



Sugar Cane 2024

A look at the current operations of Queensland's sugar cane railways Part 2: Burdekin to Mossman

Chris Walters

This issue we'll continue our journey north along the Queensland coast reviewing sugar mill railway operations, kicking off in the Burdekin – Australia's largest sugar cane growing district – and finishing up at Mossman, at the bottom of Cape York.

Before we get underway though, it is probably worth talking about the rail operations themselves for a moment, for cane trains are a little bit of a different beast, compared to their 'wider gauge' counterparts. To begin with, your average cane bin is not like your average railway goods wagon. An American writer, visiting Queensland a few years ago, once described the clatter of a cane train passing as akin to the sound "of a thousand shopping carts", and that is a fairly on-the-money description. These vehicles are essentially cages on wheels, sometimes four wheels, sometimes a pair of bogies. One major exception to this is Mossman's bin fleet, which is largely metal sided boxes on short flat wagons, for ease of transshipment to and from trucks, which were used to bring cane down from the Atherton Tablelands. More on that later.

But I digress, these vehicles are a bit like your average car trailer, securely coupled up, but with no braking of their own. At some mills, shorter trains rely purely on the locomotive's braking, while locomotives working longer trains – particularly those that pause to pick up additional rakes along their journey – are paired with brake wagons. These are vehicles that, in the case of loaded cane trains, are positioned at the rear of the consist, and which respond to remote signals to apply/release brakes via compressor, as necessary. Generally, these vehicles are designed and constructed as brake wagons, but there are several examples in operation that were rebuilt from former locomotive frames and bogies. Brake wagons come equipped with some form of visual end-of-train marker that can be seen above the bins from the locomotive, usually in the form of a flashing light. Where brake wagons are not in use, the train will have a pole attached to the rear bin, or something similar to act in the same role. Operations are managed by a form of Train Order, with the mills liaising with growers to assign pick-ups based on harvesting schedules. Cut cane needs to be crushed within 24 hours of being harvested, at the most, but trains usually have the cane into the mill well before that.

Above: On Saturday 30 September 2023, Invicta Mill Walkers B-B DH Hodel leads a long train of loaded cane bins along Shirbourne Road as it nears the mill, at Giru. Stephen Whitaker

Another fascinating aspect of these narrow-gauge networks is where they are required to cross a Queensland Rail (QR) mainline, usually 'at grade'. From south to north along QR's North Coast line, there are 38 tramway crossings at-grade. For the most part, these crossings take the form of a simple 'diamond' cross-over, but three (Elliott and Meadowvale on the Bundaberg network, and Balberra near Racecourse Mill) are of the drawbridge style. These are twin, mirrored and hinged sections of 610mm-gauge track that can be lowered to meet over the top of the QR rails, allowing cane trains to run over the 1,067mm line.

In all but one instance, the diamond crossings are always set by default in favour of the QR line. The lone holdout is Victoria Mill's crossing to the immediate south of Ingham Station. Because of the manner by which the Victoria Mill line passes through and along the town's streets, pulling up a cane train would likely block traffic – particularly in the case of inbound loaded trains, which would likely be left stopped across the Bruce Highway. In any case, during the crush, it is more than likely that Victoria Mill's movements will outgun traffic on the QR main for frequency anyway.

The third type of crossing is the more elaborate flyover/underpass style, several of which exist where sugar cane networks meet QR mainlines:

- At Sarina, about a kilometre north of the mill, the Plane Creek line loops under the North Coast line.
- Just north of Farleigh Mill where Mackay Sugar rails pass beneath Farleigh crossing loop on QR's North Coast line.
- Not far from there, at the locality of Mulei, a Marian Mill line passes under the North Coast line between The Leap and Kuttatubul.
- Proserpine Mill has two cane line underpasses, one at Noorlah (about 20 kilometres south of Proserpine) and another on the western side of the mill itself, between the mill and Proserpine River.
- The southern end of Inkerman Mill's yard passes beneath the approach to the Burdekin Bridge, on the Home Hill bank of the river.

This bridge carries the North Coast line and the Bruce Highway.

- Near Daradgee, just north of Innisfail, a South Johnstone line paralleling Jubilee Road passes beneath the North Coast line.
- Where Tully's north line and the North Coast line cross the range between Tully and El Arish near Maadi, an overpass carries the Tully track over the QR mainline.
- At Kamma, just north of Gordonvale, Mulgrave Mill's northern mainline passes over not just the North Coast line but also the Bruce Highway.
- Further along that same line from Mulgrave, the branch beyond Redlynch threads a low underpass beneath the Kuranda Railway, just east of QR's Redlynch Station.
- On the Goonyella Railway to Hay Point line, a pair of underpasses allow the QR North Coast line and Plane Creek's South/Carmila line, to pass beneath the four-track throat of Jilalan Yard, just east of Sarina.

The Burdekin Mills

The Burdekin region, home to four Wilmar-owned mills, is the largest sugar producing area in Australia. The overall Wilmar railway network, including not just the Burdekin region, but Plane Creek, Proserpine, Victoria and Macknade mills, incorporates approximately 1,600 kilometres of track. In relation to the region's major centre of Ayr, 1,277 kilometres north of Brisbane, the four Burdekin mills are:

- **Inkerman Mill** at Home Hill, ten kilometres south of Ayr at Home Hill, on the southern bank of the Burdekin. Inkerman typically crushes 1.7 million tonnes of sugarcane a year, to produce about 260,000 tonnes of raw sugar.
- Dating back to 1884, **Kalamia Mill** is eight kilometres north of central Ayr, and linked to the QR yard in Ayr by a branch that is dual gauge. When a 1,067mm locomotive is unavailable, it is possible for a 610mm gauge Kalamia locomotive to transfer the 1,067mm gauge sugar and molasses wagons between the mill and Ayr using an adaptor wagon with a special off-centre coupler. Kalamia will usually crush in the order of 1.5 million tonnes of cane in a season, making for annual raw sugar production of about 230,000 tonnes.

