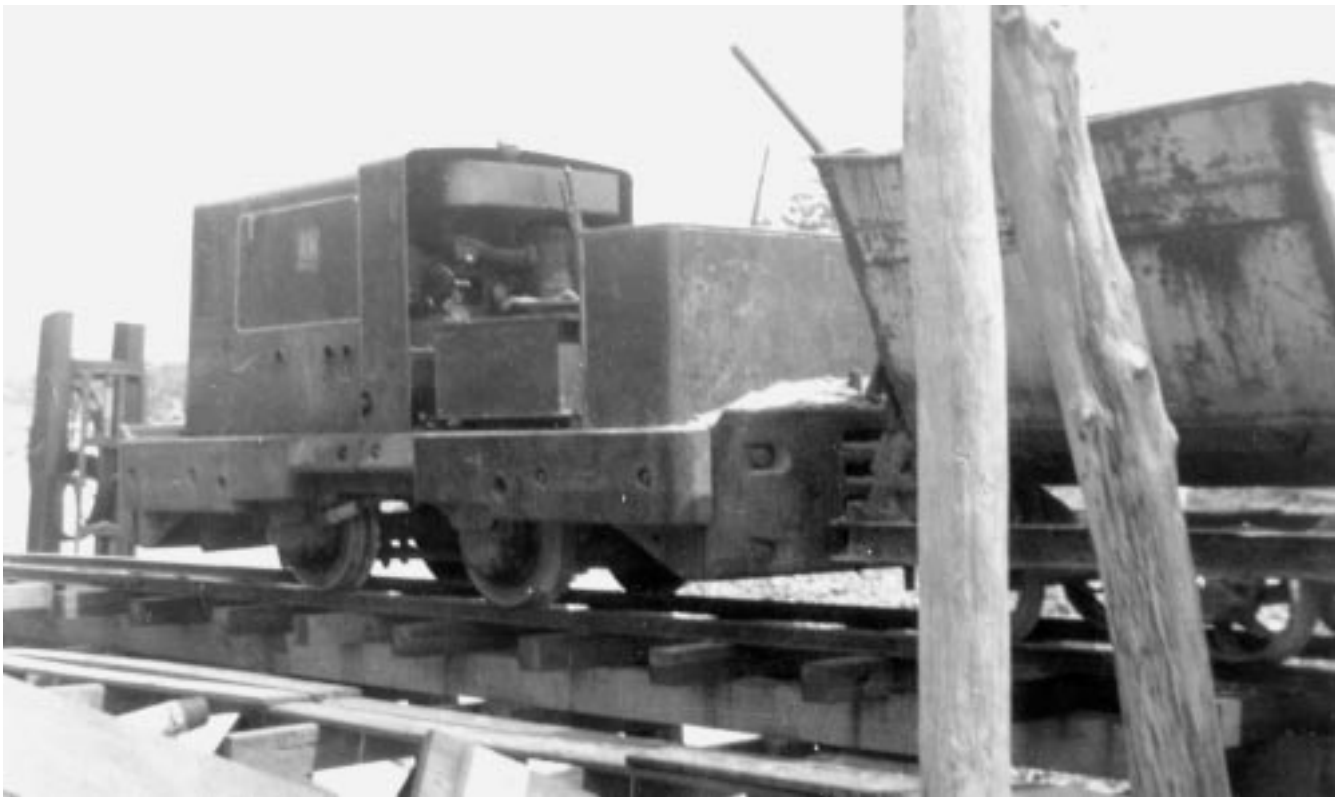
## Rolling Stock

At least four small internal combustion locomotives are known to have been associated with the TAM Co tramway at Cudgen.

The first locomotive to arrive seems to have been the '*12-h.p. diesel locomotive*' that had worked on the tramway at Angourie Beach near Yamba in 1939. This was probably the Deutz locomotive, photographed on 30 September 1955 at the TAM Co works at Cudgen. Its fate is unknown.

During 1942 it was stated that '*A new diesel loco has been purchased*'.[9] This is probably the 4-wheel diesel locomotive built by Caldwell Engineering (Australia).[10] This locomotive was fitted with a Fowler diesel engine.

***Clockwise, from left:*** *One of the two Ruston & Hornsby Model 40DL diesel locos, 30 September 1955. Photo: Keith McDonald ❑ Deutz locomotive, noted at Cudgen as '(not used)', 30 September 1955. Photo: Bruce Macdonald collection ❑ Locomotive built by Caldwell Engineering (Australia) showing the small oval Builder's plate attached to the rear of the cab, 30 September 1955. As this locomotive had a 'Fowler' radiator, some contemporaneous photographers referred to it as a 'Fowler diesel locomotive', confusing its identity. Photo: Wal Larsen ❑ Lincoln electric generator set powering a portable electric device. The generator was normally towed around as required, mounted on its homemade timber sled, 30 September 1955. Photo: Wal Larsen ❑ Locomotive shed at the treatment works, 30 September 1955. Immediately to the right, out of view, the track passed underneath a gantry frame made out of tree trunks, the top horizontal piece resting in a fork on the top of the vertical uprights. Photo: Wal Larsen*



*Driver's view of a Ruston & Hornsby diesel loco, 30 September 1955.* *Photo: Wal Larsen*

The final two locomotives were built by Ruston and Hornsby of Lincoln, England, who built some thousands of small diesel locomotives for use in industry all over the world. The two at Cudgen carried builder's numbers 279567 and 371959.[11] These were 6-ton locomotives of Model 40DL, fitted with a Ruston 3VRH diesel engine. 279567 was ex-works in August 1949 and 371959 was ex-works in December 1953.[12] These locomotives were supplied without cabs.

Sand was carried in rakes of the ubiquitous, 4-wheel, steel bodied, side tipping, V skips, with bodies on the skips coming in two heights.

**Locomotives of Titanium Alloy Manufacturing Co Pty Ltd, NSW**

| | | | | |
|---|---|---|---|---|
| 0-4-0DM | Deutz | 18306 | 1937 | Model OME117F |
| 4wDM | Caldwell Engineering | | 1942? | |
| 4wDM | Ruston & Hornsby | 279567 | 1949 | Model 40DL |
| 4wDM | Ruston & Hornsby | 371959 | 1953 | Model 40DL |

## Demise

During 1955 the TAM Co invested in two 60-tons/hour dredges on which concentrators were mounted. The dry plant was rebuilt, but the tramway seems to have gone out of use a few years later.

The Caldwell Engineering (Australia) locomotive was disposed of to a machinery dealer, Philip Peachey, at Ormeau in Queensland and in 1960 was obtained by Pat Byrne, a cane farmer at Chinderah, NSW. He used it to haul sugar cane on a tramway that commenced adjacent to the Tweed River and connected to the Condong Mill line between Cudgen and the mill. The basic structure of the locomotive was later reused in a steam outline internal combustion locomotive at Sea World on the Gold Coast.

The Colonial Sugar Refining Company purchased the two Ruston and Hornsby locomotives for use on its nearby Condong Mill tramway where they became No.5 (279567) and No.6 (371959). They were fitted with cabs which appeared to be recycled from earthmoving equipment. The tramway system at Condong closed at the end of the 1974 crushing season. No.5 was purchased by ANGRMS, and was moved to Rocklea in Brisbane where it was restored to working order. It was used at the Rocky Point Sugar Mill centenary celebrations in 1978. From there it was transferred to Woodford where it is now used for track maintenance duties. No.6 was preserved at the mill, together with a collection of tramway rolling stock. It was subsequently acquired by the Illawarra Light Railway Museum Society and has been restored to working order at its Albion Park workshop.

Peppers' Salt Resort & Spa has recently been built right smack on top of the treatment works and tramway at Cudgen. I wonder if any of the visitors to the resort ever realise that they are reclining in luxury where once the sights, sounds, and smells of a diesel-powered sand mining tramway pervaded the windblown, salty, seaside air?

The willing and invaluable assistance of John Browning and Bruce Macdonald in preparing this article is acknowledged and appreciated.

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# The standard gauge Victorians go west

*by John Browning*

Following my original piece on this subject in *Light Railways* 169, Colin Harvey has been busy researching State Electricity Commission of Victoria correspondence files at the Public Record Office Victoria, and as a result more of the story can now be told. It appears that Ruston & Hornsby Model 48DS 4wDM locomotives 279600 and 279601 were delivered to the SECV in 1950, but were never used by their original purchaser. They had been intended for use in the construction of a massive dam at Pretty Valley, planned as part of the Kiewa hydro-electric scheme. Here it was intended that they should convey concrete on a 200ft track from the mixing plant to an aerial cableway.

With the curtailing of the planned scheme, the construction of the dam was officially deferred after only preliminary earthworks had been undertaken. On 10 December 1951, the two locomotives, numbered 13-E-9 and 13-E-10, were offered for sale to the NSW Metropolitan Water Sewerage & Drainage Board.[1] The offer may have come just too late, or the 7½ ton locomotives may have been seen as too lightweight, because it was at about this time that the MWS&DB was in the process of buying diesel locomotives from England for an apparently similar purpose in the construction of Warragamba Dam. Two 18-ton 'Planet' locomotives were despatched to Messrs Yarrow Ltd of Sydney on their behalf in July 1952.[2]

*One of the Ruston 48DS locomotives propels the clay hopper on standard gauge track. Photo: courtesy Midland Brick*

On 17 June 1952, the two SECV locomotives, described as "new" were recommended for disposal, along with six standard gauge 4-wheel flat-top trucks numbered 18-A-29 to 18-A-34, described as "in fair order". It is not clear where this equipment was located at the time. On 29 November 1952, it was recommended that the concrete mixing plant should be sold.[3] On 19 February 1953, it was recommended that parts of the aerial cableway itself, supplied by Perry Engineering, should be disposed of.[4]

On 24 January 1953, the State Electricity Commission was in correspondence with Harris Scarfe & Sandovers Ltd regarding the proposed purchase of the locomotives and flat-top trucks on behalf of their client, Kellogg International Corporation of Kwinana, Western Australia.[5] The day before, the then Premier of Western Australia, Sir Ross McLarty, had inaugurated construction work at Kwinana on what was to become the BP oil refinery. Kellogg was the construction contractor. On 20 April, 1953, the SEC acknowledged receipt of a cheque for £8910 from Harris Scarfe & Sandovers Pty Ltd. Construction continued to around the end of 1954, with the first oil processing commencing in February 1955.[6] It seems likely that the locomotives were used at Kwinana, but if so it must have been for internal construction work only as at the time there was no external standard gauge rail connection to the area.


*The photograph that indicated the presence of a Ruston locomotive at Midland Brick. The main interest now is in the clay hopper. Can anyone indicate its origins? Photo: courtesy Midland Brick*

Confirmation of the presence of the locomotives (or at least one of them) in Western Australia was discovered by accident when browsing the web for information about narrow gauge railways used in the Perth brick industry. A photograph taken at Midland Brick in Middle Swan showed a small part of a locomotive that looked somewhat familiar and revealed itself to be a Ruston 48DS. With no other candidates available, this has to be one of the ex-SECV units, which appears to be on an internal standard gauge line. The locomotive is propelling a single four-wheel clay hopper numbered 12.[7] I have not been able to discover the origins of this vehicle.

Thanks to Denis Druzianich of Midland Brick, further images were obtained from a DVD made in 2006 to celebrate Midland Brick's 60th anniversary. It shows that the clay hopper was propelled from the pit by the locomotive to a point where it was hauled up to the works up a moderate incline over a cable-worked section of track. A further sequence is of show-business personality Rolf Harris riding on a Ruston locomotive, numbered KDL.1, on a visit in 1963. The locomotive appears to be propelling a clay hopper into a building at

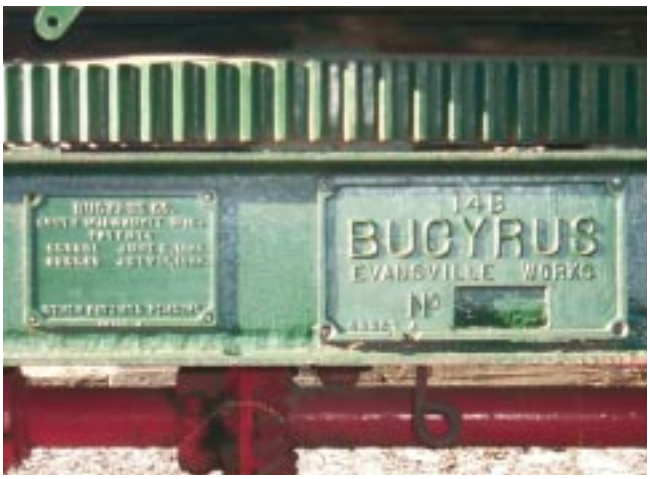

*This 1963 shot of Rolf Harris aboard a locomotive within a works building shows that is was numbered KDL.1 and still carried its Ruston & Hornsby crest. Photo: courtesy Midland Brick*

*The Bucyrus steam shovel from the Lew Whitman collection on display at Whiteman Park. Did it work at Midland Brick and/or in the construction of the Kwinana Refinery? And what of its previous history? Could it have been used in the construction of the Trans-Australia Railway?*
*Photo: courtesy Whiteman Collection*

the brickworks. The use of a locomotive at two different locations separated by a cable-worked section could suggest that two locomotives were in service. However, the incline does not appear to be too steep for a locomotive to negotiate light engine.[8]

Lindsay Watson pointed out that a standard gauge excavator is to be found at Whiteman Park. He recounted that Lew Whiteman had obtained it for his Mussel Pool collection from Ric New of Midland Brick. It reputedly had been part of a quantity of rail construction material used to build the Kwinana Refinery which Ric New had purchased for use at his Middle Swan claypit and brickworks.[9] It seems possible that the Ruston locomotives would have been included in this deal.

Val Humphrey, the curator of Revolutions, the Whiteman Park transport museum, confirms the presence of a Bucyrus




*Maker's plates on the Bucyrus steam shovel.*
*Photo: courtesy Whiteman Collection*

Model 14B revolving steam shovel but indicates that little is known of its history. She believes that it was salvaged on behalf of Lew Whiteman from a clay pit in Bellevue in the period 1963-1977 and points out that some think that the machine may be linked to the construction of the Trans-Australia Railway. It is said that another very similar machine worked in a clay pit at Maylands.[10] It appears that the Model 14B revolving shovel was introduced by Bucyrus in around 1912.[11]

Thanks to Denis Druzianich of Midland Brick, and Colin Harvey, Lindsay Watson, David Whiteford, Val Humphrey, Geoffrey Higham, Alan Porter and Jim Bisdee for assistance in piecing this much of the story together.

Further information about the use of the locomotive(s) at Kwinana or at Middle Swan appears to be elusive and I look forward to learning more in due course. Any information about the history of the Bucyrus steam shovel would also be of interest, whether or not its story is connected to that of the locomotives.

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# Restoration of former St Helena Island tramway carriages at the Kerrisdale Mountain Railway

*by Andrew Forbes*

Four tourist-type carriages from the St Helena Island tramway in Queensland, built on four-wheel whole-stick sugar cane trucks, arrived at the Kerrisdale Mountain Railway by road in 2003. This tramway, operated by the Rotary Club of Wynum-Manly, closed in mid-2002 and the tracks and rolling stock were removed to the mainland and placed in storage (LR 170, p.27).

Following their arrival at the KMR, the carriages were stripped for assessment and the design of brake gear prior to rebuilding, which commenced in 2004 (LR 176, p. 28). As received the carriages had 75mm reinforced concrete floors, which was over 630kg dead weight of each unit – a most undesirable feature on the steeply graded KMR line.

In addition, the concrete floor had been hung over the bowed chassis frames of the former sugar cane trucks by about 100mm each side, which made the carriages look too wide for their length. In the process of rebuilding, the chassis members of the original cane trucks on which the carriages had been built were found to be 'humped', probably from lots of shunting in their 'industrial' days. In the conversion to carriages, a 75 x 75mm angle iron had been built around the original chassis for the superstructure and concrete was poured for the floors and puddled right up to the frames, possibly to hide the 'humped' chassis.

When cleaning the chassis rails, rolled inscriptions were found reading: 'TOJO STEEL JAPAN'. We wondered whether General Tojo had been a recipient of the pig iron shipped to Japan shortly before the war under instructions from 'Pig Iron Bob', which was then shipped back to Australia as RSJ? Prior to World War II, Prime Minister Robert ('Pig Iron Bob') Menzies notoriously continued to allow the shipment of pig iron to Japan in the period 1938-39, though many said that the pig iron would be returned to us through the barrel of a cannon! In this case I am suggesting that the RSJ came from this source as the Tojo Steel mill ended up being a casualty of the Second World War!

*The four carriages from the St Helena Island tramway stand outside the KMR workshop following their arrival in 2003.*
*Photo: Andrew Forbes*

From the stripped carriages we were able to salvage the axles and wheels, hubs and bearings, as well as all the timber work. the bodywork was cut and shut to fit the KMR loading gauge and improve their aesthetic appearance. In the process, seating capacity was reduced from 12 passengers per carriage to nine. The concrete flooring was replaced with marine-ply sheets with rubber grip overlays, and the ends of each carriage have received a weather panel. KMR standard fully compensated four-wheel screw brakes were fitted to the previously unbraked carriages and rubber blocks were inserted above the roller bearing hubs to provide springing for passenger comfort. This has given the carriages a distinct lift and, together with their altered proportions, has made them much more aesthetically pleasing.

*Two of the restored carriages stand in The Summit Loop on the Kerrisdale Mountain Railway with the restored Ruston & Hornsby 20DL locomotive No.4 (B/N 285301 of 1949). The KMR brake pedestals and the 'lift' given by the rubber springing will be noted in comparing this scene with the appearance of the carriages on arrival at Kerrisdale.* *Photo: Andrew Forbes*

# The Granville Tram

*by Lindsay Whitham*

*This was the last article written by Lindsay Whitham before his death in April 2008. It was published in the April 2007 issue of the* Papers and Proceedings of the Tasmanian Historical Research Association *and it is republished here with the Association's kind permission.*

On Saturday 8 November 1913, Edward Mulcahy, Minister of Lands, Works and Mines, sent this eagerly awaited telegram to the Warden of Zeehan, W Fisher:

*Instructed Engineer-in-Chief[1] to proceed construction wooden tram beginning point near Western Tram capable connection thereto or direct continuation to Zeehan. Employment will be given preferentially to Zeehan married residents with families and not now at work. Hope to put men on Monday.*

Further details specified that the tram was 'towards Granville'.[2] There had been so many months of discussion that presumably Mulcahy considered the inclusion of the word 'Granville' in the initial paragraph superfluous. It was freely acknowledged that the tram was basically an unemployment-relief project with little prospect of ever being economically viable – so, what had happened to the glittering silver-lead mines of Zeehan and where was Granville?

