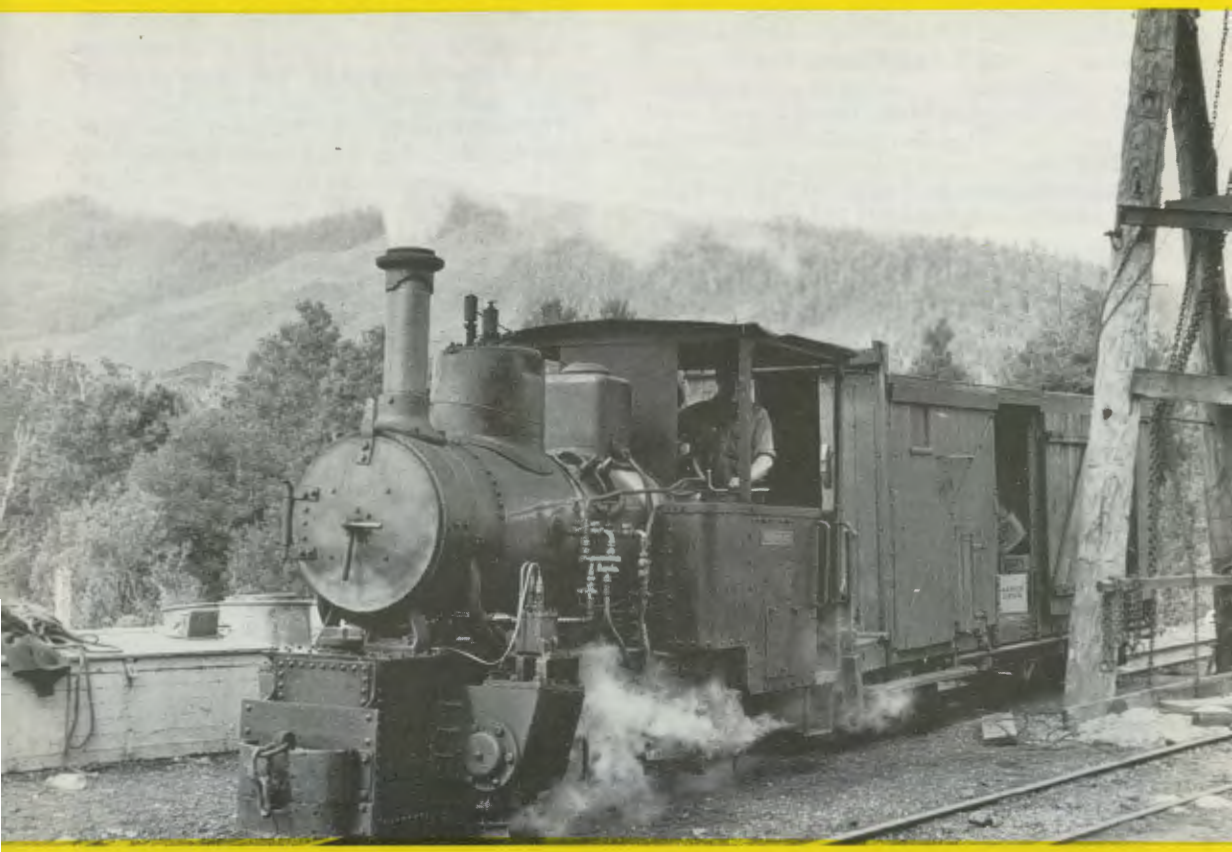
LIGHT RAILWAYS

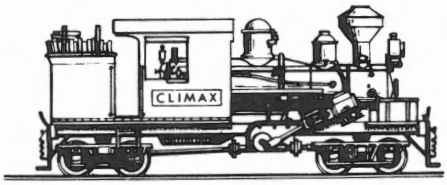
Number 87
January 1985

ISSN 0 727 8101



Published by
The Light Railway Research Society of Australia

Registered by Australia Post - publication No. VBQ1339



No. 87
Vol. XXII
JANUARY 1985
ISSN 0 727 8101

Light Railway Research Society of Australia

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Subscriptions: $16.50 per year covering 4 issues *Light Railways*, 6 issues *Light Railway News* and information on Society activities, publications etc. Overseas add $5.50.
Back numbers *Light Railways* and other publications from LRRSA Sales, P.O. Box 32, Mornington, Vic. 3931.

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Editorial

Recent issues of *Light Railways* have demonstrated our journal's growing maturity and authority in the fields of light railway research, local history and industrial archaeology. This issue provides further significant contributions to this status.

The feature article on the Penguin Tram offers a nicely balance insight into a most interesting, but little known mining operation in Northern Tasmania from a new contributor, Ron Parnell. Arthur Winzenried chronicles another of the tramway proposals which were thwarted by the 1891 Depression, while John Browning's contribution on "home built" locomotive provides an assurance that the ingenuity of the "pioneers" lives on.

Many readers have indicated that they find our "Letters" columns one of the most interesting sections of *Light Railways*. The thoughtful and varied contributions provided in this issue should maintain this interest.

One of the most satisfying facits of the editors task has been the flow of quality material submitted for publication in *Light Railways*. I am currently holding sufficient material for the next four issues, including articles on the Cumberland Mine Tramway (Queensland), Rous Sugar Mill (NSW), steam locomotives of Nauru and Ocean Island, Nepean Sand and Gravel (NSW), Powelltown tramway (Vic), West Melbourne gasworks tramway, the Selkirk Brick Works tramway (Ballarat) and the Cudgen tramway (NSW).

Cover: Fowler locomotive *Wee Gerogie Wood* of the Tullah Tramway, shunting at Farrell Junction, 5 October 1960.