- Like Kalamia, **Pioneer Mill** at Brandon (12 kilometres west of Ayr) commenced operations in 1884, and despite being well meshed into today's larger Wilmar family, is still a bit of an 'odd man out' among Queensland's sugar mills. The reason for this is that its railway network was built to the QR standard three-foot-six-inch (1,067mm) gauge, and has remained so ever since. All the other mills maintain networks of two-foot or 610mm gauge. Because of this, while Pioneer Mill performs a significant amount of the locomotive rebuilding for other Wilmar mills, it cannot interchange any rolling stock with the other three Burdekin mills. Its annual production is nearly identical to neighbouring Inkerman Mill, while Pioneer is also home to Australia's largest co-generation biomass generator, which runs primarily on bagasse.
- Youngest, and by far the largest of the four Burdekin mills is **Invicta**. Located at Giru, it also, of the four, the most distant from Ayr (40 kilometres west). Invicta Mill actually started up near the Richmond River in northern NSW during the 1880s, before the business shifted to Bucca, near Bundaberg, in 1906. The operation was again dismantled in 1919 and re-established in its current position in 1921, with the town of Giru developing around it. Today it rivals Ingham's Victoria Mill for the title of largest sugar mill in Australia. Invicta currently crushes approximately three million tonnes of cane to produce around 440,000 tonnes of raw sugar.

Like Proserpine Mill, Wilmar contracts Pacific National to rail out export sugar and molasses, however, in the case of these Burdekin mills, the produce is sent north to Townsville Harbour. Again, 83 and 88 Class locomotives are typical power for these trains.

The four individual mill railway networks are not as well integrated as are those managed by Mackay Sugar, or even Wilmar's own Herbert river mills north of Townsville, but there is a physical connection between Kalamia and Invicta, which ironically shares trackage with Pioneer's 1,067mm rails – creating a frequently used 25-kilometre dual gauge section. Inkerman, on the far side of the Burdekin River, is cut off from the other mills physically. That said, locomotives and stock can and do move between the three 610mm systems, although for the most part they are operated distinct from each other.



Kalamia Mill's Comeng 0-6-0DH Delta has just collected a short train of loaded cane bins and is proceeding across Queensland Rail's North Coast Line at the McDesme Cane Train Crossing beside Giddy Road at McDesme, 5km south of Ayr, on Saturday 30 September 2023. The sign behind the lever gives step-by-step instructions on how to safely operate the crossing. Stephen Whitaker

The Burdekin system covers a vast area of the coastal plain into which the river flows. On the south side of the river, Inkerman's system reaches south-west to Kirknie, Keebah in the south-east and Carstairs to the north-east. The larger system on the north side of the Burdekin reaches eastwards to Rita Island, north to Alva and Colevale, east to Shirbourne and south to Dalbeg. The latter line, which follows the Burdekin south from Clare, is a monster of a run for Invicta trains, with Dalbeg more than 100 kilometres from the mill at Giru. Although it is believed that the full length of the line is no longer being used, it is reportedly still the longest run for sugar cane trains in Australia.

Inkerman, Kalamia and Pioneer all get by on small fleets of seven locomotives each (although Kalamia has an additional 1,067mm unit, *Mount Isa*, for shunting molasses wagons), while Invicta, reflecting its much greater input of cane and output of tonnage, has 15 – most of which are larger Walkers rebuilds. In addition to the 37 operable locomotives, there are also ten locomotives in store, all bar one of them held at Pioneer, and most of those are Walkers units in line for rebuild, which the mill undertakes for the other Wilmar mills.

There are a few locomotives worth taking a closer look at. Inkerman is home to EM Baldwin unit *Iona* which, originally known as *Kilrie*, entered service at Kalamia Mill in 1972 – the first bogie sugar industry locomotive. Over at Pioneer Mill, in a fleet already fairly unusual given the track gauge, the stand-out is Walkers locomotive *Aramac*, so named for it was originally built for the Aramac Shire Tramway in 1968, where it was known as *Mango*. It operated between Aramac and Barcardine until the line was closed at the end of 1975. The locomotive's backstory is rich, to be sure, but it is *Aramac*'s design that really sets it apart, for is of a centre-cab style (slightly offset), which gives the little Walkers unit a distinctly European look.

Another interesting Walkers 1,067mm unit is that mentioned earlier, at Kalamia, shuttling export sugar and molasses between the mills and QR sidings, is *Mount Isa*, formerly known as Mount Isa Mines' locomotive 5803. Purchased by Pioneer Mill in 2008, the locomotive remains in its original form – and as such is likely now the largest and heaviest (at 50 tonnes) Australian sugar industry locomotive – as it has never been used for sugar cane haulage.

Kalamia's 'locomotive of note' is bogie unit *Strathalbyn*, the sole locomotive built by Westfalia. Constructed in 1991, the company had acquired the former EM Baldwin designs, and was attempting to restart the market for such products. Unfortunately, all of the new locomotive developments of that time – Eimco, Bundaberg Foundry, Westfalia – failed to take off, not helped by the concurrent development of rebuilt, former Government owned Walkers units.

For several decades, Invicta employed a one-off, four-wheeled, Comeng model CA diesel-hydraulic named for the mill itself. During 2021, and after a career primarily spent in navy service, *Invicta* was placed on permanent display out front of the mill to mark the Giru mill's centenary.

Inkerman Mill

Available for service:

- *Keebah* – Comeng model AF, 0-6-0 DH (C2231 of 1958)
- *Osborne* – Comeng model AH, 0-6-0 DH (AH2866 of 1963)
- *Koolkuna* – Comeng model AM, 0-6-0 DH (AM4993 of 1965)
- *Carstairs* – EM Baldwin model DH18RRTD, 0-6-0 DH (6/2715.1 9.68 of 1968)
- *Iyah* – EM Baldwin model DH24B Mk8, B-B DH (6558.1 6.76 of 1976)
- *Iona* – EM Baldwin model DH26B Mk8, B-B DH (4498.1 7.72 of 1972)
- *Bojack* – EM Baldwin model DH26B Mk8, B-B DH (7280.1 9.77 of 1977)

Kalamia Mill

Available for service:

- *Kalamia* – Clyde model HG-3R, 0-6-0DH (67-569 of 1967)
- *Chiverton* – Comeng model AB, 0-6-0 DH (C1030 of 1958)
- *Northcote* – Comeng model AH, 0-6-0 DH (AH4091 of 1965)
- *Delta* – Comeng model FD, 0-6-0 DH (FD5094 of 1965)
- *Norham* – EM Baldwin model DH26B Mk1, B-B DH (5383.1 7.74 of 1974)
- *Barratta* – Comeng model AD, 0-6-0 DH (AH4098 of 1965)
- *Strathalbyn* – Westfalia model DH32C, B-B DH (13863.1 8.91 of 1991)

Stored:

- *Kalamia* – Comeng model AA, 0-6-0 DH (A1409 of 1955)



On Tuesday 2 August 2022, Pacific National Downer/EMD unit 8328 is loading its train of bulk sugar, destined for the Port of Townsville, at Invicta Mill at Giru. John Kirk



Pioneer Mill's Walkers 0-6-0DH Aramac is about to pass under the Bruce Highway just north of Brandon with a rake of full cane bins on Sunday 31 July 2022.
Luke Horniblow

Pioneer Mill

Available for service:

- **Maidavale** – Clyde model DHI-71, 0-6-0 DH (62-266 of 1962)
- **Pioneer** – Clyde model DHI-71, 0-6-0 DH (63-287 of 1963)
- **Airdale** – Clyde model DHI-71, 0-6-0 DH (64-318 of 1964)
- **Colevale** – Clyde model DHI-71, 0-6-0 DH (65-438 of 1965)
- **Aramac** – Walkers model C250, 0-6-0 DH (583 of 1968)
- **Jardine** – Walkers GH500 rebuild (1991/2018), B-B DH (592 of 1968 – ex-QR DH10)
- **Jerona** – Walkers GH500 rebuild (2019), B-B DH (611 of 1969 – ex-QR DH29)
- **Mount Isa** – Walkers GH500, B-B DH (682 of 1972 – ex-Mount Isa Mines 5803)

Stored:

- **Giru** – Walkers GH500 rebuild (1994), B-B DH (593 of 1968 – ex-QR DH11)
- **Karlooloo** – Walkers GH500 rebuild (1995), B-B DH (630 of 1969 – ex-QR DH48)
- **11** – Clyde model HG-3R, 0-6-0 DH (65-383 of 1965)
- **12** – Walkers GH700 rebuild (1998), B-B DH (673 of 1971 – ex-NSWSRA 7314)
- **14** – Walkers GH700 rebuild (1998), B-B DH (701 of 1972 – ex-NSWSRA 7339)
- **54 Oakenden** – Comeng model FB, 0-6-0 DH (FB3169 of 1963)
- **MA1861** – Walkers GH700, B-B DH (713 of 1973 – ex-Westrail MA1861)
- **7309** – Walkers GH700, B-B DH (668 of 1971 – ex-NSWSRA 7309)
- **7336** – Walkers GH700, B-B DH (698 of 1972 – ex-NSWSRA 7336)

Invicta Mill

Available for service:

- **Kilrie** – Walkers GH500 rebuild (2023), B-B DH (604 of 1969 – ex-QR DH22)
- **Rita Island** – Walkers rebuild (1994) GH500 B-B DH (601 of 1969 – ex-QR DH19)
- **Jarvisfield** – Walkers rebuild (1991/2020) GH500 B-B DH (647 of 1970 – ex-QR DH60)
- **Scott** – Walkers GH700 rebuild (2020), B-B DH (711 of 1973 – ex-NSWSRA 7349)
- **Airdmillan** – Comeng model AH, 0-6-0 DH (AH3068 of 1963)
- **Giru** – Walkers GH500 rebuild (1996/2023), B-B DH (625 of 1969 – ex-QR DH43)
- **Haughton** – Comeng model AH, 0-6-0 DH (AH3878 of 1964)
- **Burdekin** – EM Baldwin model DH32B, B-B DH (10215.1 7.82 of 1982)
- **Clare** – Walkers GH500 rebuild (1995), B-B DH (655 of 1970 – ex-QR DH68)
- **Piralko** – Walkers GH700 rebuild (1995/2017), B-B DH (677 of 1971 – ex-NSWSRA 7318)
- **Hodel** – Walkers GH700 rebuild (1995/2018), B-B DH (687 of 1972 – ex-NSWSRA 7325)
- **Cromarty** – Walkers GH700 rebuild (1996/2019), B-B DH (708 of 1973 – ex-NSWSRA 7346)
- **Minkom** – Walkers GH700 rebuild (1996), B-B DH (710 of 1973 – ex-NSWSRA 7348)

Preserved on display:

- **Invicta** – Comeng model CA, 0-4-0 DH (CA1040 of 1960)

On Saturday 30 September 2023, Walkers B-B DH Piralko, coupled to its matching bogie brake wagon, shunts a train of loaded cane bins at Invicta Mill in Giru. Stephen Whitaker



Wilmar Herbert River mills

While Victoria Mill is, along with Invicta, Australia's largest sugar mill, nearby Macknade is the country's oldest – Macknade opened in 1873, with Victoria following a decade later. Both mills were established by the Colonial Sugar Refining Company, later CSR Limited. During 2010, CSR spun its sugar operations off into Sucrogen, which was purchased a year later by Wilmar. These days Macknade's annual crush hovers around 1,500,000 tonnes of sugar cane, producing 191,000 tonnes of raw sugar, while Victoria crushes approximately 3,000,000 tonnes of cane to output 400,000 tonnes of sugar.

Both mills are near Ingham (1,473 kilometres from Brisbane) with Macknade 17 kilometres to the north-east, and Victoria five kilometres east of town. The railway networks of the mills are interconnected, fanning out to Bambaroo and Helens Hill in the south, south west to Upper Stone, south east towards to Forrest Beach and west to Abergowrie, which at a distance of around 50 kilometres, is the longest cane run in the area.