## The collapse of the Zeehan mining field

The Zeehan silver-lead field was comparatively shallow – only four mines were sunk below 300 feet. As intensive mining had been carried on since the early 1880s, production was already slowing by 1900 when the Western mine, the deepest and second richest, closed. It was later bought by its neighbour, the Zeehan–Montana, renamed the Zeehan-Western and reopened, although its concentrating mill was not. In 1908 the directors of all the English-owned mines issued a joint statement in London that they considered any further deep-sinking at Zeehan to be a waste of money. Then a stand-off over smelting charges between the owners of the Hercules mine at Mt Read and the German Smelters at Austral resulted in a two-year closure of the smelters.[3] Many of the smaller mines, deprived of a market for their ore, were forced to close with domino effects on other trades. Although some mining continued, many families left Zeehan. After the Government, alarmed at the serious economic effect of the closure, intervened to broker an agreement, the smelters resumed operation in June 1911.[4] The renewed activity only lasted a little over two years until the smelters finally closed in October 1913 and despair settled upon Zeehan again.

## Granville

Granville was a township reserve, about half a square mile in area, on the Tasman River 12 miles west-north-west from the Zeehan Railway Station.[5] The surrounding area had been prospected intermittently over the preceding 30 years and actively mined since 1912. The Heemskirk Tin Syndicate was vigorously prosecuting sluicing operations in the reserve area, with water brought to the site in a six-mile long race from the upper reaches of the Heemskirk River. Except for some timber leases along the line of the proposed tram, the Heemskirk mine, with a forecast life of six years' sluicing and dredging, was the only foreseeable major source of traffic for the tram. There was constant local agitation for the proposed tramway to be extended another five miles westward to the

*O'Brien's mail car on the Granville tram, February 1926.*
*Photo: Archives Office of Tasmania*

Granville Harbour pastoral and agricultural areas. Some 3000 acres had been partially cleared and were in use for fattening cattle on their way from the north-west via the Pieman Heads to the Zeehan abattoirs, but the cattle walked out and the distance to any market, other than the moribund Zeehan, would preclude the development of the agricultural areas for many decades. The question arises – why spend unemployed relief money on a new tramway when the mine must obviously have had a practicable access already?

## An alternative route

Until 1891, the only major track or road into Zeehan was from Remine at Trial Harbour, the town and port built for the South Heemskirk tin-mining boom of 1880 to 1884. At that time, a good road had been built northward from Remine almost to the Tasman River, branching there into two well-formed tracks, one to Corinna for the mailman and telegraph line, the other a cattle track to the Pieman Heads.[6] In 1891, the cattle track was diverted through Granville, direct to Zeehan, shortening the distance from the Pieman Heads and Corinna by 15 miles[7] and providing Zeehan with a well-built structure with several substantial bridges, as its first northern outlet.[8] After the railway from Strahan reached Zeehan in February 1892, the Trial Harbour and Coast Roads were virtually abandoned except for minor repairs for occasional

mining works, such as the Federation Mine's initial attempts to establish a large mill, and fell into disrepair. When the predecessors of the Heemskirk Tin Syndicate started up in 1912, the Government provided £1000 for repairs to the Corinna Road (formerly the Trial Harbour and Coast Roads) to enable them to take in heavy mining machinery. The vote was in two items of £500 each: for the road from Zeehan to the Federation Mine turn-off, and from there to the mine.[9] An advantage of this route, compared with the projected tram, was that the infrastructure was already in place. Its disadvantages were the greater distance and the many steep gradients.

## Authorisation

The statement of 'Proposals for Public Works' in the ensuing year that was presented to Parliament on 27 August 1913 by the Minister, Edward Mulcahy, included an item – '[Tramways] No. 995 Zeehan Railway Station towards Granville - £20,000.[10] It was intended that this should be a two feet gauge steel-railed tramway designed for steam traction[11] starting from the station and, where possible, running on existing tracks to the end of the original Western steel-railed tram and thence on a newly constructed line for about 13 miles to Granville. The Bill was passed by the House of Assembly. However in the Legislative Council on 5 November 1913 Mr CH Hall, the Member for Russell and a mining investor by profession, immediately moved that the Bill be withdrawn because the prospects for the Heemskirk Tin Syndicate's mine were too low to ever make a tramway profitable. He withdrew his motion when the main purpose of the tram was explained, although, along with other Members, he campaigned vigorously to reduce the vote. The Government finally succeeded in winning approval for £10,000, sufficient for a wooden-railed line[12] built to standards which would permit conversion to steam traction. The Act[13] prudently specified '*towards* Granville' (my italics) because only sufficient reconnaissance for a feasible route and preliminary estimate had been carried out.

## Acquisition, design and construction: the Zeehan (steel-railed) section

Late in 1912 the Public Works Department asked the Zeehan Municipal Council if, using its local knowledge and contacts, it would report on possible routes from the station to the end of the Western Tram. The preferred route, subsequently adopted although not without some hiccups, was along one quarter of a mile of the Tasmanian Government Railways' line north of the station to the junction with the Zeehan Tramway Company's line; along Wilson and Main Streets by the Zeehan Tramway Company's line to the junction with the Zeehan-Montana tram; six chains of the Zeehan-Montana double track loop and thence along the Western tram for two miles; a total of almost four miles. The Council reported that the Zeehan Tramway Company was unwilling to make a firm commitment to granting running rights over its line and that John Craze, manager of both the Zeehan-Montana and Zeehan-Western companies, when first approached in January 1913, was unwilling to sell. Several alternative routes using existing Government and private tramways, where possible, were proposed, but eventually not needed.

The Public Works Department opened negotiations with the Zeehan Tramway Company in February 1914 by wielding a big stick – an offer to buy out the company was made together with a reminder that the Company's Act[14] provided for compulsory acquisition at an agreed price or at a price fixed by an arbitrator, if necessary. The Public Works Department considered the Company's asking price of £7000[15] too high, in view of its downturn in revenue consequent upon the closure of the smelters and their current prospects, and obtained an independent valuation. This, though not disclosed, was so much lower that the Public Works Department warned the Zeehan Tramway Company that an arbitrator would almost certainly award them much less than they had asked. It was agreed to drop the proposed purchase and the parties negotiated charges for running rights.


*The Western Mine, circa 1895. A Krauss 0-4-0WT locomotive can be seen in the centre right of the photo. Photo: Archives Office of Tasmania*


*Western Mining Company's Black Hawthorn 0-4-2T locomotive* WESTERN *(1134 of 1898), with a train of side-tipping wagons, outside the Venezia Hotel, at the western end of the Zeehan Tramway Company's line in Main Street, Zeehan. The track in the foreground leads to Montana Loop.* *Photo: Zeehan Museum*

The acquisition of the Western Tram should have been a simple commercial transaction which could have been finalised quickly, but bureaucratic bungling in the Public Works Department, from the Minister down, stretched it out for over two years. The story is summarised here.

In October 1913 John Craze, doubtless influenced by the imminent closure of his Zeehan-Montana mine – the richest on the field – offered to sell to the Government what became known as the Western Tram, although it included a short length of the Zeehan-Montana tram. After the usual bargaining with Mulcahy and the Public Works Department, in mid January 1914 Craze made a formal offer to sell the tram for £1700. On 6 May the new Minister, John Belton,[16] notified him that this offer had been accepted. The £1700 covered two items – £200 for six chains of the double-track Montana loop and £1500 for one mile of track, with rails in good order, about one mile of track where the rails had been pulled up but with formation in good order, and 45 tons of used rails. Craze was also guaranteed running rights over the lines purchased to enable him to despatch ore from the Zeehan-Western mine to the Zeehan-Montana mill and £1 per week rent for the lines until receipt of the purchase price.

Craze, perhaps naively, believed that he would be paid promptly and submitted his account, only to be informed that he could not be paid until the money was voted by Parliament. Someone had expressed doubt as to whether this sum could be charged to the £10,000 allocated to the tramway, but left the question unresolved. From then on Craze submitted monthly accounts rendered, accompanied by letters expressing increasing frustration. Six months after his offer had been accepted, the Public Works Department sought an expression of opinion from the Solicitor-General. He could have simply said 'No', but instead produced this gem:

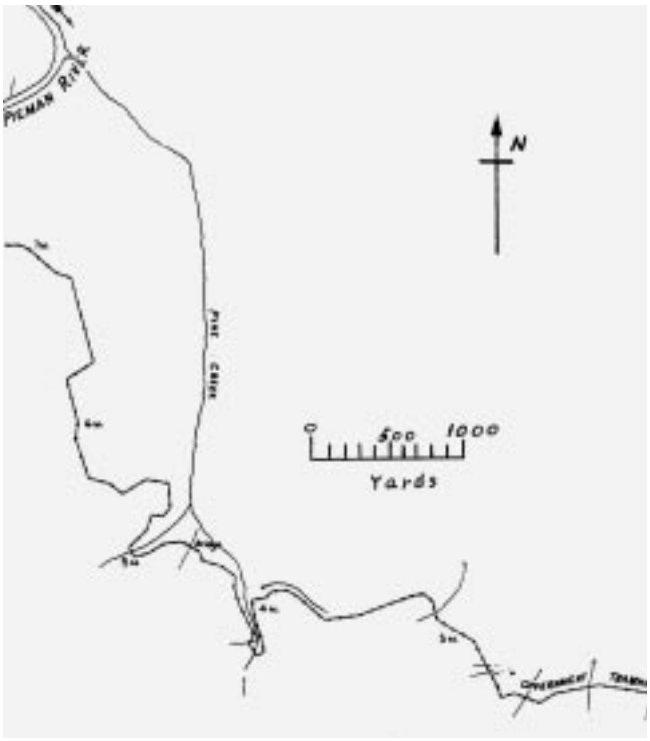
*I think it is abundantly clear that the purchase of the Western Tramway (a line already constructed) and the stock of rails … cannot , without an unwarranted straining of the language, be brought within the purpose of that Vote … Parliament should be asked to make provision for the necessary expenditure.*

The £1700 was hastily placed in *Supplementary Public Works Proposals, 1914*[17] as Item 37 'Purchase of Western Tram' and approved in the Public Works Execution Act (No 3) 1914,[18] signed on 6 February 1915. Craze must have expected payment there and then, but there was till one more piece of red tape which even Craze had overlooked. He could not sell the tramways until he returned the lease documents to the Department of Mines, together with any outstanding charges. When required to do so in November 1915, he returned them promptly accompanied by a terse note, 'I expect a cheque in a few days'. This time he was not disappointed!

Even so, the saga was not over. Craze, who by now had left Zeehan to manage a mine at Moina near Sheffield, had not received one penny of the rent for the use of the line. A verbal promise had not been confirmed in writing. Craze now claimed that Public Works Department Inspector Grubb had made the promise, which Grubb vehemently denied. In November 1915, Craze submitted an account for two years' rent, of £104, with a threat of legal action if it was not paid. It is possible that this stirred the memory of the Secretary for Public Works, for he recollected that on 22 February 1916 the former Minister, Edward Mulcahy, had told him that it was he who had made the promise. Craze's cheque was mailed within a week.

## Acquisition, design and construction: the Granville (wooden-railed) section

The Public Works Department District Inspector, Robert Grubb, was appointed to take overall charge of the field work. Because of his extensive local experience,[19] he was given the task of selecting the route of the tramway. A senior-ranking engineer, Alex McIntosh Reid, was allotted the task of setting out the line within the corridor chosen by Grubb, an arrangement which not unnaturally caused some friction between the two men. In June 1914, Grubb was transferred to another unemployment-relief project – the Government extension of Dunkley's Tram towards Crimson Creek. Reid




*Survey traverse of the completed line at Pine Creek.*

took full charge of the wooden-railed section until work stopped in December 1914 when funds ran out. Reid was then transferred to railway construction in the north-west. When money was made available early in 1915, Grubb was recalled. The formal Public Works Proposal for completion was not made until October 1915[20] and £4800 was approved in January 1916[21] - a procedure markedly different from that which applied to the purchase of the Western Tram. Overall design criteria were set to ensure that, if upgrading to steam traction became warranted, no alteration to the formation or strengthening of the bridges would be required. The rails were to be four inches by three inches first-grade myrtle in 12 feet lengths nailed to split sleepers, with steel rails on the sharpest curves and steepest grades.

A priority for Reid was to run a line of levels along the nominated line and send each profile sheet to Hobart as soon as it was completed to enable bridge design to proceed. Drawings for all bridges reached Zeehan in time for them to be built ahead of track-laying. The 13 bridges totalled 1130 feet in length, the largest being those over Pine Creek, which was 130 feet long by 30 feet high, and the Heemskirk River, 155 feet long by 30 feet high. As a cost-saving measure, the line was set out directly onto the ground. No written record was kept and thus no detailed plan of the line, nor any detailed profile sheets of the gradients and vertical curves, was ever produced. A survey traverse of the completed line was run, and the drawing – a series of straight lines – was reproduced on relevant Mines and County charts,[22] at the same scale, to show the location of the tramway relative to mineral leases, private land, forestry reserves and so on.[23]

Grubb made a prompt start, putting men on to work on Monday, less than two days after the instruction to begin. An early job would have been to relay the rails on the last mile of the Western Tram so that material from the railway station and from Zeehan merchants could be carried on to the Granville Tram without any unloading and reloading. Progress on the first few miles of open country was rapid until the only significant engineering difficulty was reached – the steep-sided Pine Creek[24] gorge where heavy rock work was required, including an 18 feet 6 inches deep cut. In the interests of economy, some relaxation of grades and curvature was made, although not irrevocably. The first trucks crossed the Pine Creek bridge in early June 1914, and by mid year a work force of 80 men had laid the rails to the five-mile peg.[25]

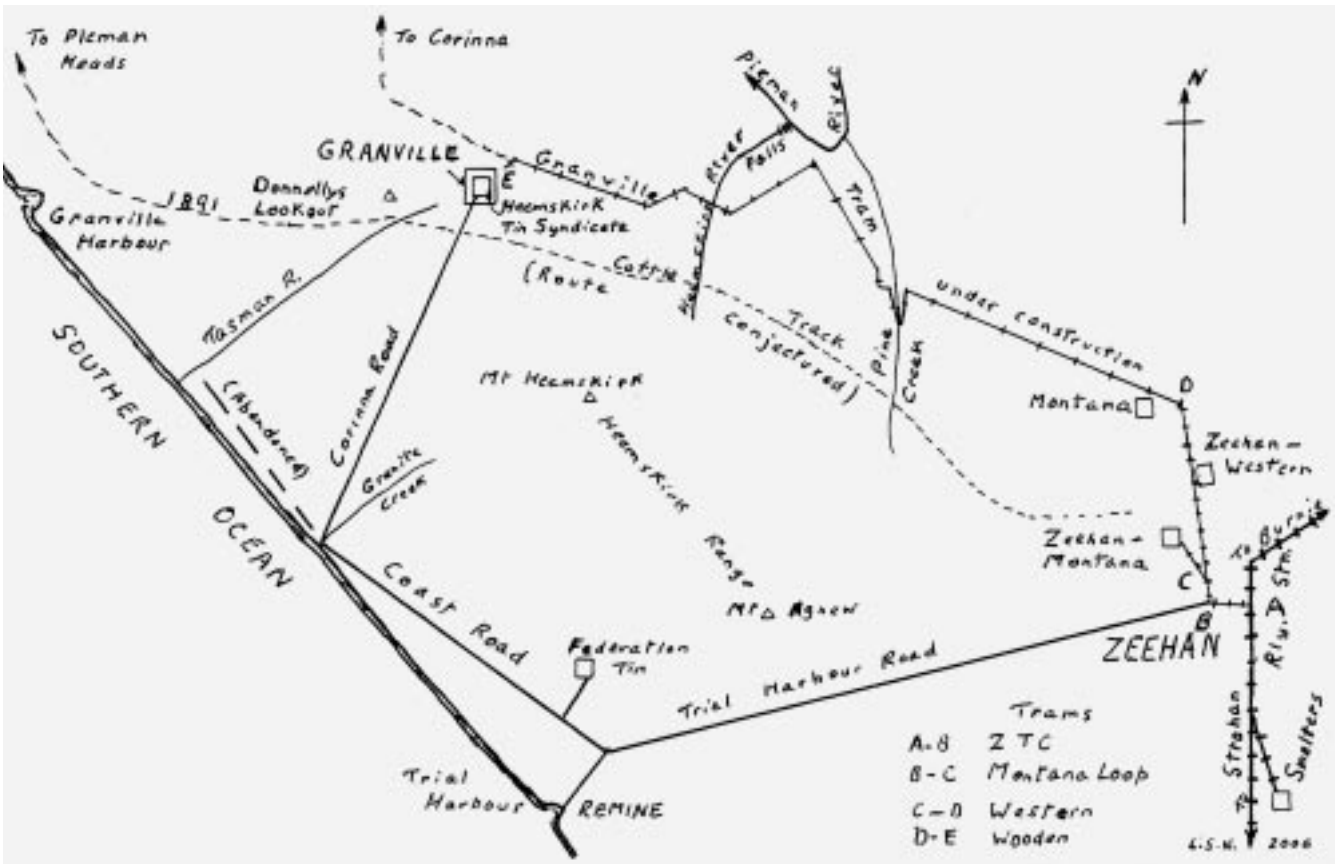



*Diagram (not to scale) showing major roads, railways and tramways in the Zeehan area, 1913.*

In a 'fast-tracking' move, one bridge on the climb out of the gorge was changed to a culvert and embankment when a shortage of bridge carpenters threatened to delay rail-laying beyond this point. The value of this unemployment relief project was starkly emphasised when the Zeehan-Montana mine and mill closed in March, causing more than 200 men to lose their jobs, either directly or indirectly. Dense scrub and abnormally wet weather slowed progress and, by 30 November, when the Heemskirk River bridge had been completed, the £10,000 vote had been expended and only essential work was permitted. At the end of 1914, when all bridges had been built, formation completed to the 11½ mile peg and rails laid to the 10½ mile peg, the work was closed down and 105 men were paid off.