The line heading out past Macknade and on to the coast is actually used by both mills to despatch export sugar to the Port of Lucinda. Utilising two dedicated trains (one for each mill) of block sugar boxes, these are the only export trains that operate via 610mm direct from sugar mills. Sugar Terminals Limited owns the port facilities at Lucinda, where a 5.6-kilometre jetty conveyor takes 22 minutes to take sugar out to waiting ships. Incoming trains from Macknade and Victoria drop their loaded consists and then return to the mills with empty rakes, while a resident shunter unloads the trains. The primary shunter is a Comeng model AD, 0-6-0 diesel-hydraulic locomotive (G1023 of 1958), although a smaller Motor Rail Simplex four-wheel diesel-mechanical (4159 of 1926) is held as a back-up, albeit very rarely used.

The combined Macknade/Victoria fleet is split between Clyde six-wheelers, EM Baldwin locomotives and Walkers rebuilds, which are currently progressing through a second extensive overhaul program. Among the Clydes is Macknade 16, which was originally built for Hambledon Mill in 1954, and is perhaps better known as the builder's first sugar industry locomotive. Although it is likely most parts on it are no longer original, it is still one of the most historically significant locomotives at work in the industry today.

Another local survivor is Hudswell Clarke 0-6-0 steam locomotive, *Homebush*, which is normally on display in a shelter (with a pair of carriages) adjacent the mill entrance at the corner of Victoria Mill and Four Mile Roads. The engine is maintained in operational condition, and until the Covid pandemic intervened, was used during Ingham's annual Maraka Festival and annual Italian Festival, as well as Victoria Mill's Social Club Christmas Party.

At the other end of the spectrum is *Brisbane*, now in service over at Victoria Mill. Unveiled in June 2023, *Brisbane*, built in-house by Wilmar at Macknade Mill, represents the first new sugar industry locomotive built since 1991 (as distinct from rebuilds, such as the Walkers units). The 26-tonne 'mid-sized' locomotive was based loosely on, and a development of, the similar sized EM Baldwin units used extensively across most mills. Two additional locomotives are due to be completed shortly, while a further pair of units are due to follow in the next 12 months.

Available for service:

- **16** – Clyde model DHI-71, 0-6-0 DH (DHI.1 of 1954)
- **Centenary** – Clyde model HG-3R, 0-6-0 DH (64-381 of 1964)
- **Ingham** – Clyde model HG-3R, 0-6-0 DH (64-382 of 1964)
- **12** – Clyde model HG-3R, 0-6-0 DH (65-434 of 1965)
- **Perth** – Clyde model HG-3R, 0-6-0 DH (69-682 of 1969)
- **Dalrymple** – Clyde model HG-3R, 0-6-0 DH (70-709 of 1970)
- **Albany** – EM Baldwin model DH10-PS Mk2, 0-4-0 DH (6/1792.1 11.66 of 1966)
- **Hobart** – EM Baldwin model DH18 Mk2, 0-6-0 DH (4413.1 7.72 of 1972)
- **Darwin** – EM Baldwin model DH24B Mk4, B-B DH (6171.1 9.75 of 1975)
- **Homebush II** – EM Baldwin model DH24B Mk5, B-B DH (6400.1 4.76 of 1976)
- **Townsville II** – EM Baldwin model DH24B Mk5, B-B DH (6400.2 4.76 of 1976)
- **Wallaman** – EM Baldwin model DH24B Mk5, B-B DH (6400.3 4.76 of 1976)
- **Selkirk** – EM Baldwin model DH26B Mk4, B-B DH (6750.1 8.76 of 1976)
- **Maitland** – EM Baldwin model DH24B Mk5A, B-B DH (7070.1 3.77 of 1977)
- **Adelaide** – EM Baldwin model DH24B Mk5A, B-B DH (7070.2 4.77 of 1977)



***Brisbane*, the first new locomotive built for the Queensland sugar industry since 1991, heads along 4 Mile Road with a rake of loaded sugar boxes bound for the Port of Lucinda on Saturday 2 September 2023. Luke Hornblow**



- **19** – EM Baldwin model DH24B Mk5A, B-B DH (7070.3 4.77 of 1977)
 - **20** – EM Baldwin model DH24B Mk5A, B-B DH (7070.4 4.77 of 1977)
 - **Gowrie** – EM Baldwin model DH24B Mk5A, B-B DH (7135.1 7.77 of 1977)
 - **Sugarworld Shuttle** – EM Baldwin model DH8B, 4wDH (9109.1 9.80 of 1980)
 - **Cairns** – Walkers GH700 rebuild (1995/2021), B-B DH (669 of 1971 – ex-NSWSRA 7310)
 - **Clem H McComiskie** – Walkers GH500 rebuild (1991/2004), B-B DH (605 of 1969 – ex-QR DH23)
 - **Herbert II** – Walkers GH500 rebuild (1993), B-B DH (612 of 1969 – ex-QR DH30)
 - **Jourama** – Walkers GH700 rebuild (2023), B-B DH (709 of 1973 – ex-NSWSRA 7347)
 - **Brisbane** – Wilmar Macknade Mill B-B DH (2022)
- Stored:**
- **MA1863** – Walkers GH700 B-B DH (715 of 1973 – ex-Westrail MA1863)
- Preserved/display:**
- **Homebush** – Hudswell Clarke 0-6-0 (1067 of 1914)

Tully Mill

At home in a place that has a pretty decent shot at the crown for 'wettest town in Australia', the once independent Tully Sugar Mill is today a subsidiary of Chinese agribusiness COFCO International. Located 1,570 kilometres north of Brisbane, and while not quite in the league of Invicta or Victoria, it is one of the larger and more productive mills in Queensland. A high water mark was reached in 2018 when the mill produced 366,000 tonnes of raw sugar. Having first opened in late 1925, Tully is also the youngest of the coastal mills covered in this article.

Tully Mill's 200-kilometre railway network extends south to Rockingham, Murray Upper and Lower Tully, west to Munro Plains, and north to Jaffa and El Arish. Tully's locomotive fleet is divided between a steadily shrinking group of Comeng 0-6-0 units and a slowly growing number of Walkers rebuilds, along with a trio of small EM Baldwin 0-4-0 DH locomotives that are used for navy related duties and shunting. It is worth mentioning that, while the rest of the industry 'hit the pause button' on rebuilding Walkers units for several years – even leaving several of them stored around the state unused – Tully continued to slowly, but steadily produce new rebuilds every few years. Currently seven are in service, but an eighth is undergoing rebuild at the mill as of press time.

Above: On a very overcast Saturday 3 August 2019, Hudswell Clark 0-6-0 *Homebush* hauls its first train of the day conveying mill employees and their children along the Nyanza Line as part of the annual Italian Festival. The leading carriage, the Decauville coach, is one of two purchased prior to WW1 for use on the then passenger service to Lucinda, and after this ended in 1932, it was used to transport navvies to work sites. The second car is a replica built at Victoria Mill in 1980. Shane O'Neil

Right: Seen at the mill on Friday 24 September 2021, Tully 1 is one of three small EM Baldwin DH8-PS locomotives dating from 1965, that are used for works trains and shunting. Malcolm Holdsworth





It to be numbered Tully 2, the locomotive represents the last Walkers unit that the mill had in storage for a future rebuild, so any further rebuilds will require a bit of a shopping trip.

As mentioned in Part 1, during 2009 Tully organised a swap with Mackay Sugar. In the deal, Tully received former Racecourse Mill unit *Balberra*. At Mackay, the unit had been the only one of their Walkers rebuilds to come from a donor QR DH Class unit, but in Tully, all their Walkers rebuilds started life as DHs, so the new Tully 7 fits right in. Meanwhile, Tully 18, which is now stored out of service, was to prove the last sugar industry locomotive built by Comeng when it was delivered in 1977.

Available for service:

- **1 Charlotte** – EM Baldwin model DH8-PS 0-4-0 DH (6/1082.3 2.65 of 1965)
- **2 Priscilla** – EM Baldwin model DH8-PS, 0-4-0 DH (6/1082.2 2.65 of 1965)
- **3 Coolies** – EM Baldwin model DH8-PS, 0-4-0 DH (6/1082-1 2.65 of 1965)
- **Tully 2** – Walkers GH500 rebuild (2024), B-B DH (586 of 1968 – ex-QR DH4)
- **Tully 3** – Walkers GH500 rebuild (2013), B-B DH (643 of 1970 – ex-QR DH56)



Above: On Thursday 16 November 2023, Walkers B-B DH Tully 5 is heading to its namesake mill as it approaches the crossing on the QR North Coast Line, near the former Jaffa station, with a rake of loaded cane bins from Daveson Road, Daveson, north of El Arish. James Chuang
Left: Mount Mackay National Park is in the background as Comeng 0-6-0DH pair Tully 11 and Tully 16 head towards the mill with a loaded train from Lower Tully on Sunday 4 December 2022. James Chuang

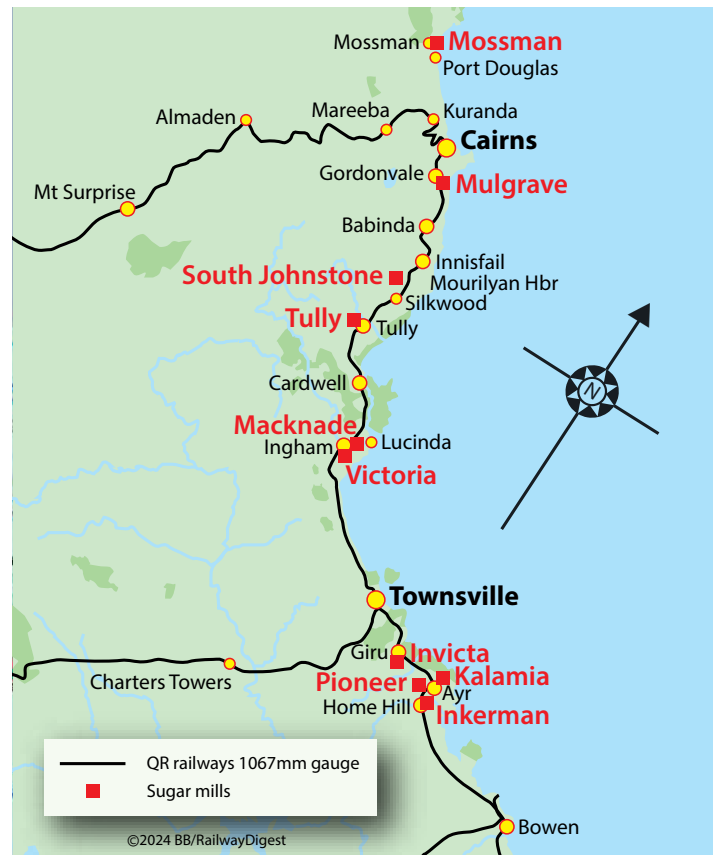
- **Tully 4** – Walkers GH500 rebuild (1996), B-B DH (622 of 1969 – ex-QR DH40)
- **Tully 5** – Walkers GH500 rebuild (1993), B-B DH (650 of 1969 – ex-QR DH63)
- **Tully 6** – Walkers GH500 rebuild (1991), B-B DH (653 of 1970 – ex-QR DH66)
- **Tully 7** – Walkers GH500 rebuild (1994), B-B DH (657 of 1970 – ex-QR DH70)
- **Tully 8** – Walkers GH500 rebuild (2004), B-B DH (606 of 1969 – ex-QR DH24)
- **Tully 9** – Walkers GH500 rebuild (2010), B-B DH (618 of 1969 – ex-QR DH36)
- **Tully 10** – Comeng model AD, 0-6-0 DH (AD1341 of 1960)
- **Tully 11** – Comeng model AD, 0-6-0 DH (AD1347 of 1960)
- **Tully 14** – Comeng model AK, 0-6-0 DH (AK2663 of 1963)
- **Tully 16** – Comeng model AH, 0-6-0 DH (AH4484 of 1964)

Stored:

- **12** – Comeng model AD, 0-6-0 DH (AD1351 of 1961)
- **15** – Comeng model AK, 0-6-0 DH (AK3574 of 1964)
- **17** – Comeng model AH, 0-6-0 DH (AH42100 of 1966)
- **18** – Comeng model AO, 0-6-0 DH (A060113 of 1977)

South Johnstone

One of the younger mills in the industry, having opened in 1916, South Johnstone Mill is now the last remaining mill within the Innisfail region. Its 470-kilometre railway network spans areas formerly served by Goondi (closed 1987), Babinda (closed 2011) and Mourilyan (closed 2006, following damage from Cyclone Larry earlier that year). The group were all acquired during an expansion by Bundaberg Sugar in 1987, which was later bought by Finasucre. A joint venture was later established in 2010 with Maryborough Sugar Factory (later MSF Sugar), with both companies acquired in 2012 by Thai group Mitr Phol Sugar. Today MSF Sugar manages South Johnstone along with Mulgrave Mill (acquired in 2008), as well as the Tablelands Mill in Arriga and the currently dormant Maryborough Mill down south. Neither of the latter pair of mills is supported by a railway network. On average, South Johnstone Mill crushes 1.6 million tonnes of cane annually, to manufacture approximately 200,000 tonnes of raw sugar.