When extra funds were made available, construction resumed in February 1915 with 30 men working under Grubb to finish the line at the 13 mile peg (17 miles from Zeehan). This was still half a mile short of the Heemskirk Tin Syndicate's workings. In his Ministerial Statement on 22 October 1915,[26] John Belton reported that '*the Zeehan – Granville [Tram] had been carried a sufficient distance to provide for the requirements of the mines for which it was primarily constructed*'. In the Department of Lands and Surveys Report for 1918-19,[27] District Inspector Wilson commented, baldly, that '*the Granville Tram was unwisely 'dead-ended' in a bog instead of continuing to Granville Harbour as intended*'. When in 1921 the Heemskirk Tin Syndicate ceased work, leaving the Granville Tram with little but domestic traffic, the possibility of a Government extension towards the Granville Harbour estates was raised once more. When the proposal came to nought, some unidentified person or group built a two-mile extension, but either the materials or workmanship were so poor that it was unserviceable after less than two years of use. Fred Smithies mentioned that it was still in place in March 1924.[28]

## Service history 1915-1933: operation

After two years of fruitless negotiation with the Zeehan Municipal Council for them to take over the running and maintenance of the tram, on 10 June 1916 the Public Works Department called tenders for the lease of the tramway, a full year after the line had been completed. The lease documents specified a twice-weekly service, gave a list of charges for a wide range of goods and services – for passengers at threepence per mile to tin ore at two shillings for 13 or more miles, and a charge of £1 for the use of a tarpaulin – and that the lessee should keep the line in good order and condition. By the closing date, no tenders had been received but a late tender from Dunkley Bros was accepted. It is a matter for speculation whether George Dunkley, the manager, volunteered or was persuaded. With a long history of tramway construction and operation, he would have been under no illusion as to the extent and cost of maintaining wooden structures in that high rainfall area. He started his day-return service on 4 November 1916, the tram leaving his mill at 7am on Tuesdays and Fridays. In 1920 the service was reduced to Wednesdays only.

There is no record of any service, official or otherwise, before Dunkley started but there was a culture in Zeehan that rail tracks were there for all to use. For example, in one of his many letters John Craze told the Public Works Department that, as soon as it became known that he had sold the Western Tram, members of the public started using it, causing 'ware and tare' and later on, even the Electrolytic Zinc Company bought a rail-motor and without permission operated it on the Tasmanian Government Railways line to the Zeehan smelter. The inclusion in Dunkley's advertisements of a stern warning against trespassing with hand trolleys suggests that this practice had been common on the Granville Tram. Dunkley was frequently and loudly criticised for not maintaining the track adequately but when he asked to be released from his contract, at the end of 1923, he defended himself against the accusation by stating that the tram had never been a viable undertaking. He moved his sawmilling enterprises to the Smithton area in 1924, leaving his affairs in the hands of an agent, J O'Brien. O'Brien was persuaded to continue the Wednesday service, for which he was paid a pittance of £4 per trip, and permitted to set his own charges for what little traffic remained. Passengers were charged at eight shillings for a return journey, and tin at three shillings a bag plus threepence per bag when taken to the station for onward consignment. O'Brien was plagued by trespassers using trolleys, trucks and even drays, dragging firewood across and along the track and droving cattle. Even the famous Smithies and King were trespassers, contributing to the damage yet criticising the state of the track, '*Our crushing, jarring and bumping journey was continued over the remaining sixteen miles [into Zeehan] … a most gruelling and trying ride*'.[29] When the last of the individual miners left Heemskirk in 1931, there was no goods traffic left and O'Brien ceased operating the service early in 1933.

*A long straight section on the Granville tram, photographed in February 1926. Photo: Archives Office of Tasmania*

## Service history 1915 to 1933: traffic

No official records were kept of the passengers and goods carried, and the Granville Tram was not even listed in the tramways register in the *Statistics of Tasmania*. At the mine there was a small village that supported a store, possibly a branch of a Zeehan business. For some years, Dunkley had carried letters free, but, when he proposed charging for the service, the residents objected. When Dunkley asked the Postmaster General's Department for some payment, the response was that as there was no evidence of a contract, therefore there was no payment. Perhaps as an outcome of this request, a Post Office named Heemskirk operated there from 1 June 1920 to 31 December 1930 offering very limited facilities, with a weekly inwards and outwards mail service on Wednesdays.[30] The principal freight would, of course, have been the tin from the Heemskirk mine. The Syndicate had produced a total of 237 tons of tin ore from 1913 to 1920, only some of which would have been carried on the Granville Tram. A very small amount was produced later by a small group of miners, giving O'Brien a little freight until this group gave up in 1931. In the late 1920s a party of miners produced a small quantity of silver-lead ore from an area about half a mile north-west of the start of the wooden rails. This area was later – from 1930 to 1950 – worked successfully by the Montana Silver Lead Company,[31] providing some freight for O'Brien.

Tourist traffic was probably negligible, although the spectacular Heemskirk Falls were close to the tramline. I am aware of two trips – one to a picnic at Granville Harbour where one of the party was the wife of Oliphant White, a Zeehan bank manager,[32] and another by my uncle, Charles Whitham, in the course of a mid-winter holiday.[33] Some excerpts from his description of his experience, in Charles' inimitable style, show that it was not a very pleasant trip.

*Once a week, on Wednesdays, the all-pervasive firm of Dunkley Bros run a truck from Zeehan to North Heemskirk, and I shall remember that trip for a very long time, as we encountered the worst weather I have ever seen. Not for one moment of the four hours did the blizzard of fine, driving, icy rain let up on us. I have often been wet through while facing the weather on foot, but never before while sitting in a covered truck, protected by two overcoats. It was not surprising to learn afterwards that nearly 2 inches of rain fell that day.*

*You may not have noticed it for yourselves, but the reason why ordinary railway travelling is fairly smooth is because when one rail leaves off, another begins. This is not always the case on the North Heemskirk tramway, for the wooden rails are neither parallel nor continuous. It takes a deal of skill to drive a truck out there, and the whoosh, whoosh, bump, squash and dives of our conveyance gracefully punctuated the Rebelaisian anecdotes that embroidered the gaiety of our progress.*

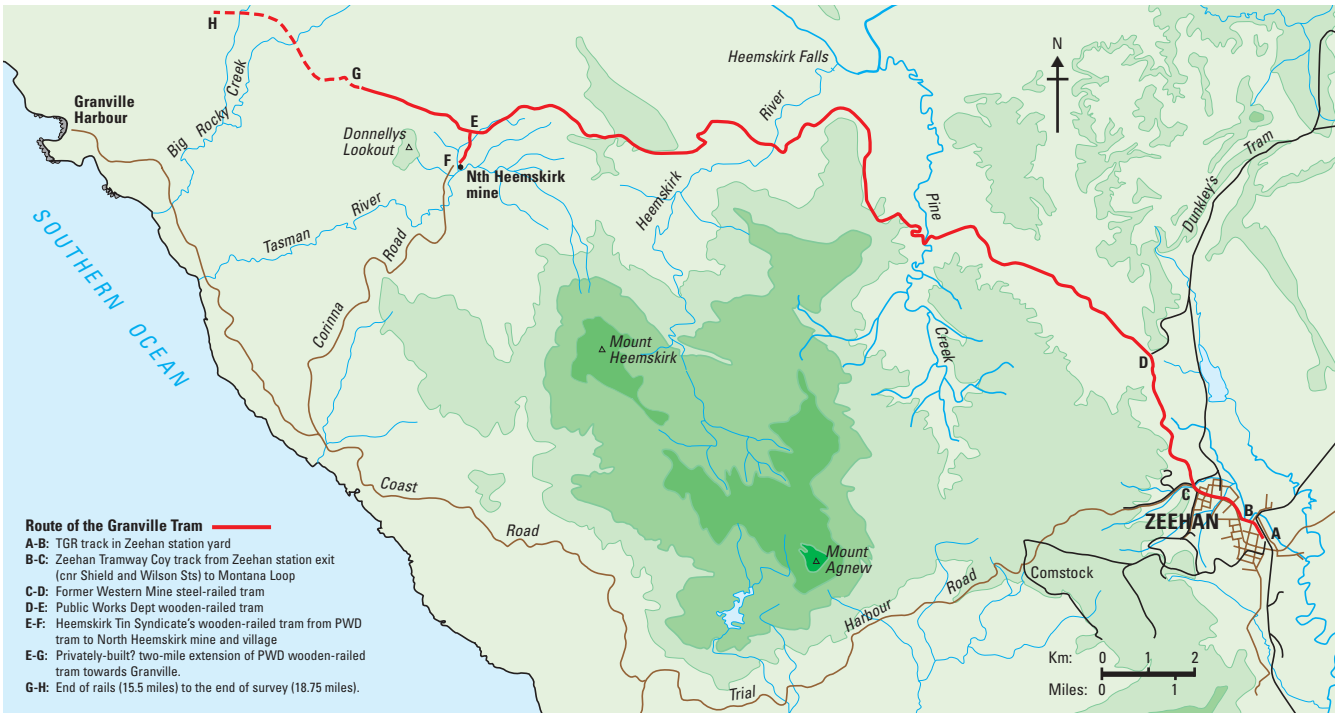
*The road bed of the tramway, and what engineers call its location, are excellent, so are the bridges, and it is quite ready for steel rails if they were justified. It is very serpentine, and in one place, at Pine Creek, you look across a deep gorge, only 50 yards or so, to the place you will not reach for another half mile.*[34] *Most of the way is over open button-grass country, but there are belts of fine timber. Believe me, brothers, we preferred the timber, as the rain there was only just rain, whereas on the moorlands it was a perpetual flagellation by myriads of stinging shot.*

## Service history 1915-1933: decay and closure

Without routine maintenance in the heavy-rainfall climate of Zeehan, rapid deterioration and decay of timber structures was inevitable. The Government, having built the tram as an unemployment relief project, had 'done its duty' and made no money available for maintenance other than for major unpredictable problems, such as the collapse of an embankment in the Pine Creek gorge, the lengthening of the Heemskirk River bridge when an abutment collapsed, and replacement of bridges burnt by bushfires. The Zeehan Municipal Council steadfastly declined over the 20-year life of the tramway to accept responsibility for maintenance. Dunkley must have adopted a tongue-in-cheek attitude when he signed his contract. The track was in an appalling condition by the end of 1923 when he gave up. He tacitly admitted that he had failed to keep the line in good working order by complaining that one recent trip had taken 15 hours and that he was having difficulty finding drivers prepared to undertake the arduous and dangerous work!

Serious consideration was then given to closing the line.

*One of the bridges carrying the Granville tramline, February 1926.* *Photo: Archives Office of Tasmania*




A joint Public Works Department – Zeehan Municipal Council committee, asked to report on the social benefits of retaining the line, stated that there were 40 people along the tram who were dependent upon it for their stores and providing a little revenue by their tin and silver-lead mining. John Ahrberg, ferryman at the Pieman Heads, was also dependent on the tram for his stores.[35] The Government decided to retain the tram, the Public Works Department spending another £50 on repairs sufficient only to keep the line open,[36] and paying O'Brien for his weekly trips.

During O'Brien's eight years of operating the tram with virtually no maintenance, the tramway continued to deteriorate apace. He reported that regrowth of scrub and trees was encroaching on and rendering bridges liable to bushfire damage. In October 1932, the Sergeant of Police at Zeehan took the unusual step of informing his Superintendent in Burnie about the appalling condition of the Granville Tram: '*the bridges are a menace to life…sooner or later a fatality will occur*'. Possibly as a result, Public Works Department Inspector Hardstaff was authorised to spend £400 on essential repairs. But instead his recommendation that the money would be better spent on repairs to the bridge handrails, cutting back the scrub and pulling up the rails and sleepers to convert the tramway into a path suitable for pedestrians and horse-riders, was accepted. In September 1933, a policeman at Zeehan reported that the contractor had done an excellent job and that the whole length of 17 miles from Zeehan '*could be driven without much worry by any motor cyclist*'.

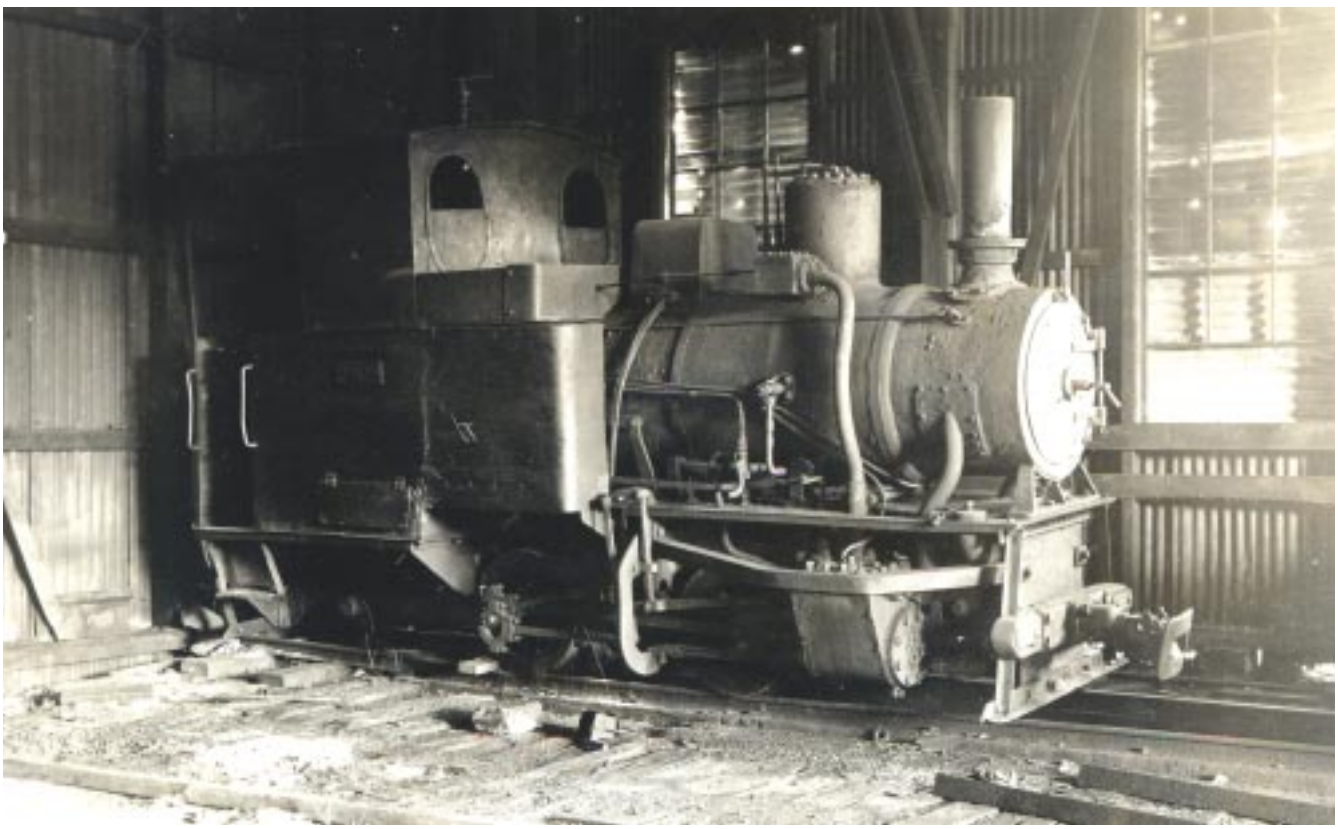
## Conclusion

Several senior Public Works Department engineers complained that the Granville Tram was a 'white elephant', costing the Department a total of about £25,000 for an insignificant return. The phrase they sought had not then been invented – it was a 'black hole', expensive but far from useless. The Granville Tram put thousands of pounds into the pockets of the unemployed miners, and indirectly Zeehan shopkeepers, provided a means of transport, for miners and others, from 1915 to 1933, and, albeit derelict and rough, it served as a lifeline to North Heemskirk, Granville Harbour and the Hydro-Electric Commission's investigation camp at the Pieman dam site until about 1980.[37]

## References


1. Head of the Public Works Department
2. Although officially the Granville Tram ran from the Zeehan Railway Station to Granville, in most printed references the term 'Granville Tram' refers only to the wooden-railed section. For simplicity I will divide it into the 'Zeehan Section' and the 'Granville Section'.
3. The English-owned mines sent their ore to European smelters under long-term contracts.
4. Tasmania, Parliament, *The Zeehan Smelters: Report of the Select Committee, 1910*, Parliamentary Paper 40, Hobart.
5. See Figure 1.
6. Lindsay Whitham, 'Where the Four Roads Meet', *Tasmanian Historical Research Association Papers and Proceedings*, Vol.29, No. 4, December 1982.
7. *Zeehan and Dundas Herald*, 9 November 1891.
8. This track was used in 1891 for the carriage from Zeehan of cast-iron pipes weighing up to 1½ tons, for an uncompleted hydro-electric power plant on the Heemskirk Falls, *Zeehan and Dundas Herald*, 6 September 1893.
9. The Public Works Execution Act (No. 1) , 1912 (Tas), 3 Geo V No. 6, Schedule items 852 and 853; Tasmanian Mail, 4 July 1912, p. 19.
10. Tasmania, Parliament, *Parliamentary Paper* 15, Hobart, 1913.
11. 7-ton Krauss engines were contemplated.
12. *Mercury*, 6 November 1913, pp. 4 and 11.
13. *The Public Works Execution Act, 1913* (Tas) 4 Geo V No.14, Schedule item 1082.
14. *The Zeehan Tramway Act 1891* (Vic), 55, Private, clauses 66-86.
15. Zeehan Tramway Company assets included two Krauss locomotives, two passenger cars, thirty two goods wagons, two and a half miles of track and sundry buildings.
16. Appointed Minister for Lands, Works and Agriculture on 6 April 1914.
17. A single undated sheet bound with the *Ministerial Statement on Public Works for 1914, Parliamentary Paper 24*, Hobart.
18. *The Public Works Execution Act (No 3) 1914* (Tas) 5 Geo V, No 40.
19. Obituaries, *Zeehan and Dundas Herald*, 11 and 15 June 1921.
20. Tasmania, Parliament, *Ministerial Statement on Public Works for 1915-16*, Parliamentary Paper 25, Schedule item 898, Hobart.
21. *Public Works Execution Act 1915* (Tas), 6 Geo V No. 53, Schedule item 982.
22. For example, North Heemskirk Mineral Chart 1937 issue, and Zeehan (County of Montagu) County Chart 1923 issue, both 20 chains per inch.
23. Surviving drawings are held by the National Archives of Australia in Hobart.
24. Now Piney Creek.
25. Chainages were measured from zero at the end of the Western Tram.
26. Tasmania, Parliament, *Ministerial Statement of the Minister of Lands, Works and Agriculture for 1915-16,* Parliamentary Paper 25, Hobart.
27. Tasmania, Parliamentary Paper 34, 1919-1920, Hobart.
28. FW Smithies, *Through the Wilds of Tasmania's West Coast by Motor Cycle, 1924*, Archives Office of Tasmania, NS573/1/23.
29. See footnote 28.
30. *The Post Office in Tasmania*, Magpie Publications, nd; Walch's Tasmanian Almanac 1920-1930.
31. Not to be confused with the Zeehan-Montana.
32. Personal communication from Margaret Gould, grand-daughter of Mrs White.
33. 'The West Coast in Winter', *Zeehan and Dundas Herald*, 28 November 1921. The article was published under the nom-de-plume 'Oddman'.
34. See Figure 2.
35. Archives Office of Tasmania, Smithies manuscript NS 573/1/23.
36. Tasmania, Parliament, *Secretary for Public Works Report for 1923-24*, Parliamentary Paper 34, 1924-25, Hobart.
37. The greater part of this paper was derived from Public Works Department files held by the Archives Office of Tasmania, in particular files PWD 243/1/120 and PWD 243/1/121.