South Johnstone is 1,615 kilometres north of Brisbane, 11 kilometres south of Innisfail, and 79 kilometres south of Mulgrave Mill, its MSF Sugar neighbour. The railway network stretches to the extents of the former mill systems, including Babinda in the north (although some northern areas of former Babinda territory are now serviced by Mulgrave Mill), Mourilyan Harbour in the east, north-west to Nerada (a particularly steep and sharply curved line), and Silkwood and Japoonvale in the south and west.



Mid-afternoon on Wednesday 22 September 2021 finds coupled Comeng 0-6-0DH pair 9 and 8 rolling a loaded cane rake from the north past the delightfully ramshackle shopfronts of Hynes Street, South Johnstone. The train is only a coin toss from the front bar of the Criterion Hotel, on the left, and the mill is a few hundred metres ahead. Malcolm Holdsworth



South Johnstone Mill's Comeng 0-6-0DH pair 8 and 9 bring a long rake of loaded cane bins across the new North Johnstone River Bridge at Fitzgerald Creek, 7km north-west of Innisfail, on Saturday 3 December 2022. James Chuang

Mourilyan Harbour is still used for export of raw sugar products; but it is no longer connected by rail and the line has been cut back to cane farms west of the coast. Many of these lines, including those to Mourilyan Harbour and Nerada, were formerly part of the Innisfail Tramway, which was owned by the shire council before being taken over by Queensland Railways, and ultimately sold to South Johnstone and Mourilyan mills. Not least because of its fascinating history, but also for the diverse and spectacular nature of its lines, South Johnstone is, in this author's opinion, pound-for-pound the best value for observing sugar cane railways at work. There is even a section of street running, with trains leaving the mill and heading up Hynes Street past the Criterion Hotel before the line shifts off to the north side of the street at the end of the village. Given the extensive reach of the network, there are several sub-depots including at Mourilyan and Silkwood.

South Johnstone's locomotive fleet consists of the largest group of Clyde and Comeng six-wheelers in the industry (in terms of percentage of a single mill fleet), and while there are a few EM Baldwin units, there are no Walkers rebuilds or newer locomotives here. If that all sounds like South Johnstone holds the most historically interesting locomotive fleet in the industry, it is probably worth mentioning that many of these locomotives have been given heavy rebuilds over the last decade, and many of them look nothing like their original forms. One historic locomotive of note is Comeng unit 27 (generally used for navvy duties), which was among nine diesel locomotives (two Baguley and seven Comeng) that were bought by Queensland Railways to operate the Innisfail Tramway between 1954 and 1975. Numbered DL12-DL20, these locomotives were sold off in 1977 when South Johnstone and Mourilyan bought the remnants of the tramway. While several other members of this DL12 Class group have been preserved, 27 is the last Innisfail Tramway locomotive in commercial ownership.

Available for service:

- 1 – Comeng model AA, 0-6-0 DH (A1821 of 1957)
- 2 – Clyde model DHI-71, 0-6-0 DH (55-56 of 1955)
- 3 – Clyde model DHI-71, 0-6-0 DH (56-90 of 1956)
- 4 – Comeng model AD, 0-6-0 DH (AD1138 of 1960)
- 5 – Comeng model AH, 0-6-0 DH (AH2460 of 1962)
- 6 – Comeng model AB, 0-6-0 DH (C2234 of 1959)
- 7 – Comeng model AD, 0-6-0 DH (AD1239 of 1960)
- 8 – Comeng model AA, 0-6-0 DH (AA1543 of 1960)
- 9 – Comeng model AH, 0-6-0 DH (AH3979 of 1964)
- 10 – Comeng model AA, 0-6-0 DH (A2027 of 1958)
- 11 – Clyde model DHI-71, 0-6-0 DH (55-64 of 1955)
- 12 – Clyde model DHI-71, 0-6-0 DH (55-60 of 1955)
- 14 – Clyde model DHI-71, 0-6-0 DH (63-288 of 1963)

- 15 – Clyde model DHI-71, 0-6-0 DH (66-491 of 1966)
 - 16 – Clyde model DHI-71, 0-6-0 DH (56-93 of 1956)
 - 17 – Clyde model DHI-71, 0-6-0 DH (55-57 of 1955)
 - 24 – EM Baldwin model DH24B Mk1, B-B DH (5477.1 8.74 of 1974)
 - 25 – EM Baldwin model DH24B Mk7, B-B DH (6470.1 1.76 of 1976)
 - 26 – EM Baldwin model DH24B, B-B DH (7244.1 8.77 of 1977)
 - 27 – Comeng model AI, 0-6-0 DM (AI57111 of 1975)
 - 32 **Liverpool** – EM Baldwin model DH32B, B-B DH (10385.1 8.82 of 1982)
 - 38 – Comeng model AH, 0-6-0 DH (AH4695 of 1965)
 - 39 – Comeng model AH, 0-6-0 DH (AH4688 of 1965)
- Stored:**
- 13 – Clyde model DHI-71, 0-6-0 DH (59-203 of 1959)
 - 18 – Clyde model DHI-71, 0-6-0 DH (56-83 of 1956)

Mulgrave Mill

Located in the small town of Gordonvale, Mulgrave Mill is now the closest sugar mill to the major regional centre of Cairns since the closure of Hambleton Mill in 1991. The mill was commissioned in 1896, and has traditionally operated as a locally-owned cooperative, until acquired in 2008 by The Maryborough Sugar Factory (today known as MSF Sugar). Located 25 kilometres south of Cairns, Mulgrave is also 1,685 kilometres from Brisbane, and like much the coastal region of Far North Queensland, is susceptible to cyclone damage, which unfortunately has beset the mill operation three times in recent history: 2006 (Cyclone Larry), 2011 (Yasi), and then again, quite severely, during December 2023 when Cyclone Jasper came ashore from Fiji, cutting a path of destruction across the lower part of Cape York. The Mulgrave railway network was hard hit, particularly the Barron River railway bridge north-west of Cairns, which was all but completely washed away. A lot of damage assessment and repairs will be needed before the commencement of the 2024 crush, but how the mill will respond to the destroyed bridge is not yet clear.

During the 2022 season, Mulgrave crushed approximately 1,230,000 tonnes of cane, to produce around 160,000 tonnes of raw sugar. Most of that is exported through Cairns to the Asian market. The railway network spreads out from Gordonvale in most directions, although most lines leave the mill via the yard east of the mill, meaning that the Rushworth Road level crossing is a handy place to observe operations. The one line that leaves the mill to the west is the Little Mulgrave branch, which is arguably the network's most scenic. Most lines to the east fan out onto the coastal plain, the primary exception being the northern main line which, as mentioned earlier, crosses over both the Bruce Highway and Aurizon's

North Coast railway about four kilometres north of Gordonvale via an east-west flyover to Mount Peter. From there the line veers north to enter the Cairns metropolitan area near Edmonton and then it threads around the western side of the city to Redlynch, where exists a rail yard and sub-depot. The line continues north from here via a low-level underpass (also mentioned above) beneath the Kuranda railway. The underpass is so tight, it can only be passed by Mulgrave's three specially-equipped 'low cab' Clyde locomotives. Near Harley Street North Park, this line splits into two branches, and one line then continues north across the Barron River before splitting again, with one line looping around the bend in the river to return south towards Stratford, while the other heads north to a point just inland of Yorkeys Knob. Unfortunately, it is these branches on the northern side of the Barron River that have just lost their bridge crossing due to Cyclone Jasper.

Another feature of the Redlynch line is its climb up and over the range west of Cairns, which is quite steep in places. During 1998, a deviation was put in place to shorten the railway and have it pass beneath the four-lane Cairns Western Arterial Road. The result was the closure of a lengthy horseshoe between Kanimbla and Brinsmead and the construction of a 600-metre 'short-cut' (albeit steeper than the old route) that included a 270-metre 'cut and cover' tunnel beneath the new road. Strange as it may seem, this is believed to be the only significant tunnel (as distinct from a flyover or underpass) on any Queensland sugar cane railway.

The 256-kilometre railway network is serviced by 15 locomotives, which are an eclectic mix of Baldwin, Clyde and Comeng 0-6-0 units and larger Baldwin and Walkers B-B locomotives. Two locomotives of note include No.5, now the oldest Comeng unit still in commercial operation (although it is believed to be used mostly around the mill, if much at all) and 22 *Aloomba*, which was originally built as *Nyleta* for South Johnstone Mill in 1990 (to an Eimco design) by Professional Engineering of Harare, Zimbabwe. Troublesome from the outset, the mill heavily rebuilt the locomotive in 1993. Once both South Johnstone and Mulgrave mills had been acquired by MSF Sugar, *Nyleta* was transferred to Mulgrave and renamed *Aloomba*. During 2014/15, the locomotive was given another rebuild, the result being a near-new unit that bears almost no resemblance to its previous form.

It is worth noting that three former Mulgrave diesel locomotives were donated during 2017 to the Atherton-Herberton Historic Railway at nearby Herberton. One of the trio was Mulgrave's locomotive No.2, builder's number A1001, the first sugar cane locomotive ever produced by Comeng. At the time of writing, the railway is restoring the old diesel-mechanical unit to operation, re-gauging it from 610 to 1,067mm gauge as part of the process.

Available for service:

- **5** – Comeng model AA, 0-6-0 DM (A1005 of 1955)
- **7 Highleigh** – Comeng model AA, 0-6-0 DH (B1010 of 1956)
- **8 Charringa** – Comeng model AE, 0-6-0 DH (A1926 of 1958)
- **9 Meerawa** – Comeng model FC, 0-6-0 DH (FC3473 of 1964)
- **11 Maitland** – EM Baldwin model DH18 Mk2, 0-6-0 DH (4413.2 8.72 of 1972)
- **12 Riverstone** – Comeng model AD, 0-6-0 DH (AD1452 of 1961)
- **13 Hambledon** – Clyde model HG-3R, 0-6-0 DH (64-316 of 1964)
- **16 Kamma** – Clyde model DHI-71, 0-6-0 DH (56-96 of 1956)
- **17 Deeral** – Comeng model AD, 0-6-0 DH (AD1553 of 1962)
- **18 Barron** – Clyde model HG-3R, 0-6-0 DH (64-379 of 1964)
- **19 Redlynch** – Clyde model HG-3R, 0-6-0 DH (65-435 of 1965)
- **20 Gordonvale** – Walkers GH500 rebuild (1995), B-B DH (595 of 1968 – ex-QR DH13)
- **21 Mulgrave** – Walkers GH500 rebuild (1995), B-B DH (613 of 1969 – ex-QR DH31)
- **22 Aloomba** – Professional Engineering B-B DH (P.S.L.25.01 of 1990)
- **25 Cucania** – Clyde model DHI-71, 0-6-0 DH (63-289 of 1963)
- **26 Meringa** – Comeng model AK, 0-6-0 DH (AK3675 of 1964)

Stored:

- **3** – Comeng model AA, 0-6-0 DM (A1003 of 1955)
- **4** – Comeng model AA, 0-6-0 DM (A1004 of 1955)
- **6** – Comeng model AA, 0-6-0 DM (A1006 of 1955)
- **14** – Clyde model DHI-71, 0-6-0 DH (56-86 of 1956)
- **15** – Clyde model DHI-71, 0-6-0 DH (58-190 of 1958)
- **DH47** – Walkers model GH500, B-B DH (629 of 1969 – ex-QR DH47)