*A view of Zeehan station and environs, looking south, circa 1905. The 2ft gauge lines, over which a decade later the Granville Tram would begin its journey, are to the right of the photograph.* *Photo: Tasmanian Government Railways*



*Though Dunkley Bros utilised horses to operate the wooden-railed Granville tram, their own tram was steel-railed and used steam power to haul its trains. On 3 February 1937, the late Jack Southern photographed Dunkley's Orenstein & Koppel 0-4-0WT (2748 of 1908) resting inside the Tasmanian Government Railways' 2ft gauge locomotive shed at Zeehan.*

# Postcript to The Granville Tram

*by Jim Stokes*

*Since Lindsay wrote his article I have found some further information in the* Hobart Mercury *and in Archives Office of Tasmania files PWD 18/1/16008, PWD 243/1/120, PWD 243/1/121 and TRES 5/1/1941. The main points are:*

### How far did the wooden tram extend?

The initial £10,000 allocated to build the wooden tram in 1913 was intended to carry the line as far towards the North Heemskirk tin workings at Tasman River as the funds would allow. However when the money ran out at the end of 1914 the line had reached only 11½ miles from the point at which it diverged from the former Western steel tram. In February 1915 a further £4000 was allocated to the project, which the Public Works Department (PWD) head office in Hobart expected to be spent taking the line to a point from which the miners would build a short branch into North Heemskirk. The main line bypassed the tin field in order to keep to the north of the ridge known as Donnelly's Lookout. However head office had underestimated the determination of their Zeehan Inspector, Robert Grubb, who had been a strong advocate of completing the line through to Granville since he first suggested its construction to the government in 1912. Grubb did not stop at the anticipated junction with the branch tram at 13½ miles, but continued westwards over the Tasman River (13¾ miles) and he had laid track as far as 15½ miles when the money ran out in late July 1915. This was still well short of the end of the surveyed line (approximately 18 miles 15 chains) at the eastern edge of the Granville farming blocks. It is possible that some formation was completed beyond 15½ miles. The modern 1:25,000 and 1: 100,000 survey maps of the area both show the abandoned formation running as far west as the point at which it is crossed by the present main road from Zeehan to Reece Dam and Corinna, at a point about 400 metres south of the bridge over Rocky Creek and the turnoff to Granville Harbour. This would have been a little beyond 16 miles on the wooden tram mileage. The North Heemskirk mineral chart shows it going even further west to approximately 17 miles, which is marked 'tramway constructed to this point'. I am dubious about the latter, while even the survey maps may have had difficulty in distinguishing between genuine tram formation and a pack track continuing beyond it. Lindsay suggested that there was a two-mile private extension of the tram, but I think this was in fact the section from 13½ to 15½ miles built by Grubb in 1915.

Unfortunately Grubb's dedication was not rewarded, since the line beyond the Tasman River saw little use. It was inadequately cleared and drained and instead of continuing to use ballast from a pit at 13 miles 26 chains the track was ballasted with white sand, which washed away. The last half mile may not have been ballasted at all and was described as a quagmire. The PWD's Engineer for Works, W Ross Reynolds, reported in August 1923 that the last two miles of line had not been used for some time and would need to be virtually rebuilt. The sand ballast had washed away or turned into mud and the rails were very badly bolted and broken. The Granville settlers were packing their supplies from North Heemskirk. In May 1925 Zeehan Council asked the PWD to ballast the two miles of line beyond North Heemskirk, as it was 'practically impassable'. Inspector Doyle reported that it would cost about £100 to ballast between the sleepers and across bogs to make the section safe for horse traffic, but I can find no evidence that this was done.

The failure to complete the tram was a long-running grievance with the Granville landowners and tenant farmers, particularly Dr WA Harrison, who lobbied ministers persistently and complained in *The Mercury* of 1 April 1920 that the government had left the line '*incomplete and useless… snoring in a buttongrass bog three miles from its surveyed terminus*'. In 1921 Harrison told the government that George Dunkley had said that he could complete the line to the Granville farms for under £2000, since all the heavy work had been done and there was only one small bridge to build over the headwaters of Rocky Creek (at approximately 16½ miles). However the Minister for Works was only prepared to support the completion the line if the Zeehan Council was prepared to take over the management of the whole line, which it was not. Harrison said that the landowners were prepared to take over the line and complete it, although it is doubtful if this could have been done without more support in cash or land concessions than the government would have been prepared to offer.

The rails appear to have remained in place until the whole line was lifted in 1933. Evelyn Emmett, a pioneer bushwalker and director of the Tasmanian Tourist Bureau, traversed the line in February 1932 in the course of walking from Zeehan to Pieman Heads. He included an account of the walk on p.86 of his book *Tasmania by Road and Track*, published by Melbourne University Press in 1952. This suggests fairly clearly that the rails were still in place west from the North Heemskirk junction.

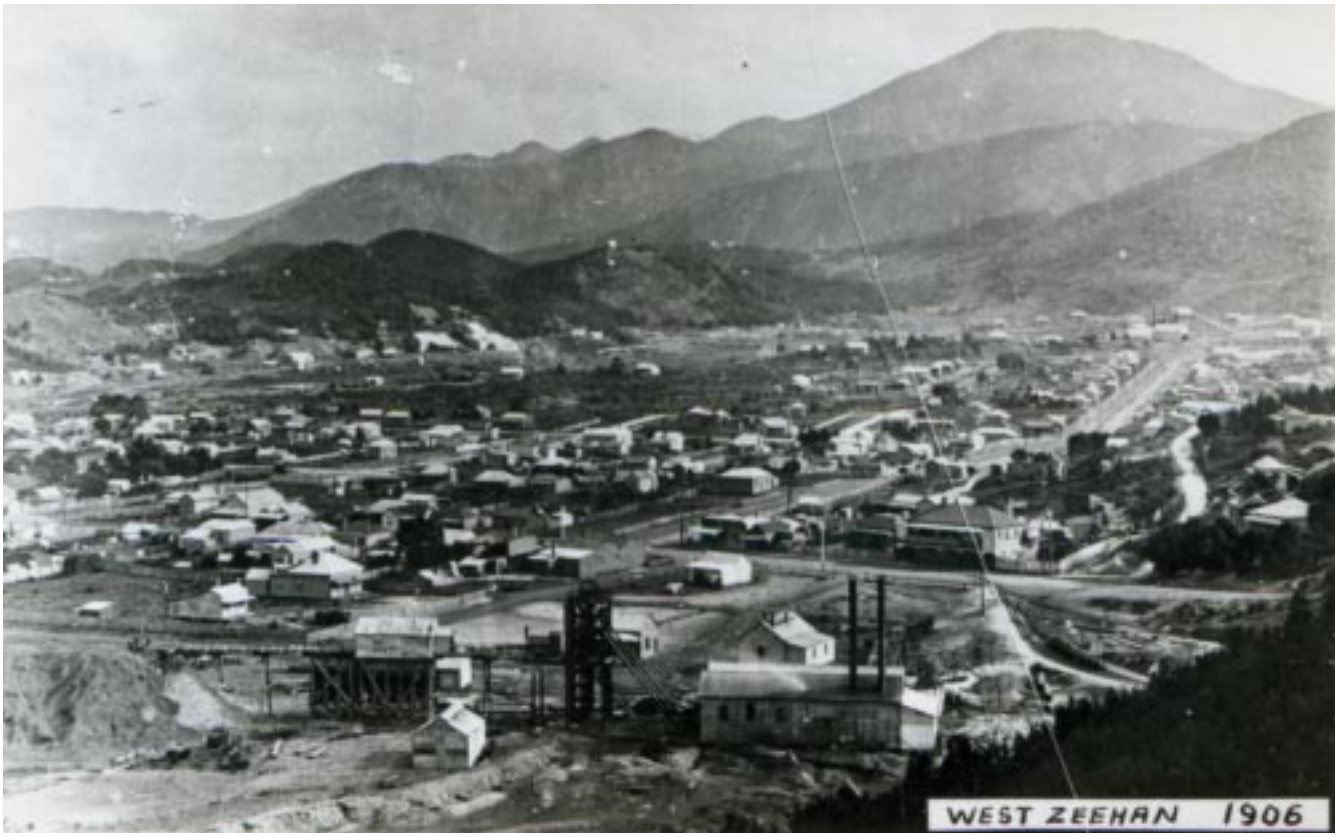
### The North Heemskirk Tin Syndicate's branch tram

The *Hobart Mercury* of 17 June 1916 reported that a large amount of development work had been undertaken by the syndicate since March 1916, including the construction of 29 chains of tram. Unfortunately no plan of the branch has survived, if indeed one was ever made. It was described in 1923 as starting from a point on the Granville Tram 3 chains 80 links north of the south-east angle of mineral section 5651M and thence running for 20 chains south-westwards through section 5649M to the post office. Both these sections had been forfeited to the Mines Department by 1923, apparently taking the tram with them. This description indicates that the branch diverged west of the Tasman River bridge at around 14 miles, although most PWD references placed the junction at around 13½ miles.

In May 1923 Mr AC Gordon, who ran the store and post office at North Heemskirk, asked the Minister for Lands to ensure that when the contract to run the tram was relet it should stipulate that the service must continue into North Heemskirk. This had formerly been the case, but after a recent dispute Dunkleys were running only to the junction, leaving the miners to carry their own provisions and tin to and from North Heemskirk. Gordon recorded that in order to get his letter to the minister he had to place it in a cardboard box and tie it onto an iron bar stuck in a stump at the junction. In August 1924 Gordon again questioned whether O'Brien had the right to run only as far as the junction. The PWD replied that the arrangement with O'Brien did not include operating over the branch and that this was the first that they had heard of the matter.

### The perils of working the line

The Granville Tram probably generated more horror stories per passenger carried than any other railway in Australia. Wooden trams were used widely on the West Coast, but they were generally shorter than Granville and maintained by miners and timber cutters who accepted that their tram was an essential part of earning their living. The problem with Granville was that nobody was prepared to take on the substantial obligation of




*The western end of Zeehan, looking south, in 1906. The Montana Mine's No.2 shaft is in the foreground with Montana Loop to the right. Beyond it is the Venezia Hotel and the western end of Main Street, and in the distance the mines on Argent Flat. Photo: Zeehan Museum*

keeping the line in reasonable repair. The PWD paid for its construction and (reluctantly) for major repairs, but looked to the lessee or the Zeehan Council to undertake routine maintenance, which included replacing ballast, sleepers and rails, cleaning drains and repairing bridges. The Zeehan Council was struggling with the virtual collapse of the local mining industry and although it considered at various times taking over the management of the tram it would only do so if the PWD provided adequate financial support.

The role of what Charles Whitham aptly called 'the all-pervasive firm of Dunkley Bros.' was a complex one. In their financial wrangles with the PWD and tram users Dunkleys gave the impression that they ran the tram almost as an act of philanthropy. However the lease of the line also gave them free carriage for logs coming into their Zeehan sawmill. The Zeehan roads inspector reported in October 1919 that Dunkleys had *been using two or three teams constantly over the past six months to bring timber in over the tram. In addition the weekly mail car was generally heavily loaded with passengers and provisions and must pay handsomely.* In November 1919 the crown lands bailiff reported that the tram had carried around 300,000 superficial feet of eucalypt logs during the preceding six months.

Some maintenance problems originated in attempts to save time and money when the line was built. On the steep slopes on the west side of Pine Creek gorge the line had been built on embankments supported on chock and log structures to reduce the extent that the formation had to be benched into bedrock. By 1916 some of the banks were subsiding and repairs continued at intervals for several years. There were around 12 wooden bridges, the largest being those over Pine Creek at around 4½ miles (130 feet long) and the Heemskirk River at 8 miles 54 chains (155 feet long), both of which were around 30 feet high. There were two other five-span bridges in the Pine Creek gorge area. The basic structures of the bridges were still sound when the line was converted to a road in 1933, but the wooden decking and railings were often dangerously rotten. The bridges were also vulnerable to fire damage because the scrub was allowed to encroach on them.

Charles Whitham's statement in 1921 that the rails were neither parallel nor continuous was no exaggeration. There are several reports in the PWD files of missing lengths of rail, which presumably required O'Brien's unfortunate horse to drag the mail car along the sleepers until they got back onto the rails again. The basic problem was lack of maintenance, but it was compounded by people tramming or dragging firewood and by the Granville farmers, who walked large numbers of cattle along the line.

The Ross Reynolds report on the line in August 1923 said that the 2 miles 5 chains of 40 pound and 20 pound steel rails at the Zeehan end were in reasonable repair, although many of the sleepers were rotten. Reynolds suggested that the first half mile of the wooden section be replaced with steel rails and that the Granville line be linked with the TGR 610 mm gauge lines with 8½ chains of running rights over the Zeehan Tramway Company's line from Montana Loop to the corner of Main St and Fowler St and a new curve to the government-owned Argent Tram in Fowler Street. This would allow TGR Krauss locomotives to run out to two small mines (worked by the Clarke and Bowling parties) beyond the Western mine, using the spur from the TGR Comstock line to the Argent Flat State Mine. Reynolds repeated this suggestion in 1928, but found his masters equally unenthusiastic.

Reynolds' 1923 report found the wooden section of the tram to have been very badly maintained by Dunkleys and virtually impassable. Dunkleys had recently used PWD money to put in about 200 12-foot wooden rails out to the 11 mile, beyond which it was unsafe. There were 48 chains of old 43 pounds per yard iron rails on the sharpest curves and steepest grades. Dunkleys were running one trip per week to North Heemskirk, with an average load of three bags of tin

and one or two passengers. In 1926 O'Brien carried only about 30 tons of tin and provisions, running once a fortnight.

In early January 1927 the bridge over Barnett Creek, about three quarters of a mile beyond the start of the wooden tram, was destroyed by fire and it was not replaced until at least the second half of the year. *The Mercury* of 16 May 1927 reported an epic trip over the line on 11 May. A truck loaded with provisions left Zeehan at 8am, the load being transferred by hand at Barnett Creek to another truck. After 25 derailments they got to North Heemskirk at 1.20am The return trip took 11 hours with 21 derailments. In February 1928 two spans of the Pine Creek bridge collapsed when the abutment was burnt down and the line was cut for at least two months. In January 1929 Zeehan council complained that the line was blocked by large fallen trees in the Eureka Forest area.

In June 1929 O'Brien refused to travel over the line unless it was repaired, leaving more than 20 miners at North Heemskirk without transport. Roads Inspector Doyle said '*I do not blame him as the rails are clean gone in places*' and reported that the decking on all the bridges was rotten. In February 1930 Zeehan Council was authorised to do £200 of work on the line, half the money coming from the PWD and half from local residents and by May 1930 O'Brien was laying new sawn rails.

However the end was near. In March 1931 O'Brien complained that the line was so overgrown in the forested sections that passengers were getting wet through. In June 1932 O'Brien again refused to work the line because all the rails were rotten and in places there were no rails at all. He must have relented once again, as he sent the PWD an invoice for eight pounds on 14 October 1932 'for running 2 trucks to Heemskirk the same day'. He stated that these would be his last trips as the line was too rough and the bridges unsafe, and this time it appears that he meant it. On 17 November 1932 a tribute party who wanted to bring their ore in to Zeehan complained that the line was in a 'fearful state'. The iron rails were lying on their sides because the sleepers were rotten and about three chains of rails were 'out' altogether.

### Crossing loops

A PWD report dated 14 December 1914 stated that sidings had been put in at various places to allow teams to pass. I have not found any later references to crossing places and they probably succumbed fairly quickly to neglect and the salvage of rails to repair the main line. However it is possible that some might have been used by Dunkleys in their logging operations between Pine Creek and the Heemskirk River.

FROM THE ARCHIVES

## Endless rope haulage

The photograph above, taken about three miles inside the Lithgow State Coal Mine, shows a gravity skip in the main endless rope haulage installed in the late 1940s. For most of the life of the mine, coal was handled in skips of between 22 and 28 cwt (1.2 to 1.4 tonne) capacity hauled in sets of 12 on a 2ft 6in gauge track. Once loaded at the coalface skips were wheeled to the flat, a distance of up to 200 yards (approx 180 metres), by horse.[1] They were then clipped onto an endless rope for transport to the base of the downcast shaft. The rope, operated by a 30hp electric motor travelled at 1¾ miles (approx 2.8 kilometres) per hour. Five endless rope branch haulages fed into the main haulage.

The person seen in the photograph is State Mine Manager Bob Fullagar.

*Submitted to* Light Railways *by Ross Mainwaring.*

1. Elford, H. & McKeown, M., 1947. *Coal Mining in Australia.* p.1632.

# Industrial Railway NEWS

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## NEW SOUTH WALES

**JOHN HOLLAND CONSTRUCTION, Kooragang Island**
(see LR 196 p.29)
762mm gauge
Further surplus tunnelling equipment was offered for sale by Pickles Auctions at the former Transfield storage site at 176 Cormorant Road, Kooragang Island, with the auction scheduled to occur on 19 May. Offered for sale were five 15-tonne Gemco 4wDH locomotives (builder's numbers 287/90, 288/90, 289/91, 290/91 and 292/91) believed to have been built in 1990-1991 and three 4-tonne EM Baldwin 4wDH locomotives built in 1974. These are believed to be builder's numbers 5366.1 4.74, 5366.2 4.74 and 5366.6 6.74). The Baldwin locomotives have been gauge converted simply by replacing the 610mm gauge wheelsets with 762mm gauge. Also offered for sale were flat and mud cars, mancars, segment cars and muck cars.
Pickles Auctions 5/09

**PACIFIC NATIONAL, Port Kembla Steelworks**
(see LR 204 p.17)
1435mm gauge
As a result of reduced production, redundancies were likely among workers employed on steelworks rail services. However, an agreement between employees and management has seen a decision to reduce hours to 34 per week to allow all employees to stay on.
ABC News 24/3/09

## QUEENSLAND

**BOWEN COKE PTY LTD**
The Bowen Coke Works is owned and operated by Xstrata Copper. It was established by the Queensland Government in 1933 utilising coking coal from the State Coal Mine in Collinsville. By 1975, Mt Isa Mines had taken over coal mining operations at Collinsville and in 1988 purchased the coke works. Coking coal from Collinsville is transported to Bowen by rail for processing in the 54 ovens at the site. A controlled burning process lasting between three and four days removes the volatiles from the coal to produce coke. The works supplies up to 45,000 tonnes of metallurgical coke each year which is transported by rail to Mount Isa for use in the lead smelting process there. Both charging and discharging arrangements incorporate rail vehicles, using a system that is believed to have been installed in 1933.
Up to 16 tonnes of crushed coal is loaded into each oven using twin charge cars that run on parallel rail tracks on top of the ovens. The charge cars draw electrical power from an overhead supply and consist of a hopper wagon body with a driver's cabin. Discharge of the coke is at ground level using traversing railed vehicles on very wide

*Twin charge cars delivering coal to the ovens at Bowen Coke Works in north Queensland.*
*Photo: CNsylvester*

*Invicta Mill navvy equipment at Dibella's on Victoria Mill's Stone River line, 21 March 2009: Plasser 133 of 1978, Com-Eng 0-4-0DH* INVICTA *(CA1040 of 1960), a ballast plough and six ballast hoppers.*
*Photo: Luke Horniblow*

gauge track, apparently using electrical cable reels for power. On the northern side of the ovens runs the pusher vehicle and on the southern side the receiving car, each with a driver's cabin. The pusher carries a ram that pushes the red hot coke into the receiving car which carries it away for quenching under water sprays.
CNsylvester 4/09; Editor

**BUNDABERG SUGAR LTD, Bingera Mill**
(see LR 204 p.17)
610mm gauge
Not much money has been spent on the locomotives during the slack season due to budget restrictions. EM Baldwin B-B DH *BUCCA* (6104.1 8.75 of 1975) has had its headstocks repainted as they had become badly faded. The locomotive has been fitted with a replacement builder's plate cast from polyurethane as a result of the loss of the original during 2008.
A difficult enterprise bargaining process with Bingera Mill employees has included the company repeating the statement that the future of the mill beyond 2009 will depend upon cane supplies.
Lincoln Driver 4/09; *Bundaberg News Mail* 4/4/09

**BUNDABERG SUGAR LTD, Innisfail District**
(see LR 206 p.18)
610mm gauge
The rebuild at **Babinda** Mill of **South Johnstone** Mill's EM Baldwin B-B DH 32 *LIVERPOOL* (10385.1 8.82 of 1982) was reportedly running late in April as a result of difficulty in obtaining parts, and there was some doubt that it would be ready for the start of the 2009 season.
In the old Goondi Mill area, Mohammed's line (sometimes known as Shrank's line) off the New Line west of the Bruce Highway has been removed. The formation at the former junction with New Line has been dug out to create a new headland for the cane haulout units.
South Johnstone Mill's Com-Eng 0-6-0DM 28 (AA1544 of 1960) was noted on slack season ballasting duties around the Babinda area in March and April.
On 18 March, a single new bin numbered 9880, based on the Moreton Mill type, was noted at Sims loop, south of Miskin Creek, on the South Johnstone system.
Carl Millington 3/09; Shane Yore 4/09

**CSR SUGAR (HERBERT) PTY LTD, Herbert River Mills**
(see LR 206 p.18)
610mm gauge
In early March, work was proceeding with repair works to the 30 kilometres of track damaged by the February floods. More than 50 employees, including workers from the Burdekin, made up seven repair crews working six days a week. Thousands of tonnes of ballast had to be laid, with the main lines scheduled to be completed by the start of June and the sidings by the start of crushing. Additional flood mitigation works would be done during the 2010 slack season.
In **Victoria** Mill's Stone River area, bridge abutments were being strengthened with additional concreting in early March. By the middle of the month the repair crew from Invicta Mill had brought in Com-Eng 0-4-0DH *INVICTA* (CA1040 of 1960), a Plasser KMX-06 tamping machine (133 of 1978), a ballast plough, and six ballast hoppers for work in the Stone River area. The locomotive, tamper and ballast plough were noted on their way back to Invicta Mill on road transport on 9 April. Other repair work was also noted. On 15 March, Victoria Mill's Clyde 0-6-0DH *LUCINDA* (65-436 of 1965) was dropping ballast at washouts in **Macknade** Mill's Forrest Home line from a ballast dump that had been established in one of the sidings. On 21 March, Plasser Model GWS-75

*Repairs under way to Hartwell's bridge, on Victoria Mill's Upper Stone line, 8 March 2009.* *Photo: Chris Hart*

*Victoria Mill's Clyde 0-6-0DH* INGHAM *(64-382 of 1964) heads a train away from Victoria Mill with rail bolsters destined for the new works being carried out at McKell's depot, 4 April 2009.* *Photo: Chris Hart*

spot tamper was noted with Plasser rail jack 374 of 1989 tamping a washout on Victoria Mill's Sunnybank line and then later doing the same at Milton's on the western side of Ingham
Flood damage to Barbagallo's siding just past the Macknade triangle on Macknade's Lucinda Point line has led to a decision to rebuild it as a spur line, similar to what was done at Sanitary siding closer to Halifax twelve months ago.
At Macknade Mill, the fitting of a new engine to Clyde 0-6-0DH 16 (DHI.1 of 1954) has created some challenges. The width of the new Mercedes-Benz engine means that it cannot sit down low between the wheelsets in line with the torque converter input shaft. In addition, the existing hood is too narrow and so to provide more space, the whole hood assembly has been widened by inserting a new centre section.
At Victoria Mill, EM Baldwin B-B DH *TOWNSVILLE II* (6400.2 4.76 of 1976) has been sandblasted and spray painted as part of its refurbishment and the same treatment is expected to be received by Macknade Mill's Clyde 0-6-0DH locomotives 12 (65-434 of 1965) and 16.
Victoria Mill's Walkers B-B DH *HERBERT II* (612 of 1969 rebuilt Walkers 1993), which was damaged in a collision with a semi-trailer in Ingham late in November 2009, is to be sent south for repairs as an insurance job.
Of the two Corradini bogie brake wagons built for Victoria Mill in 2007, one is paired with Walkers B-B DH *CAIRNS* (681 of 1972 rebuilt Bundaberg Foundry 1997) and is believed to have been allocated the number 14. The other one has still not been fitted out for service.
EM Baldwin B-B DH *BRISBANE* (5423.1 9.74 of 1974) had still not returned from its rebuild in Brisbane at the end of April.
Chris Hart 3/09, 4/09; Scott Jesser 4/09; Steven Allan 4/09; ABC Rural News 8/4/09; *North Queensland Register* 9/4/09

**CSR SUGAR (KALAMIA) PTY LTD**
(see LR 206 p.19)
**PIONEER SUGAR MILLS PTY LTD, Inkerman Mill**
(see LR 204 p.20)
Kalamia Mill's EM Baldwin B-B DH *NORHAM* (5383.1 7.74 of 1974) was noted at Inkerman Mill on 29 March in the process of having a new engine fitted.
Luke Horniblow 3/09

**HAUGHTON SUGAR CO PTY LTD**
(see LR 206 p.19)
As mentioned above, an Invicta Mill crew was working to assist in repairs to damaged lines at Victoria Mill following the February flooding there. From mid-March, Com-Eng 0-4-0DH *INVICTA* (CA1040 of 1960), Plasser KMX-06 tamping machine (133 of 1978), a ballast plough and six ballast hoppers were working in the Herbert valley. The locomotive, tamper and ballast plough departed Ingham on road transport for their return to Invicta on 9 April.
Chris Hart 4/09

**ISIS CENTRAL SUGAR MILL CO LTD**
(see LR 205 p.19)
610mm gauge
The mill uses 6-tonne bin frames as flat cars to carry concrete sleepers. About ten of these vehicles have had timber cross members fitted to them to allow two stacks of 50 sleepers each to be placed on each wagon.
It was stated in LR 205 that it was likely that all the mill's Walkers B-B DH locomotives had been fitted with Caterpillar 3412 engines. This is not correct as *ISIS No.2* (Walkers 598 of 1968 rebuilt Walkers 1994) still retains its old 6-cylinder engine.
Carl Millington 3/09; Brian Bouchardt 4/09

**MACKAY SUGAR LTD**
(see LR 206 p.19)
610mm gauge
On 12 March, Walkers B-B DH 657 of 1994 rebuilt Tulk Goninan 1994, formerly *BALBERRA*, left **Racecourse** Mill on road transport. On 14 March, EM Baldwin B-B DH 10684.1 4.83 of 1983, formerly *TULLY No.7*, left Tully on road transport for Mackay in exchange. It was noted on a low loader in the Racecourse Mill yard the next day and was unloaded on 16 March. It has been suggested that it will be given the name *BALMORAL*.
**Farleigh** Mill's Eimco B-B DH *FARLEIGH* (L254 of 1990) has received a new MTU engine and was due to be undergoing commissioning trials early in May.
The four-tonne bins from **Marian** and Farleigh

***Top:*** *Newly arrived from Tully Mill, EM Baldwin B-B DH 10684.1 4.83 of 1983, awaits commissioning for the 2009 season in the Racecourse Mill yard, 9 April 2009. Photo: Hayden Quabba*
***Above:*** *Mulgrave Mill's Little Mulgrave line is to be diverted underneath the new Bruce Highway bridge as can be seen from this shot of progress up to 5 April 2009. Photo: Luke Horniblow*

***Top:*** *New Mulgrave bogie bin number 4460 pictured on 18 March 2009. Photo: Carl Millington* ***Centre:*** *With its bogies removed for maintenance, Mossman Mill's EM Baldwin B-B DH* DAINTREE *(7303.1 7.77 of 1977) appears to be receiving a very unusual and distinctive livery, 5 April 2009. Photo: Luke Horniblow* ***Above:*** *A rake of ex-QR ballast hoppers at Pioneer Mill, apparently being readied for maintenance duties, 3 May 2009. Photo: Luke Horniblow*

mills that were being gathered at North Eton at the end of the 2008 season are being progressively dismantled and scrapped. They were first introduced in 1967 and their disappearance marks the end of link and pin couplers for cane haulage at Mackay Sugar.

Newly painted EM Baldwin 4wDM 57 (5/774 2.64 of 1964) was sent from Racecourse Mill to Farleigh for slack season maintenance work and was noted involved in resleepering on the Farleigh north coast line in March and April.

Daniel Dutton 2/09; Brett Geraghty 3/09; Carl Millington 3/09; 'quabba' 4/09

**MOSSMAN CENTRAL MILL CO LTD**

(see LR 198 p.21)

610mm gauge

EM Baldwin B-B DH *DAINTREE* (7303.1 7.77 of 1977) has been painted light blue and a number of rainforest motifs have then been rather crudely added including a green tree-frog and a crocodile. Additionally, some sections have been painted in other colours. Although apparently unfinished, the overall effect falls somewhat short of professional and it remains to be seen if the locomotive will go into service looking like this.

Corey Seaton 4/09; Luke Horniblow 4/09

**THE MULGRAVE CENTRAL MILL CO LTD, Gordonvale**

(see LR 203 p.20)

610mm gauge

With the recent construction of a new highway crossing of the Mulgrave River, the mill's Little Mulgrave line will in future pass beneath the road instead of over it as was previously the case. Track works for the new alignment were noted in progress in March and April.

Two bogie cane bins were seen near the poultry farm on 18 March, numbered 4460 and 4461. These are similar to the type seen at Tully in 2008, but the central linking crossbar is lower than in the Tully bin.

New signs have been installed at major junctions indicating radio call points.

A study looking at the future possibility of a rapid transit network for Cairns has canvassed the possibility of using the cane railway corridor that runs north-south through the western side of the urban area for possible light rail use. However it seems that this suggestion was made without any consultation with the mill.

Carl Millington 3/09; Luke Horniblow 4/09; *Cairns Post* 11/4/09

**PIONEER SUGAR MILLS PTY LTD, Pioneer Mill**

1067mm gauge

(see LR 206 p.20)

Clyde 0-6-0DH *AIRDALE* (64-318 of 1964) is being fitted with a new Mercedes-Benz engine. Because of the wider gauge, the engine can sit comfortably low and in line with the torque converter input

shaft, unlike the 2ft gauge locomotives fitted with this engine type. The front end has been redesigned with a vertical radiator grille to accommodate the new cooling arrangements.
A quantity of navvy rolling stock has been stored at Pioneer mill for many years, with most seeing little if any use. The collection appears to include ten 4-wheel VTS steel ballast hoppers ex QR, six 4-wheel VTJ wooden ballast hoppers ex QR, one 4-wheel VTS high sided steel ballast hopper ex QR, one 4-wheel TE ballast plough ex QR, one 4-wheel TES ballast plough ex QR, one 4-wheel ballast hopper probably ex QR, one bogie camp wagon ex CR, one 4-wheel 'smoko' wagon probably built by the mill on an ex QR chassis, one 4-wheel open wagon probably also built by the mill, and Plasser Model VT06-16 tamper, 41 of 1973. Seven of the steel ballast hoppers and the TES ballast plough have recently been moved from the storage area.
There are also some FJS 4-wheel wagons and bogie wagons ex QR used for the storage and movement of items like mill rollers.
Luke Horniblow 4/09; Carl Millington 4/09

**RIO TINTO ALCAN, Weipa**
(see LR 201 p.20)
1435mm gauge
The two new Model JT42C Co-Co DE locomotives, R1005 and R1006, built by EDI Rail at Port Augusta were tested on the Port Augusta-Whyalla line in late February. They were then hauled to Port Pirie on 28 March and noted on the wharf there the following day. On 30 March they were loaded onto the *Cape Hudson* for transport to Weipa via Hobart. The double ended locomotives are bright yellow with red chevrons on the cab fronts and headstocks. *Rio Tinto* is in large letters on the sides with four thick red diagonal stripes.
Russell Armstrong 3/09; Joy Loughnan 3/09; Andrew McGregor 3/09; *Motive*POWER 63

**TULLY SUGAR LTD**
(see LR 206 p.20)
610mm gauge
Mackay Sugar's Walkers B-B DH 657 of 1994 rebuilt Tulk Goninan 1994, formerly named *BALBERRA*, was noted on the Bruce Highway travelling north to Tully on 13 March. The following day, EM Baldwin B-B DH 10684.1 4.83 of 1983, formerly *TULLY No.7*, left Tully on road transport for Mackay. As part of this exchange deal, it appears that Tully Mill has also received the dismantled ex Cooks Construction locomotive CC01 (Walkers 586 of 1968) that had been stored engineless at Mackay Sugar's North Eton depot. It was noted partially inside at the old concrete sleeper plant at Tully on 13 April, reunited with CC03 (Walkers 643 of 1970), which is inside the building, dismantled. Nearby was the chassis of DH36 (Walkers 618 of 1969). It has been suggested that one of these locomotives will be refurbished for mill use in the 2011 season, when rail extensions towards


***Top:*** *Pioneer Mill's Clyde 0-6-0DH* AIRDALE *(64-318 of 1964) in process of being fitted with a new engine on 3 May 2009. It can be seen that the engine sits very low in the chassis. Photo: Luke Horniblow*
***Centre:*** *Tully Mill's Com-Eng 0-6-0DH* TULLY-18 *(A060113 of 1977) shunts Walkers B-B DH* TULLY-4 *(622 of 1969 rebuilt Walkers 1996) on shop bogies, 14 February 2009. Photo: Luke Horniblow*
***Above:*** *Ex-Cooks Construction Walkers B-B DH CC01 (Walkers 586 of 1968) in storage at Tully Mill on 13 April 2009. Photo: Luke Horniblow*

the Kennedy area are forecast to be in use. After an examination in the loco shed, the former *BALBERRA*, in its Mackay Sugar yellow livery, was soon parked in the lean-to shelter outside. It is expected to become *TULLY No.7*.
Com-Eng 0-6-0DH *TULLY-17* (AH52100 of 1966) has been fitted with a hydraulically-operated ballast plough blade at the rear end and was seen with a couple of ballast wagons south of Tully on 5 April.
Steven Allan 3/09; Luke Horniblow 4/09

## SOUTH AUSTRALIA

### BLUEBIRD RAIL OPERATIONS PTY LTD, Islington

1435mm gauge
This company is the manufacturing and maintenance arm of CFCL Australia, based at Islington. In December 2008 it acquired Bo-Bo DE 53 (SAR Islington 138 of 1969) from NREC Alco Australia for use as a workshops shunter. The locomotive was painted in an attractive blue and yellow livery in February.
*MotivePOWER* 63

### ONESTEEL LTD, Whyalla

(see LR 206 p.20)
1067mm gauge
A locomotive fire occurred on the evening of 8 March at Iron Baron. It is understood that the locomotive concerned was Genesee & Wyoming Goodwin Co-Co DE 901 (G-1016-03 of 1969).
ABC News 9/3/09

## WESTERN AUSTRALIA

### BHP BILLITON IRON ORE PTY LTD

(see LR 206 p.21)
1435mm gauge
Leighton Contractors and Macmahon Contractors have been awarded a $500m joint venture contract to duplicate 220km of the existing rail line between Port Hedland and Shaw Siding. The project includes the installation of 840km of fibre optic cable and the construction of 10 new bridges. There will be over 1000 camp rooms (complete with kitchens, laundries, gymnasiums and a pool) and up to three fly camps. The joint venture is expected to employ more than 1100 workers over the life of the project and will encourage a high level of indigenous participation.
Local employees and school children have been asked to suggest names to allow all of the fleet to be named. This will include the nine new Electro-Motive Canada Model SD70MACel/c Co-Co DE locomotives, 4347 to 4355, to be delivered in August.
*MV Spaarnegracht* was at Port Hedland port on 27 March unloading the initial wagons of an order of 336 stainless steel ore cars being delivered from China.
Leighton Holdings media release 9/4/09; West Australian Railscene e-Mag 11 & 17

### PILBARA RAIL

(see LR 206 p.21 & 204 p.21)
(Note that the item headed "The Pilbara Infrastructure Pty Ltd" on p.21 of LR 206 should have been headed "Pilbara Rail".)
Repair crews faced a problem when confronted by long sections of rail suspended in mid-air at the washaways on the Hamersley railway at Western Creek and Harding River following floods in mid-February. The solution was to sever the rails using explosive devices. The line reopened on 28 February after the bridge embankments were rebuilt and tracklaying completed. The Robe River Deepdale line to Pannawonica remained closed beyond Western Junction well into March as a result of flood damage.
On 5 March, a rake of Robe River Iron captive ore cars were run from Cape Lambert for loading at Brockman mine. This was the first use of these cars on a Hamersley Iron line.
In early March, new Rio Tinto General Electric

*762mm gauge trains waiting at the upper tunnel portal of McConnell-Dowell's Bogong headrace access tunnel in north-eastern Victoria, 16 November 2008. The locomotive on the left is a Clayton 4wDH, almost certainly B1864E of 1979, while on the right is an ex-Mining Equipment Inc Plymouth 4wDH. Both bogie and four-wheel rolling stock can be seen. (See LR 205 p.21 for further details). Photo: Phil Rickard*

## Industrial Railway NEWS

Model ES44DCi Co-Co DE locomotives 8140 to 8150 were hauled across Pennsylvania under plastic sheeting from Erie to Eddystone. They were to be loaded on 9 March onto a heavy lift ship for delivery to Dampier.
Former yard shunting Co-Co DE locomotives 5051 and 5052 have been offered for sale. These were originally Mount Newman units built by AE Goodwin (G-6035-02 of 1969 and G-6041-02 of 1970), rebuilt by Goninan in 1987.
An order of rail train wagons classified RTW is currently being delivered to the Hamersley Iron railway by Gemco Rail at Forrestfield in Perth.
*MV Spaarnegracht* was to call at Dampier around the end of March to unload deliveries from the 960 car order being constructed by China Northern Rail.
West Australian Railscene e-Mag 11, 12, 13, 14, 15, 17; *MotivePOWER* 63

## FIJI

### FIJI SUGAR CORPORATION

(see LR 206 p.21)
610mm gauge
A new resort at Natadola Beach, the InterContinental, is opening in 2009. The Fiji Sugar Corporation main line railway passes through the complex and under one building. It is claimed that resort management have been negotiating to ensure that the trains cause "minimum disturbance for guests".
*Fiji Daily Post* 18/3/09

### CORRECTION

Ken McCarthy points out that the Mundoo accident (see LR 206 p.20) occurred on 1 January 2009, not 2 January.
The item headed "The Pilbara Infrastructure Pty Ltd" on p.21 of LR 206 should have been headed "Pilbara Rail".