Above: The difference in height between the Walkers B-B DH locomotives and the 'low-cab' Clyde 0-6-0DH units is demonstrated in this scene near the mill on Sunday 25 September 2022 as *Redlynch*, hauling a loaded train, overtakes *Mulgrave*. James Chuang

Right: Much-rebuilt Professional Engineering B-B DH *Aloomba* slows as it approaches the entrance to the Mulgrave mill yard with a rake of cane bins, on Sunday 17 July 2022. James Chuang



Mossman Mill

At a distance of 1,780 kilometres from Brisbane, Queensland's, and indeed Australia's most northerly sugar mill is sadly, facing imminent liquidation. Located within the town for which it is named, Mossman's recent fortunes have been a bit marginal. Founded in 1894 and acquired in 2012 by Mackay Sugar, the local cane growers, aided by \$45 million in combined State and Federal assistance, re-acquired the mill in mid-2019. The new company, Far North Milling (FNM), was set-up as a subsidiary of the then still new Daintree Bio Precinct (DBP), which pushed to expand locally with a focus on sustainable growth and operations, diversification/expansion of its product range, and investment back into the community. Unfortunately, the broadly interrelated factors of recent adverse weather, poor crops and supply chain issues have been cited as the main reason for DBP, as announced on 20 November 2023, appointing a liquidation firm to act as voluntary administrator of both FNM and DBO.

In February this year, *The Courier Mail* and other media outlets were reporting that a 'mystery investor' was looking at buying into the operation. However, speaking to ABC News on 22 March, Administrator John Goggin announced that the mill was to be liquidated and assets sold. Mr Goggin stated that, "At this point, there isn't a viable alternative and we had engaged with multiple parties and worked tirelessly to try and get the correct investment." At this time, the outcome for Mossman Mill and the local community looks grim.

Before the end of the 2023 crush, Mossman Mill was crushing approximately 850,000 tonnes of cane each season, producing up to 115,000 tonnes of raw sugar. Once upon a time this sugar was exported through Port Douglas, but during later years it was instead being trucked 75 kilometres south to Cairns. Some sugar from the Atherton Tablelands was also being trucked down the range to a transshipment point near Cassowary Creek, just south of Mossman, where it was loaded onto rail for forwarding on to the mill. This seemed to have ceased more recently, with tablelands sugar going to the mill at Arriga instead. The Mossman railway network consisted of lines radiating south east to the end of Cassowary Road and Mowbray, to the south west to Shannonvale and end of Tara Hills Road, and northwards to branches radiating north and west of Miallo.

A feature of the network was the stretch of around 400 metres of street running along Mill Street, used by trains coming in from, or heading out to the northern and western branches. At the time of liquidation, the core operating locomotive fleet consisted of five Comeng 'six wheelers' and one Baldwin bogie unit, all of which had been operating at Mossman for decades. Four of the five Comeng units usually operated in multiple-unit pairs – *Ivy* and *Cook*, *Douglas* and *Faughy*, with locomotive *Mossman* being the unit that usually operated solo. During the few years that the mill was owned by Mackay Sugar, three spare locomotives from that operation – *Marian*, *Cattle Creek* and *Habana* – were transferred up, but only the latter seems to have had much use recently.

Used in service during 2023:

- **Mossman** – Comeng model AA, 0-6-0DH (B1719 of 1957)
- **Habana** – Clyde model DHI-71, 0-6-0DH (60-215 of 1960)
- **Douglas** – Comeng model AL, 0-6-0DH (AL2562 of 1963)
- **Cook** – Comeng model AL, 0-6-0DH (AL3372 of 1964)
- **Ivy** – Comeng model AL, 0-6-0DH (AL4181 of 1965)
- **Faughy** – Comeng model AL, 0-6-0DH (AL4190 of 1965)
- **Daintree** – EM Baldwin model DH28B, B-B DH (7303.1 7.77 of 1977)

Stored:

- **Marian** – Clyde model DHI-71, 0-6-0DH (56-104 of 1956)
- **Cattle Creek** – Comeng model AA, 0-6-0DH (B1724 of 1957)

Conclusion

Queensland's sugar cane railways could be considered almost a microcosm of the larger Australian railway industry. It innovates in a similar manner, has enthusiastically leveraged broader trends when it suits, for example, concrete sleepers, digital communications and locomotive rebuilding, among them. It is also prone to similar hazards and risks, perhaps even more so regarding the likelihood/frequency of level crossing safety breaches. On the other hand, it is also a highly-specialised operation in a way that most other Australian railways are not – the Pilbara heavy haul iron ore railways being similar, in this respect. This leaves the sugar cane railways

themselves vulnerable to some unique factors, including the market for its primary product, and more recently, urban encroachment. This was a factor in the demise of Moreton Mill in Nambour, and is now impacting on Mulgrave Mill, with the expansion of Cairns' metropolitan area.

This all said, short term strategic change to our sugar cane railways appears most likely to continue in a highly-localised manner – smaller improvements made mill-by-mill, company-by-company. Longer term, at and industry level, it could be expected that battery-powered locomotives will be the next 'big thing' to occur, and it will be interesting to see how long the industry waits to invest in this technology. For the moment, however, one of our country's most fascinating railway spectacles unfolds annually from June to December, and it is worth seeing in action before things to change.

The author would like to express his sincere gratitude to John Browning and John Hoyle for their invaluable assistance in preparing this article. The listings of locomotives "Available for service" and "Stored" have been researched to be as up-to-date as possible, but the author acknowledges that reports on the status of some sugar cane locomotives, particularly the more obscure ones, can sometimes be hard to come by, and Railway Digest would be grateful for any updates and corrections to the information contained in these articles.

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Above: EM Baldwin B-B DH *Daintree* is not far from its destination as it heads down Mill Street, Mossman, with a rake of full bins, passing Mossman Shire Hall, on Wednesday 15 November 2023. James Chuang

Below: Comeng 0-6-0DH pair *Douglas* and *Faughy* (a contraction of former name *Faugh a Ballagh*, meaning "clear the way" in Gaelic) haul a rake of full bins across South Mossman River bridge on the way to Mossman Mill on Sunday 17 July 2022. James Chuang