### CORRECTION AND APOLOGY

As the reviewer of the book "The Early Years of the Motor Rail & Tram Car Company 1911-1931" in Light Railways 205 (p.22) I was very embarrassed to have learned that I made a bad mistake in my review.
I said that the author, WJK (Keith) Davies, had recently passed away. This was totally incorrect and was based on a misconception around the recent death of JIC Boyd, the author of many books on Welsh narrow gauge railways.
Thankfully, Keith Davies is still with us and is still a prolific writer.
I extend my apologies to Keith and to all who were misled by my words.

*John Browning*

# Book Reviews

## A Tale of Many Railways: An Autobiography and History of Alan Keef Ltd

***by Alan M Keef***

215mm x 275mm, hard cover. 192 pages on art paper with colour cover. 169 colour and 39 black & white photos, 13 diagrams and maps. Published 2008 by Lightmoor Press, Unit 4, Lydney Trading Estate, Harbour Road, Lydney, Gloucestershire, England GL15 5EJ. Details and secure credit card ordering facility at http://www.lightmoor.co.uk/

This is the story of a man who has become well known for the work he does in serving the needs of industrial, tourist and preserved railways, particularly narrow gauge, not only in his native Britain but also across the world. He has not only developed his own designs of locomotives for industrial and tourist use but is also now responsible for the 'Simplex' locomotive business.

The main reason for reviewing the book is because it tells a good story that would be of interest to anyone who is involved in developing their own business, particularly in the fields of tourist railways and manufacturing, and because it is so informative about the practical side of light railway equipment and operations in a variety of contexts. There is little of direct relevance to Australia apart from a couple of mentions and one photograph. As the title suggests, the work is partly autobiographical and this certainly adds to the interest, with a nautical flavour creeping in at some points as well as travel to some obscure corners of the globe in search of business opportunities.

There are many interesting photographs, well-reproduced and mainly in colour, with some locomotive and rolling stock diagrams and detailed information about many of the projects the author has been involved in. The sometimes off-beat nature of light railways has meant some very interesting assignments, for example at lifeboat stations, but the book's emphasis is on locomotive-worked lines and more conventional operations.

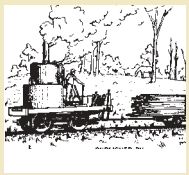
If you like a good read and are looking for something a little different, this book has much to offer.

*John Browning*


***LRRSA at the Australian Narrow Gauge Convention***

Ross Mainwaring (left) and Jeff Moonie at the LRRSA stand at the 9th Australian Narrow Gauge Convention at North Parramatta over Easter 2009. Jeff and Ross set up the NSW Division's stall in the convention hall and helped man it over the weekend with assistance from our National President, Bill Hanks, and Council member Wayne Brown from Melbourne.

A feature of the 2009 convention was the participation by significant numbers of modellers from North America, with their high-quality layouts and models on display. The LRRSA had a successful weekend with new members signed up, good book sales, and most importantly, engagement with large numbers of narrow gauge modellers. *Bob McKillop*



## LRRSA NEWS

***MEETINGS***

**ADELAIDE: "Autumn in the Otways."**
Autumn in the Otways 1959, with the ARHS – photos by Les Howard. We also plan to discuss our list of SA light railways, and all contributions on any light rail topic will be welcome.
**Location:** 150 First Avenue, Royston Park.
**Date:** Thursday 4 June at 8.00pm.
Contact Arnold Lockyer on (08) 8296 9488.

**BRISBANE: "South Maitland Railway"**
Graham Black from NSW will show slides of the South Maitland Railway and other operations around the Newcastle area.
**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 12 June at 7.30pm. Entry from 7pm.

**MELBOURNE: "Diamond Valley Railway"**
For our June meeting Bob Carlisle will be giving a presentation on the 7¼ inch gauge Diamond Valley Railway, which has operated at Eltham Lower Park since 1961, and prior to that as the Chelsworth Park Railway at Ivanhoe from around 1948.
**Location:** Ashburton Uniting Church Hall, Ashburn Grove, Ashburton.
**Date:** Thursday, 11 June 2009 at 8.00pm

**SYDNEY: "AGM and 8mm film night"**
The Annual General Meeting will be held, followed by a showing of 8mm films. Please bring along your favourite 8mm movies that you think your fellow members would like to see, particularly on light railway subjects.
**Location:** Woodstock Community Centre, Church Street, Burwood, (five minutes walk from Burwood railway station).
**Date:** Wednesday 24 June at 7.30pm.

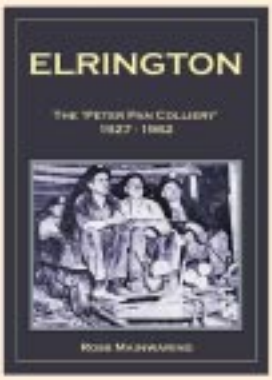
# New from LRRSA Sales ...

## ELRINGTON

### THE 'PETER PAN COLLIERY' 1927 – 1962

**By Ross Mainwaring**

**Published by the LRRSA.**




*Elrington* is a history of a coalmine near Cessnock NSW, established by the Broken Hill Proprietary Co. Ltd in 1927 to supply coal to its Newcastle steelworks. BHP's intention was to pioneer the use of modern coal extraction methods at Elrington.

This book describes the technology used, and the problems the company faced in introducing it.

The underground 3ft 6 in gauge railways using battery locomotives are described, as well as the standard-gauge steam operated railway which served the mine.

The author also looks at the working conditions and social life of the miners and their families. For various reasons Elrington colliery never achieved its planned output of 3000 tonnes a day. Like Peter Pan, Elrington colliery never grew up.

**Soft cover, 96 pages, A4 size**

**64 photographs, 9 maps and diagrams,**

**References, bibliography, and index.**

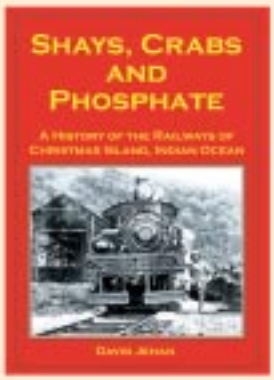
**Price $25.95 plus postage** ($19.46 to LRRSA members)
Weight: 460 gm

## SHAYS, CRABS AND PHOSPHATE

### A HISTORY OF THE RAILWAYS OF CHRISTMAS ISLAND, INDIAN OCEAN

**By David Jehan**

**Published by the LRRSA.**




Christmas Island, Indian Ocean, is 2600 km north-west of Perth. For most of the twentieth-century a system of industrial railways — on gauges of 2 ft and 4 ft 8½ in — were used to carry phosphate. The variety of locomotives - both steam and internal-combustion - was remarkable. They came from Australia, Canada, Germany, the United Kingdom and the USA. These included three 70 ton geared Shay locomotives.

The book explores the way the industry was managed, the living and working conditions, the use of passenger trains, and the unique problems caused by the huge population of crabs living on the island.

Since its release early in December this book has been selling very quickly. Customer comments have included: *amazing amount of information; easy to read; excellent diagrams;* and *the photographs are sensational.*

**Soft cover, 136 pages, A4 size**

**Over 160 photographs, 14 maps and diagrams,**

**References, bibliography, and index.**

**Price $33.00 plus postage** ($24.75 to LRRSA members)
Weight: 700 gm

Postage and packing: Within Australia, 501 gm to 3 kg $10.90, over 3 kg $14.00
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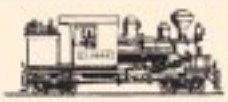

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- If joining in April or May, pay $56.00 ($70.00/$87.50 overseas) and receive 7 issues of Light Railways (Nos 213-219).

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# LETTERS

Dear Sir,

***LITTLE YARRA* (LR 200, LR 206)**

One other Baldwin 6-14C class locomotive was very similar to 37693 and *LITTLE YARRA*, although built 17 years later, and was in many respects a natural descendant. It was builder's No. 61161, for the metre gauge Cia. Minas Recreio, of Porto Alegre, Brazil. Its modern features were a steel cab and Walschaert valve gear, but the family resemblance can be clearly seen in the photograph reproduced below. Like *LITTLE YARRA*, it had the smokebox extension, but had a third variety of tender with only four wheels.

Frank Stamford
Emerald, Vic.

Dear Sir,

**Electric locomotives at Mount Morgan (LR 99, 205)**

The trolley wire electric locomotive haulage on light railways at the Mount Morgan gold and copper mine described in LR 99 and LR 205 was quite extensive and is also briefly mentioned in various technical publications. Snapshots of the haulage methods are given below.

A description of the operation and papers were published in the *Proceedings of the Australasian Institute of Mining Engineers* (AusIME) Vol VI No II April 1910, Vol VI No III May 1910, and Vol VII No I August 1910. The 'electric motors', as the 2ft 2in gauge electric locomotives were known, hauled trucks underground in the main drives (tunnels) and 'ore ways' (probably drives in the ore) to pockets over the inclined Main Shaft. There were two types of gold ore being fed to separate treatment plants. Sulphide gold ore was transported by electric locomotive haulage from bins at the top of the Main Shaft to the ore bins at the Mundic Works. Oxide gold ore from the open cut was transported through the main tunnel in trucks hauled by electric locomotives to ore bins at the West Works.

There were 9 miles of 2ft 2in gauge track, 270 trucks and eight electric locomotives for mine transport. The traffic department also had 6 miles of 2ft 2in gauge track and five electric locomotives, presumably for general materials transport around the surface works. There were 320,000 tons of gold and copper ore treated in 1910, and an additional 130,000 tons of waste rock removed.

The brochure, *A Souvenir of the Mount Morgan Gold Mining Co Limited*, published in 1925, but more recently reprinted, shows an electric locomotive hauling trucks containing feed for the smelter blast furnaces.

Later papers were published by the Australasian Institute of Mining and Metallurgy (AusIMM), the successor to the AusIME, in *New Series Proceedings* No.115, 1939. Mining at this time was from the open cut with a range of haulage methods including rubber tyred trucks, steam locomotives and trucks on 3ft 6in gauge track, and electric locomotives hauling trucks on 2ft 2in gauge track. Rubber tyred trucks had replaced electric locomotives on No.2 Bench, but the No.4 Bench was served by electric locomotives hauling 2-cubic yard side tipping trucks. The underground 574ft level had electric locomotives hauling 2-ton trucks loaded from 'mill holes' (probably small hand workings or glory holes) below the No.4 bench. Both the No.4 and 5 Benches had underground drives to crushers at the Main Shaft.

Copper concentrates were delivered to the smelter from the concentrator in 48 cubic foot side tipping trucks hauled by electric locomotives on 2ft 2in gauge track. The slag (waste) from the reverberatory furnace at the smelter was transported to the slag dump in 11 cubic feet slag cars hauled by electric locomotives on 2ft 2in gauge track. There were 910,000 tons of ore treated and 1,480,000 tons of waste rock removed in 1939.

*Mining methods in Australia* and *Extractive metallurgy in Australia, non-ferrous metallurgy* were both published by the AusIMM in 1953, and included details of the Mount Morgan operation. Rubber tyred trucks only were hauling ore and waste rock from the open pit to surface or to the inclined Main Shaft. The slag from the reverberatory furnace was transported in 11 cubic foot slag cars hauled by 500 V DC 7½ ton electric locomotives, but preparations were in hand to install 60 cubic foot slag cars on 3ft 6in gauge track. There were 800,000 tons of ore treated and 3,070,000 tons of waste rock removed in 1953.

The production figures referred to above are sourced from a research report by Gavan Mudd, *The sustainability of mining in Australia*, published in 2007, which includes historical annual ore and waste rock production figures for many Australian mines in Appendix B. This report can be accessed at http://civil.eng.monash.edu.au/about/staff/muddpersonal/rr5/

Technical publications that I have seen do not make any reference to the electric locomotives on 3ft 6in gauge tracks connected to the branch line from the Queensland Railways.

I visited the Mount Morgan open pit mine, concentrator and smelter in February 1978. There were two slag cars and two four-wheel electric locomotives out of use near the smelter. One of the locomotives had a plate marked GE 4368, 500 volts, Classification LM-2110-E-2, 4000 lb DB. I did not measure the track gauge. A flash furnace replaced the reverberatory furnace in 1972, and I assume that the slag cars and electric locomotives were replaced by other equipment at this time. The flash furnace and converter slag was not dumped, but cooled, crushed and treated in the concentrator to extract the gold and copper. A description


*The last Baldwin 6-14C class, it was metre gauge, built for Cia Minas Recreio, Brazil, in 1929, and the only one built to Drawing No.6. The main differences to* LITTLE YARRA *are Walschaert valve gear, a steel cab, and four wheel tender.* *Photo: Courtesy Vance Bass*

of operations about this time is included in *Mining and metallurgical practices in Australasia* published by the AusIMM in 1980.

There was a four-wheel 3ft 6in gauge electric locomotive at the lime (?) bins similar to those shown in LR 205. It appeared operable.

David Mewes remarks in LR 99 that the live overhead wires were a hazard and possibly part of the reason for electric traction underground being completely phased out in 1914. I have only seen four photos of underground and smelter electric haulage at Mount Morgan, and three of these photos show the overhead wire located in an inverted trough, probably constructed of timber, which would have reduced the hazard of contact by persons. The other, probably earlier, photo shows a bare overhead wire. A counterweight was used to apply pressure by the pole to the overhead wire on the three electric locomotives seen in 1978. This is an unusual but simple method compared to pressure from springs, and can be seen in the photos in LR 205.

**Deutz locomotives at Queenstown (LR 201, 202, 205 & 206)**

It is interesting to learn new details of the mining history at Mount Lyell, and the first hand accounts of operations via Ken Milbourne and Ross Mainwaring. My comments originate from research on the transition from underground to open cut mining at Mount Lyell in the period from the late 1920s to the early 1940s.

The Comstock mine is generally referred to as the Lyell Comstock mine in the Mount Lyell Mining and Railway Co Ltd and Department of Mines (DoM) annual reports, from which the information and data below is sourced.

Production of ore from the Lyell Comstock mine dropped from 86,023 tons in calendar year 1940, to 34,231 tons in 1943, and the mine closed in May 1944 with 10,691 tons produced that year. The reason given for closure was that "*the men employed there could be used to better advantage on other parts of the works*". The DoM annual reports refer to copper precipitates being sourced from the Lyell Comstock mine from 1945 until at least 1968 with the production, where quoted, ranging between seven tons and 43 tons annually. I am not aware of any ore being produced from the mine after 1944.

Use of the small diesel locomotives would make sense given the relatively light traffic to and from the mine after 1944.

Tony Weston
Melbourne, Vic

***Top:*** *A four-wheel trolley wire electric locomotive on the track above the lime? storage bins at Mt Morgan*
***Above:*** *Two slag cars and two four-wheel electric locomotives stored out of use near the smelter. February 1978* *Photos: Tony Weston*

Dear Sir

**The last years of the Beaconsfield Tramway (LR 206)**

The reference to the Beaconsfield Tramway's Kerr Stuart 0-4-0T locomotive 685 of 1900 in LR 206 prompts me to pass on some additional information that I have picked up about the use of the Beaconsfield Tramway after its closure to public traffic in 1915. In LR 197 I reported operations in 1918 and 1919 in connection with the salvaging of assets by the liquidators of the Tasmania Gold Mine. I have now read the *Hobart Mercury* up to the end of 1929 and found further references to the tramway.

The liquidators meeting held in London on 30 September 1920 (*Mercury* 23 December 1920) was told that sales of machinery had exceeded expectations, but were now coming to an end. The most significant remaining assets were the mine buildings, the slime dump and freehold land on the Tamar River. The slime dump was estimated to contain between 15,000 and 20,000 ounces of gold, but attempts to recover the gold economically had failed. The company hoped to sell the mine buildings and tramway to British manufacturers interested in setting up a subsidiary in Australia to avoid Australian import tariffs. In February 1922 the Tasmanian government facilitated this ambition by replacing the mining lease with a special lease that would permit the liquidators to sell the land and mine buildings, although they would revert to the government if not sold to an approved undertaking within five years (*Mercury* 13 February 1922 and 9 September 1922).

The liquidators meeting on 25 July 1924 (*Mercury* 5 and 26 September 1924) was told that there was still no satisfactory process to extract the gold from the 100,000 tons of dumped slimes. However there was some hope of a cement factory being established

to utilise the mine buildings and tramway. This is the last reference I have found to prospects of selling the property for further industrial use. In 1926 the Public Works Department considered purchasing the rails for use in relaying the Marrawah Tramway, but decided instead to obtain second hand rails from the Tasmanian Government Railways (Archives Office of Tasmania file PWD243/1/33). In January 1927 the steamer *Tambar* took some 200 tons of machinery (including a 40 head battery) from Beauty Point to Strahan for use at the Federation tin mine at South Heemskirk (*Mercury* 19 and 21 January 1927). There was a final auction of equipment at Beaconsfield on 16 October 1929 (*Mercury* 17 October 1929) at which a locomotive (presumably the Kerr Stuart) was sold for one hundred pounds. About six weeks later the Union Steamship freighter *Kamo* sailed from Beauty Point for Newcastle with about 150 tons of scrap machinery from the mine (*Mercury* 13 December 1929).

In addition to intermittent use by the company the tram lines on Beauty Point wharf seem to have remained in use into the 1920s to run cargo from carts and motor trucks out to the storage shed and ships. A report in the *Mercury* on 6 August 1921 noted that the wharf was being rebuilt and extended and that it was 'connected by steam tram to Beaconsfield'. On 1 February 1922 the *Mercury* summarised a report to the Launceston Marine Board recommending that the section of tram line inside the wharf shed be removed back to 'the junction' since the wharf was now wide enough to allow carts into the shed. The line in front of the shed 'would serve all purposes required'. A photograph in the *Mercury* of 5 May 1923 shows the single tram line coming out from the shore dividing into three lines, two of which curve sharply left towards the shed and the outer face of the wharf. In the 1924 fruit season motor trucks had to be banned from the wharf because of its poor state of repair, requiring fruit to be unloaded from heavy vehicles and 'trucked' into the shed (although in this case the trucking may have been by hand trolley).

Jim Stokes
Curtin, ACT

Dear Sir

**Malden Island – Sails upon the rails (LR 205)**

Phil Rickard's fascinating account of the sail-powered tramways of Malden Island in LR 205 was a reminder of an occasion when wind-power proved to be a saviour on one of our numerous trolley trips on the former Nowingi towards Millewa South railway in north-west Victoria.

We had unlimited permission from the management of the gypsum mining operation at Nowingi to run our trollies on the line they leased from the Victorian Railways. On one such occasion in the early 1980s, Chris Wurr and myself, accompanied by Chris' wife Heather and their infant baby girl, set off from the 6-mile station ground towards the loading plant some 10 miles further out. We were driving an ex-VR 'Casey' trolley and were heading into a cold and strong west wind. The load and the wind (plus a slight fuel leak) caused us to use our fuel much faster than we expected and, as a result, we found ourselves stranded. We decided to return back to our camp, and Chris and I carried out the chivalrous task of pushing the trolley from behind with our passengers on board.

After a short period of this backbreaking task, Chris came up with the suggestion that his wife remove her warm full-length overcoat and we use it as a sail. Despite her protests at being exposed to the cold wind, we assured her that she would get home faster if this worked. Chris and I stood on each side of the trolley holding her coat into the wind to the best advantage and we were off – not fast, but at a steady rate that successfully returned us back to our base, much to the amazement of our waiting friends.

Unfortunately, we were not in a position to record this event on film, but the experience remains vivid in our memories.

Bruce McLean
Mildura, Vic

Dear Sir,

**The two super feet**

I noticed in the front of *Light Railways* that the super foot is included in the handy list of conversion factors. In case some LRRSA members strayed across log data, I thought the following might be of interest.

There were two sorts of 'super feet'; one for measuring sawn timber; the other for measuring logs. They differed in their relationship to true solid volume so that we need different conversion factors when we wish to convert old data to the metric system that uses only true solid volume for both saw timber and logs.

**Sawn timber**

It is easy to convert sawn timber as its super feet measured true volume. One super foot (Sft) was the volume of a one inch thick board that was 12 inches wide and 12 inches (= 1 foot) long. As 1 inch = 2.54 cm, 1 Sft = 2360 cubic cm = 0.00236 cubic metre. Saw timber was usually reported in units of 100 super feet. The most convenient conversion factor is thus: 100 super feet of sawn timber = 0.236 cubic metre, or 0.236 $m^3$.

**Logs**

The volume of logs was calculated on the ancient British quarter-girth, or 'Hoppus' system, or 'log rule'. Matheson's book of tables was generally used in Australia to read the volume, given the girth and length of each log. The girth, or circumference, of each log is measured at its mid-point. The quarter-girth system avoided having to use pi (3.1416) and avoided having to calculate the radius from the circumference in order to calculate the volume of a cylinder by the equation, volume=$\pi$ x radius squared. Instead it squared a quarter of the girth measurement and multiplied it by the length of the log. It results in a volume that is less than the true solid volume by the ratio $\pi/4$ or 21.5%. The conversion factor for logs is thus: 100 Sft of logs = 0.300 $m^3$ Western Australia adopted a true measure for logs after the 1918 Forests Act was passed. It was based on a load of 50 cubic feet. 1 load = 4.645 $m^3$.

North America uses units of board feet that are equivalent to super feet for sawn timber. However, there are several different log rules used in different regions that have different relationships to true volume, and wily log buyers have been known to use one rule for the large logs and another for the small ones.

Dr John Dargavel
(via e-mail)

Dear Sir,

**Childers number 4: A brief history of Fowler 16830 (LR 204 & 206)**

I have just read the second part of this article and have greatly enjoyed reading both parts, especially as they included potted histories of Childers and Condong Mills.

I have noted a few comments/corrections on the Condong part, which appeared in LR 206.

- The two early Simplexes at Condong are stated to be 2.5-tonners, yet the few photos that I have seen of them depict machines with the straight sided channel frames of the 4-ton model.
- EM Baldwin No.9 is noted as being transferred from Condong to Victoria Mill in 1974 but this did not actually occur until March 1975.
- It is stated that Fowler 16830, and by inference 20827, were latterly fitted with Gardner 6LW engines. I believe that CSR fitted 5LW engines to all of these locos. Paul Simpson's member's advertisement stating that 16830 had a five cylinder motor supports this belief.
- It is stated that Fowler 20827 came to Condong ex Goondi Mill but I believe that it was only at Hambledon prior to coming to Condong.
- In the second last paragraph on p.13, it is stated that by the end of the 1973 crushing, rail operations at Condong Mill had shrunk to just the Tumbulgum area lines. However, in an eyewitness account on the Locoshed Yahoo group in 2003, David Mewes stated that rail hauled 4-ton bins were in use in the Cudgen and Chinderah areas right up to the end of the 1974 crushing.

I would like to thank the author for writing articles like these as they are full of interest.

Chris Hart
Ingham, Qld

# RESEARCH

**LRRSA post fire field survey, VIC**

Like all Australians, members of the LRRSA were shocked and saddened by the loss of life and property in the recent disastrous Victorian bushfires. As the Society had undertaken extensive site surveys of tramways and sawmill sites following the 1983 Ash Wednesday fires that were translated into more accurate mapping data for a number of subsequent LRRSA publications, it was considered that the conduct of similar surveys in fire-ravaged areas would provide an opportunity to assist in a very worthwhile way by recording useful information that may eventually lead to the heritage protection of some of these sites. The Victorian Heritage Act 1995 sets out the legal requirements for the conduct of surveys of this type and the results need to be lodged with Heritage Victoria, while as the land manager, the Victorian Department of Sustainability and Environment (DSE) must also be involved.

Peter Evans liaised with the relevant authorities, organised a seven member LRRSA survey team and prepared a remarkable fieldwork manual to guide the survey team. This manual, titled 'Black Saturday 2009: A post-fire survey of historic timber industry sites in bushfire affected areas', can be downloaded from the LRRSA website.

The LRRSA survey team will focus its field work in the areas around Wandong, the Black Range north of Toolangi, and in the Warburton area. Field notes will be collated, maps drawn, and electronic images collected. These will be kept as a permanent record of the work and copies lodged with Heritage Victoria and DSE. It is expected that reports relating to the most interesting findings will be published in *Light Railways*.

In a second initiative, former *Light Railways* editor Norm Houghton recently walked the 2km length of Henderson's Cockatoo Creek tram line between Jubilee Lake Road and the mill site, which was constructed in 1879 to 4ft 6in gauge. This line was uncovered by the 23 February bushfire in the Daylesford area. Although the tramline closed in 1891, its formation was clearly defined in the post-fire environment, while two snig lines coming together on the side of a spur were also prominent features.

Peter Evans and Norm Houghton

**Wallarah Colliery winding engine, NZ/NSW (LR 174)**

In the Research section of LR 173 I included a photo of a bronze relief on the Miners' Memorial at Gunnedah, part of a series said to depict historical events on the local coalfield. The bronze relief features a former Manning Wardle old I or K-class locomotive being used as a colliery winding engine and I asked readers if the scene depicted had any association with the Vickery Colliery at Gunnedah? John Shoebridge responded in LR 174 (p. 23) that the artist's bronze relief appeared to be based on the well-known photograph of a Manning Wardle locomotive (described elsewhere as being taken in 1894), at the Wallarah Colliery at Catherine Hill Bay, NSW, and there was no evidence that it related to Gunnedah. John added that he had personally inspected the 'engine' at Catherine Hill Bay, with the nameplate *DRIVER* still intact on the saddle tank in the 1960s. This nameplate led railway historians to conclude that the locomotive in question was the Manning Wardle 0-6-0ST locomotive (B/N 162) built for the ill-fated standard gauge Auckland & Drury Railway (A&DR) of New Zealand in 1865. While the evidence now available indicates that this conclusion is probably correct, an assessment of published material on this subject over the past 69 years offers a useful case study of some of the pitfalls in identifying industrial locomotives that have passed through many owners - and in this case serving different roles.

New Zealand rail historian Bill Lloyd, author of the *Register of NZR Steam Locomotives, 1863-1974*, has provided us with background material on the two Manning Wardle locomotives built for the standard gauge A&DR, namely 162 of 1865 (Order No. 1940), named *DRIVER*, and 201 of 1866 (Order No. 2900), together with documents on the ongoing debate in New Zealand regarding their eventual fate. *DRIVER* was used on initial construction duties but only a few miles of rails were laid before work ceased in 1866 amid financial problems and disputes between the various groups involved in the project. Work remained at a standstill until 1872, when work recommenced on constructing the line, but to 1067mm gauge. MW 201 was used for a short time for construction trains on the 'broad gauge' track, with both locomotives going to the Bay of Islands Coal Company for use at its Kawakawa coal mine, MW 162 arriving there in May 1871 and MW 201 in May 1874. They briefly worked there until that line was also converted to the 'narrow gauge' in late 1876 or 1877.

The *Cavalcade of New Zealand Locomotives* (1965) states that the locomotives were 'adapted for other purposes', with one being used to power a winding engine and the other a pumping plant. It also includes the claim that MW 162 was still at the Kawakawa coal mine in 1898. Edward A Downs, writing in the *NZ Railway Observer* Nos. 103 and 107 of 1965 and 1966, noted that the ARHS *Bulletin* No. 34 (August 1940) states that the two ex-A&DR locomotives '*were shipped to New South Wales, but were lost at sea*', and identifies Manning Wardle 182 of 1865, which was sold to the NSW Public Works Department in 1894, as a possible candidate to be the loco used at Wallarah Colliery. Downs submitted, however, that the photograph of the winding engine at the colliery with the nameboard *DRIVER* is evidence that the winding engine at Wallarah was MW 162.

New Zealand historians commonly perceived that only the boilers were used for the adaptations at Kawakawa, but in his 2007 book, *Locomotive Numbering from 1890 back to 1963: The Evidence*, Gerald Petrie states that for MW 162 at

*Sleeper imprints, filled with leaves, are still evident along the roadbed of Henderson's Cockatoo creek tram line, 118 years after its closure. The tram was built in 1879, to a gauge of 4ft 6ins. Photo: Norman Houghton*

least, the entire locomotive was taken to the pithead and the wheels and axles were dropped out. Gerald states that the one photograph of MW 162 at Newmarket on the A&DR shows it did not then have a nameplate while its last boiler inspection was in July 1892 (expired July 1893), then the records have the notation 'lost trace of'. The records of the two MW locos prepared by Brian Whebell, the noted New Zealand researcher on private and industrial locomotives, indicate that MW 201 went to the Bay of Islands Coal Company and then to the Hauraki Goldmining Company at Coromandal, but intriguingly his notes for this loco (not 162) include reference to the c.1894 photo of a Manning Wardle saddle tank loco being used at Wallarah Colliery. Ron Grant subsequently added hand notations stating that MW 201 arrived at the Bay of Islands line in July 1883 and at Coromandel in March 1896, being reported as idle there as late as 1909. Accordingly, Ron crossed out the reference to Wallarah Colliery and added the notation 'so not possible. Possibly 162'.

In *The Evidence* of 2007, Gerald Petrie provides new material linking MSW 162 with the winding engine at Wallarah in the form of a report in the *Northern Luminary* of 29 April 1893 that states: *The Bay Coal Company have sold their 120 h.p. Dip engine and winding gear in connection therewith to Messrs Jaffrey & Co. of Sydney, for £150 f.o.b., at Opua. The original cost was £1,400; the price now paid shows immense depreciation in mining machinery these times*. Gerald concludes that the locomotive in question must have been MW 162.

The above summary identifies numerous false leads that emerged over the years with regard to these two industrial locomotives and their eventual fate, but it seems that we are now close to a definite answer, though we still lack conclusive evidence that the locomotive actually arrived in Australia.

Editor

**Australian lighthouse tramways, QLD/VIC**

In Research LR 198, I included a list of lighthouses of which I was aware had tramways, either for construction, ongoing supply or both. Since then I have become aware of the existence of a few more locations not on my original list. The most embarrassing omission is Port Fairy. My thanks to Peter Evans for pointing this out. On checking I find it was in my original manuscript, so I blame the computer for dropping it! Anyone with a copy of *Light Railways* No.19 from 1967 can read more on the Port Fairy line.

Also to be added, as a result of an intensive search of the *Brisbane Courier* via the NLA's newspaper digitisation program is Tangaluma [original spelling] on Moreton Island. Tangaluma Light, about mid-way along the west coast of Moreton Island, was perched on the top of a hill, which the reporter reckons was 300 yards high on the upward climb but only 300 feet on the descent! [*Courier* 24 March 1890] It was actually located at an elevation of 380 feet and serviced by a very steep incline tramway with a hand-operated winch – which is why the reporter had to use shanks' pony to reach the top. Also visited by the *Courier*'s intrepid scribe, was Comboyuro, at the north-west extremity of Moreton Island. This location, near sea level, turned out to be a place of shifting sands and the light had to be moved before it was washed away . . . *If precautions had not been taken the next tide would in all probability have settled the fate of Comboyuro light for a time. Mr Petherbridge [the Port Office artificer] lost no time in laying down a set of rails, and mounting the huge tower on a trolly, he shifted it back a distance of 241ft without any mishap, and without dis-aranging the position of the lights in the slightest degree.*

Comboyuro Light had to be shifted again in 1905, and once more in 1906, due to further erosion. I do not know whether a tramway was again utilised, but I suspect so. Can any reader confirm this? You have to hand it to those clever Queenslanders – now we know why they built many of their lighthouses out of galvanised iron sheeting over a timber frame!

Phil Rickard

## Coming Events

**JUNE 2009**

**5 Kerrisdale Mountain Railway & Museum, VIC.** This scenic narrow gauge railway and steam museum is open to the public from 1000 – 1600 hrs Friday to Monday and most public holidays. Information: website: www.kerrisdalemtnrailway.com.au or Phone: 03 57970227

**6-7 Alexandra Timber Tramway, VIC.** Narrow gauge steam train operations both days (Queens Birthday weekend), 1000-1545. Also steam trains on 14 June and diesel-hauled trains on 28 June. Information: Bryan 0407 509 380 or Peter 0407 537 837.

**6-7 Red Cliffs Historical Steam Railway, VIC.** Narrow gauge train operations using Kerr Stuart steam and EM Baldwin diesel locomotives, 1100-1600 and the first weekend of following months. Enquiries: (03) 5024 1345.

**6-7 Redwater Creek Steam Railway, Sheffield, TAS.** Narrow gauge steam operations with train rides every half hour from 1100-1600. Also on the first weekend of each month. Information: www.redwater.org.au

**7 Cobdogla Irrigation Museum, SA.** Open Day with Humphrey pump and narrow gauge steam train operations. Phone (08) 8588 2323.

**7-8 Richmond Vale Railway, Kurri Kurri, NSW.** Coalfields Steam weekend celebrating 150 years of continuous steam on the RVR. Steam train operations and other steam-operated vehicles and equipment on display. Phone (02) 4937 5344 or (02) 4358 0190.

**JULY 2009**

**12 Cobdogla Irrigation Museum, SA.** Open Day with Humphrey pump and narrow gauge steam train operations. Phone (08) 8588 2323.

**12 Alexandra Timber Tramway, VIC.** Narrow gauge steam train operations 1000-1545. Also diesel-hauled trains on 26 July. Information: Bryan 0407 509 380 or Peter 0407 537 837.

**Note:** Please send information on coming events to Bob McKillop – rfmckillop@bigpond.com - or the Editor, Light Railways, PO Box 674, St Ives NSW 2070. The deadline for the August issue is 26 June.

**Missing locomotive, VIC**

Peter Gambling has sent us the postcard reproduced below of a Ruston & Hornsby 0-4-0DM locomotive heading a train at the long defunct Sandhurst Town Railway near Bendigo, and requested further details of this locomotive. R&H 0-4-0DM 305328 of 1954 was a regular operating locomotive at this theme park, but there have not been any reports of its whereabouts since the closure of Sandhurst Town and the sale of its assets. Can any reader provide additional information on its whereabouts?

# Heritage &Tourist

News items should be sent to the Editor, Bob McKillop, Facsimile (02) 9958 8687 or by mail to PO Box 674, St Ives NSW 2075.
Email address for H&T reports is: rfmckillop@bigpond.com
Digital photographs for possible inclusion in *Light Railways* should be sent direct to Bruce Belbin at: boxcargraphics@optusnet.com.au

## NEWS

## Queensland

**ARAMAC TRAMWAY MUSEUM, Aramac** 1067mm gauge
**Aramac Tramway Museum Committee**

This museum, which commemorates the 66km shire tramway that connected the town of Aramac with the QGR system at Barcaldine, is located in the old goods shed in Boundary Street. Its prize exhibit is the former QGR classic railmotor RM28, *AUNT EMMA*, which provided services on the line between 1963 and its closure in 1976. This rail motor, reported to have been fully restored at the Ipswich Workshops in 2003, is housed in a shed adjacent to the goods shed. A visitor in March 2009 advises that it was difficult to get a good view of it as the clear plastic protective sheeting has become discoloured. The rail motor trailer is housed in the goods shed, which also has a good collection of photographs and memorabilia of the tramway and the district in general. A shed, which may have been used for the Fairmont track gang car, houses another carriage, but it is in a poor state and needs urgent attention. The remains of a locomotive tender, possibly from B12 No. A1 ( Avonside 1179/Fairlie 587 of 1877), were noted in the grounds. The former station building has been removed, but a building in Gordon Street looks as if it was the former locomotive shed. As with many rural museums, the Aramac Tramway Museum needs an injection of funds to help preserve and interpret what was a unique operation. For our reporter the visit bought to life the LRRSA book, *The Aramac Tramway* by Peter Bell and John Kerr. He concluded that there is nothing like a first-hand visit to get to know and understand an operation such as the Aramac Tramway.

Alf Atkin, 04/09

**DREAMWORLD RAILWAY, Coomera** 610mm gauge

Our last report on this operation was in August 2007, when the rebuilt Baldwin 4-6-0 4 *REG COLTER* (BLW 45212 of 1917) was the operating locomotive (LR 196, p, 35). A visit to the railway on 29 October 2008 found No. 4 still in action on the passenger train. The locomotive had been running continuously for two years, being in steam every day except Christmas day. The crew on the day was Peter Gough as driver and Paul Jones as conductor/ drivers' relief. Peter has been the full-time loco driver at Dreamworld since 1987 (22 years). His father Bob was the driver there from July 1986 to December 1988 and his younger brother Mark, who drove loco-motives for Mackay Sugar, used to travel down from Mackay after the cane season and assist with driving duties on the Dreamworld steam locos during peak holiday periods.

Bob Gough, 04/09

**DURUNDUR RAILWAY, Woodford** 610mm gauge
**Australian Narrow Gauge Railway Museum Society**

A major challenge for ANGRMS during 2009 is the centenary of the opening of the QR branch line from Caboolture to Woodford in December (LR 204, p. 27). The Society was unsuccessful in obtaining a grant to help celebrate this event, so the Board has decided to fund the publishing of a book to mark the centenary. Well-known author Brian Webber will write the text, which will cover the history of the line in QR days, include a section on narrow gauge lines in Queensland

*Bob Gough, with the Dreamworld Railway crew, Peter Gough (right) and Paul Jones (left) posing with the Baldwin locomotive. Photo: Jill Gough*

*The buildings and grounds of the Aramac Tramway Museum as photographed by Alf Atkin in March 2009.*

(ie, less than 1067mm) and tell the story of the 610mm gauge Durundur Railway over the past 30 years. If any reader can help with photographs, memories of the Woodford line and/or provide information on the start-up, opening and other significant events relating to the Durundur Railway, can they please contact Brian on (07) 3354 2140.

ANGRMS members Brian Webber and Mark Gough have been active marketing the Durundur Railway through local media outlets, including an excellent promotional article in the weekend edition of the *Courier Mail*. This brought results, with a significant increase in patronage for March. In turn, this has created the challenge of providing sufficient carrying capacity on the train, particularly in wet weather. Accordingly ANGRMS is urgently seeking volunteers to complete repairs to the rail motor trailer coach PL111. A special train was operated for a wedding on Easter Saturday.

Restoration work is currently focused on restoring the ex-Mulgrave Mill RMP Baguley 0-6-0DM No.1 (3377 of 1953) for accreditation. This will take some time, Recent work involved cutting rust out of the bonnet section and during this time the radiator was pressure tested, which showed it to be in poor condition with numerous leaks. The radiator was removed and the core replaced, while other repairs have been completed making the unit ready for reinstallation into the locomotive frame.

*Durundur Railway Bulletin* 297, March/April 2009

**ISIS DISTRICT HISTORICAL SOCIETY, Childers**

610mm gauge

Updating the report in LR 200 (p. 27), an official open day was held at this local museum on 7 March 2009 to relaunch 'Old Number 4, namely the restored Isis Central Mill 0-6-0T No. 4 (John Fowler 7607 of 1896). Paul Neville, the Federal Member for Hinkler, and Tony Ricciardi, deputy mayor of Bundaberg Regional Council, officiated at the ceremony. Some 40 people attended the event, including Norm Humphries, who was one of the last drivers to operate this locomotive at the mill. Norm was in high spirits at being reunited with his locomotive.

Brian Bouchardt, 04/09

**SUNSHINE PLANTATION, Nambour** 610mm gauge

Designated as one of 12 Queensland icons by the National Trust in 2006, the 16m high 'Big Pineapple' at Nambour was was listed on the state's Heritage Register in March 2009 for its contribution to the Sunshine Coast tourism industry. The listing includes the shopping and restaurant areas and the area of the surrounding farm delineated by the tourist train line.

*Epoc Times*, 22 March 2009; *Sunshine Coast Daily*, 2 April, via John Browning

## New South Wales

**ILLAWARRA TRAIN PARK, Albion Park** 610mm gauge

**Illawarra Light Railway Museum Society**

Building on the successful return of mainline operations at the Albion Park site on 22 February, the ILRMS has linked up with other local groups to present joint activities during the monthly running days. For the Easter running day, the Albion Park Rural Fire Service (RFS) brought its 1940s Ford 'Blitz' truck, along with two modern fire trucks to the Train Park and provided displays of fire-fighting equipment and RFS emergency operations. The old 'Blitz', which had formerly worked at Albion Park, was located in country NSW and brought back for restoration by RFS volunteers. Joint running days were scheduled for 10 and 12 May in conjunction with the Historic Aircraft Restoration Society. This was to provide the venue for the Shellharbour Kids Fest Run under the theme 'Ride the train & touch a plane' with steam train operations scheduled for both days. The Davenport 0-4-0ST *KIAMA*


*The joint running day with the Rural Fire Service at the Illawarra Train Park on 12 April featured the former Albion Park RFS 1940s Ford 'Blitz' fire tender. Robert Marczan photographed it as 0-6-2T* TULLY 6 *(Perry Eng. 7967/49/1 of 1949) passed by in the background with the mainline passenger train.*


*Former driver Norm Humphries checks over his former loco, Isis Central Mill 0-6-0T No. 4 (John Fowler 7607 of 1896), at the Isis District Museum open day on 7 March 2009 to officially launch the restored locomotive.*

*Photo: Brian Bouchardt*

(1596 of 1917) is scheduled to make its first main line run since March 2008 at this event. The steam locomotive has also been returned to the miniature railway and was ready for trial runs at the end of April.
Brad Johns, 04/09; Robert Marczan, 04/09

**NEWCASTLE REGIONAL MUSEUM, Civic**
914mm/1435mm gauges
**Newcastle City Council**
The relocation of this leading regional museum to the former Honeysuckle Railway Workshops received a boost in early April when the NSW PLanning Department approved the development plans. Under the $23 million project, the historic brick workshops buildings will be retained largely as they are today, but with the now-open thoroughfares enclosed in glass walls. The new development is described as a cultural 'anchor' for the Civic precinct, which includes the nearby Civic Theatre, City Hall and the Newcastle Regional Art Gallery. Newcastle City Council is funding the project through the sale of the former museum site in the old brewery building on Wood Street, together with sponsorships, bequests and legacies to boost the project.

As reported in LR 204 (p. 27). the former J&A Brown Richmond Vale Railway 0-6-0ST No. 4 (Kitson 1620 of 1870) will be a feature exhibit in the new museum along with non-air coal hopper wagons to demonstrate the role of railways in coal transport in the Hunter Region. Industrial railways will be represented by the pioneer BHP steelworks Bo-Bo DE No. 32 (A Goninan 1 of 1954) that was formerly displayed at the main gate to the steelworks, while two narrow gauge hot ingot wagons will be used to interpret the role of the railway in transporting materials around the works.
*The Herald* 6 April 2009, via Barry Blair; Gavin Fry, 04/09

**STATE MINE HERITAGE PARK & RAILWAY, Lithgow**
660mm/1435mm gauges
**City of Greater Lithgow Mining Museum Inc.**
The major exhibition, '*Beneath the Southern Cross*', featuring trade union banners and other memorabilia from the Sydney Trades Hall collection (LR 205, p. 27) was opened on 4 April. It is located in the bath house, which allows display of many of the items that have not previously been on public view, as there was no space large enough for them, to be included. The exhibition runs until 31 October 2009 and is open to the publc during the normal museum hours of 10am to 4pm on Saturdays, Sundays, and school and public holidays. The standard museum entry fee is $5 for adults, $3 concession, $2 for children and families $12.
The Mining Museum is currently negotiating with Lithgow State Mine Railway Ltd to arrange the subdivision of the State Mine site, allowing title to the rail corridor to be transferred to the railway group This will take some months as the requirements of a caveat over the land will need to be met.
Ray Christison, 04/09

**WESTON PARK MINIATURE RAILWAY, Canberra**
457mm gauge
This tourist railway that has operated in Weston Park, Yarralumla, faces closure after the ACT Government decided that it did not fit in with its draft plans to upgrade the park. The owner of the railway, Max Mele, told ABC News that he had been told that the continued operation of the train was 'not welcome, despite more than 1000 people signing a petition calling for the retention of the train'. The ACT Government stated that there will be a chance for the public to comment on the master plan for the park, which was to go on public display in April 2009.
The railway commenced operating in the park in 1970 and the present proprietor took over the operations in 1995. There are two steam-outline locomotives on site; 'Bluebell' the present operational loco, built by Bermagui Foundry, and the original 'red engine' built in 1970. Trains operated over a figure of eight track
John Browning; Alf Atkin, 03/09

*Gavin Fry, Director of the Newcastle Regional Museum, stands with the former Richmond Vale Railway 0-6-0ST No. 4 (Kitson 1620 of 1870) on its transfer to Newcastle from the NSW Rail Transport Museum on 31 August 2008.* *Photo: Newcastle Regional Museum*

## Victoria

**ALEXANDRA TIMBER TRAMWAY** 610mm gauge
**Alexandra Timber Tramway & Museum Inc.**
As indicated in LR 206 (p.28), the loss of revenue as a result of the disastrous 'Black Saturday' bushfires on 7 February has been a setback for the ATTM. Successful train operations over Easter gave new heart to society volunteers. Visitor numbers and income were very healthy, especially on the Saturday when the market drew extra patrons. For the first time since the bushfires, life appeared to be returning to close to normal in the district.
John Fowler 11885 of 1909 ran trains on the Saturday, Sunday and Monday and performed faultlessly. The weekend was the locomotive's actual centenary, which will be officially celebrated on 25 October in combination with the centenary of the opening of the Victorian Railway's branch line to Alexandra. The locomotive was presented with a birthday card on the Sunday, and her spirits seemed to lift after that. (Or perhaps it was either finally finding the correct fitting tube-brush or the completion of a turned brass cap for the new smoke-stack!) Other exhibits in steam included the Marshall 8nhp and 2nhp portables plus the Bartram vertical boiler and Tangye pump. A variety of vintage internal-combustion engines drove a number of historic farming implements on display. An unexpected but welcome contribution to steam operations over Easter came from former ATT volunteer Rowan Millard, who is now carriage workshops manager with the Bluebell Railway in the UK.

The ex-Childers, Isis Central and Gin Gin Central Mill 0-6-0 No. 7 (Hudswell Clarke 1098 of 1915) was also on display with the wheel-sets positioned underneath the frame preparatory to the imminent re-wheeling of the locomotive. Getting the loco to this stage of restoration called on 'bush ingenuity' to find a solution to correct the four very worn holes in the frame that locate the suspension rocker pins. A restoration team member came up with the idea of using an old 'Cash' horizontal drilling machine as a means of feeding a cutting tool attached to an electric motor mounted on the end of the mill table. This enabled the cutting tool to be fed into the existing oval-shaped holes and machine them to a round profile to take bushes for the new rocker pins. A plan was eventually developed to set up the milling machine beside the locomotive frame. The machine was set up to machine the two holes on one side, then the frame was picked up with a fork-lift, turned around for the third hole to be completed and so on. It took about five hours to set up the machine to drill each of the four holes, after some five years to come up with a workable solution! Following machining of new bushes to take the new spring hangers, the locomotive can be re-wheeled, a major step in its restoration.

Peter Evans, 04/09; *Timberline* 107, April 2009.

**PUFFING BILLY RAILWAY**

762mm gauge

**Emerald Tourist Railway Board**

The aftermarth of the Victorian bushfires in February had a dramatic effect on PBR passengers numbers, with train loadings being 40 per cent below budget in February, the worst for this month since 1990. The reduced revenue has, in turn, impacted on the funds available for maintenance and restoration tasks. It is understood that there were good loadings over Easter, however.

NA class 2-6-2T 14A returned to service on 13 March resplendent in black livery instead of its former Canadian Red (LR 205, p. 28). Various PBR locomotives and rolling stock items – namely NA class 2-6-2T locomotives 3A and 6A, and Beyer Garratt G42, carriages 2NBC, 5NC, 1NB, 26NAB, 10NBH and 14NB, and goods vehicles 92NQG, 149NQR, 10NU, 13NM, 1NH and insulated van 1NT – were placed on the Victorian State Heritage Register in October 2008. In listing these items, the Heritage Council was particularly impressed with the PBR Heritage Standards Manual, which enabled the railway to be granted a set of Pemit Exemptions that allow the PBR to carry out maintenance and restoration work on the listed items in accordance with the procedures laid down in the Manual without the need to apply for a Permit to carry out this work in each instance.

After being closed for some time for asbestos removal and the

*The arrangement set up by volunteers at the Alexandra Timber Tramway to re-drill the holes in the frame of Hudswell Clarke 1098 of 1915.* *Photo: Peter Evans*


*During a visit to the Puffing Billy Railway on Friday 13 March 2009, Kevin Waid photographed shiny black NA class 2-6-2T 14A (Newport 1914) in the yard at Belgrave, making up its train for its first run after overhaul,, as Garratt G42 (Beyer Peacock 6268 of 1925) looked on.*

upgrading of exhibits by a special team of volunteers under the direction of David Baker, the Puffing Billy Steam Museum at Menzies Creek had an open evening on New Years Eve. The special 'Midnight at Menzies' train made a 40-minute stop to allow patrons to view the museum and the running exhibits, which were operated by thje museum crew. The ex-Pleystowe 0-4-2ST No. 4 (Hudswell Clarke 1559 of 1925) was in steam, together with the George & George boiler, which powered the Tangye vertical steam engine. The 2ft 6in gauge ex-Taiwan Shay geared locomotive (Lima 2549 of 1912) has been cosmetically rejuvenated. The former Inkerman Mill 0-6-0DM *LIL' TOOT* (EE Baguley/RMP 3354 of 1952) is being fully restored mechanically with a partial engine and transmission rebuild, while the ex-Australian Army/Inkerman Mill 4wDM (Malcolm Moore 1013 of 1943) has been fully rebuilt from the tracks up and awaits the fabrication of a new roof.
*Narrow Gauge*, No. 192, March 2009; *PBR Monthly News*, April 2009

## Tasmania

**REDWATER CREEK STEAM RAILWAY, Sheffield**
610mm gauge
**Redwater Creek Steam & Heritage Society Inc.**
SteamFest 2009, held over the March long weekend (7-9th) beside the original Sheffield railway station, was the best attended to date and the large crowds enjoyed a weekend of working steam road traction engines, steam rollers and many other attractions along with steam train rides over the 1km long Redwater Creek Railway. The steam engines on display were built to last – with some of them having clocked up 100 years since their construction. A feature attraction was the debut of the world's first oil-engined tractor of 1897, built by the well-known traction engine builders, Richard Hornsby and Sons. This unique Hornsby Ackroyd oil tractor marks the transition from the steam engine to diesel engines. It was designed about 1895 by Herbert Ackroyd Stewart and the parts for three tractors were made in 1897, but they were not assembled until the early 1900s as the tractor market was not ready for this advancement in technology! All three of these tractors came to Australia and the one at SteamFest was purchased by Eric and Coral Howe, well-known North West Coast engine restorers, in 2008 from the grandson of the original owner of 1902.
The Redwater Creek Railway was again a central drawcard at SteamFest. The 1906 Munich-built 0-4-0WT steam locomotive (now a combination of Krauss 5682 and 5800 of 1910) hauled the heritage passenger carriages, including the first-class carriage from the TGR North East Dundas Tramway from Zeehan to Williamsford.
There was a note of caution for the future, however. Steamfest organiser, Chris Martin, told ABC Radio that while attendances continue to grow each year, the number of old machines in the state is shrinking. "Steam equipment is disappearing to the United Kingdom" he said. The "prices that they're commanding in the UK are very high, so if we don't keep the movement alive here in Tasmania with regular events where people can show their traction engines and generally have a great time with them, the risk is that they will progressively disappear."
Chris Martin 04/09; ABC News, 9 March 2009

## Western Australia

**BENNETT BROOK RAILWAY, Whiteman Park** 610mm gauge
**WA Light Railway Preservation Assoc. Inc.**
During March and April workshop volunteer crews focused on getting the two steam locomotives – ex-South African Railways NG15 Class 2-8-2 No. 123 (Anglo Franco Belge 2670 of 1951), and the 0-4-2T BT1 (Perry Eng 8967.39.1 of 1939) – ready for the 2009 steam season. No. 123 passed its mandatory steam inspection test and following this there was a flurry of activity to put the firebox back together, including replacement of a troublesome superheater tube. The reglassed water gauges were installed in the cab and the water valves were repaired. This loco was scheduled to undergo steam trials on 1 May.

*Composite Krauss 0-4-0WT (B/N 5882/1906 and 5800/1910) was the star of the 2009 SteamFest at Sheffield. Ross Mainwaring photographed it in action there on 5 April 2008.*

# Heritage & Tourist

Work on BT1 in preparation for steam trials was also nearing completion, with the loco looking good in its new green paintwork.
The Classic Car show day at Whiteman Park on 15 May generated excellent passenger loadings for the BBR despite the 40°C heat, and the 15 WALPRA crew members were kept busy throughout the day operating the train services. 4wDM PW 27 (Gemco-Funkey 1963) and 4wDM Planet No. 1 (FC Hibberd 2150 of 1938) operated top-and-tail on 14 round trips between Whiteman Village Junction and Mussel Pool with the four-coach concertina car set, while 0-6-0DM *ROSALIE* (John Fowler 4110019/1950) hauled a six-car train on 15 trips around the loop line.
*BBR Newsletter*, April 2009; BBR website

**BUSSELTON JETTY RAILWAY**
1067mm gauge
Our last coverage of this site was in April 2007 (LR 194, p. 29) when it was reported that efforts to restore the Busselton jetty had become bogged down over bickering between the Federal, State and local governments over funding. The jetty railway was closed in March 2005 due to concerns about the safety of the jetty structure. It appears that these issues have been resolved, with materials for the project being stockpiled in early 2009 and a tender accepted for the reconstruction of the jetty during a complete shutdown, initially scheduled to commence in mid-2009. An independent structural report recommended the complete closure of the jetty due to its unsafe condition, resulting in its closure to public access from 2 April. The loss of anticipated tourist trade to the community over the Easter holiday period led to an emotional debate at the local council on the matter. The jetty will be closed for 11 months for the reconstruction project. There has been no mention of plans for the jetty railway following re-opening of the jetty, so any advice from readers on this matter would be appreciated.
*Busselton Dunsborough Times*, 6 April 2009, via Barry Blair