Photo: Glen Johnston

THE PENGUIN TRAM

by Ron Parnell

Yesterday

At the end of the 19th century the dense forests which had hemmed in the pioneers of Penguin, on Tasmania's North-West Coast, had fallen to axe and saw. Now Penguin was a flourishing seaport of some 650 people and it was recommended as a sanatorium with excellent sea and river fishing. Agricultural and forestry products were the two main exports until the exploitation by mining of another of Penguin's natural resources, high grade iron ore.

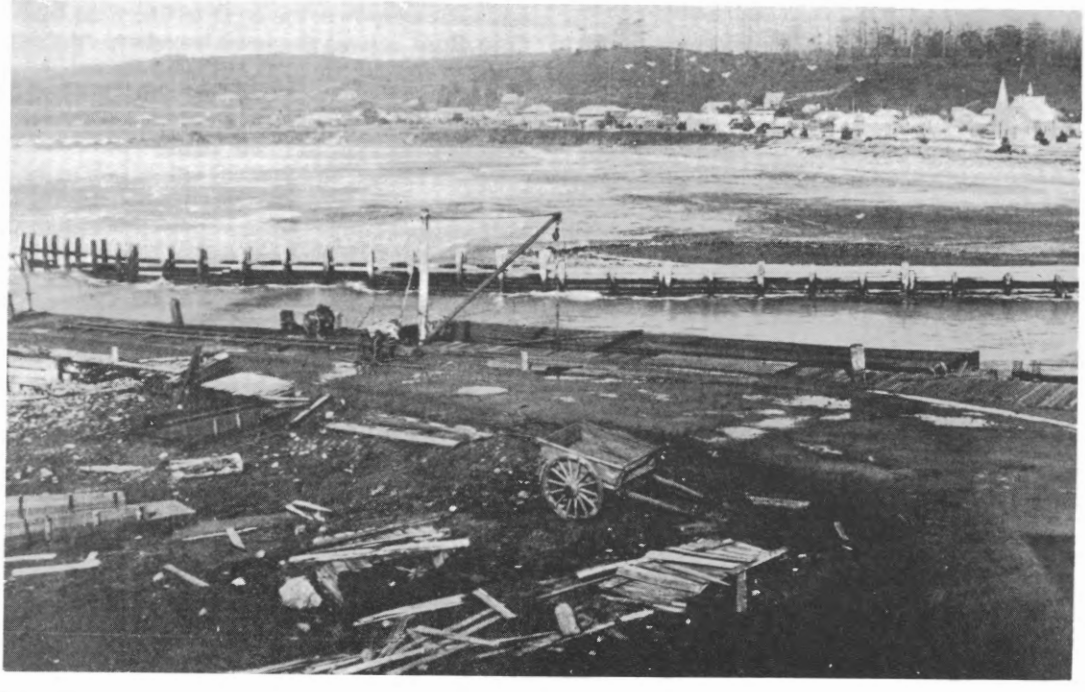
It came from several open-cut mines, some three and a quarter miles up the lovely valley of the Penguin Creek. A horse drawn tramway was built down the valley to the tiny, but busy wharf at the mouth of the creek to the west of the town.

The wharf on the creek's west bank was protected from the north-westerly gales by a headland on Beecraft Point and from the easterlies by a wooden breakwater. When the ore reached the wharf it was tipped into lighters which were towed to Torquay, now East Devonport, where it was transhipped to the Cockle Creek Smelters of NSW to be used as flux.[1]

The Ore Field

In 1861 the dark, dank forests of myrtle, eucalypt and horizontal scrub (*baurea*) knew only the sound of paling splitters tools. Before the year was over the first settler came to Penguin and iron ore was discovered in the valley of the Penguin Creek by James ("Philosopher") Smith, prospector of Mount Bischoff fame,[2] but little interest was evoked in this discovery until 1875.

As more settlers arrived and the valley forest disappeared before axe, saw and plough, Lieutenant Colonel Crawford of Upper Castra, a nearby township, acting on behalf of himself and other ex-Indian Army Officers, formed an English syndicate and purchased a fourteen year lease to mine the ore. The syndicate consisting of himself, James Brown, Robert Smith and HW Kenner each of whom



Penguin wharf with a punt alongside, circ. 1903.

contributed £150. The lease covered the whole of the known deposit of iron ore. At the same time Crawford selected for himself 90 acres of Crown Land in the middle of the ore field.[3]

Surface ore was found in the form of loose boulders and samples were sent to the Ballarat School of Mines for assay. They proved out at 97 percent pure iron. A boulder was prepared, one half showing a clean fracture and the other polished to a glass surface, which was displayed in the Penguin Mining Institute building, now part of a modern school. However, no further work was done and the lease lapsed in 1889.[4]

Some prospecting during the next six years induced Mr Montgomery, the Government Geologist to report in 1895 the sinking of a 20ft shaft into "ferruginous gossamy matter" near H Good's house which gave encouraging signs of silver.[5] The 49 acre block of Good's was adjacent to and south of Crawford's. On the latter's northern boundary was a 170 acre block now owned by "Hudson". (Crawfords mining lease was in the name of Atkins.) The ore field extended for a mile and a quarter through the three properties and covered some two hundred acres.[6]

The first open cut mines were pegged out in July 1897 for entrepreneur James Cole Ellis MLC, MHA of Newcastle, NSW. He had, in conjunction with Atkin and Hudson, formed a syndicate trading as the Tasmanian Iron Company to mine the ore. By December 1903 they had twelve open cuts, two on Good's land, three on Atkin's, four on Hudson's east side of the creek and three on the west.[7] Ellis could have obtained his knowledge of the ore fields through his son John who was a metallurgist.

James Cole Ellis.

The Penguin Tramway

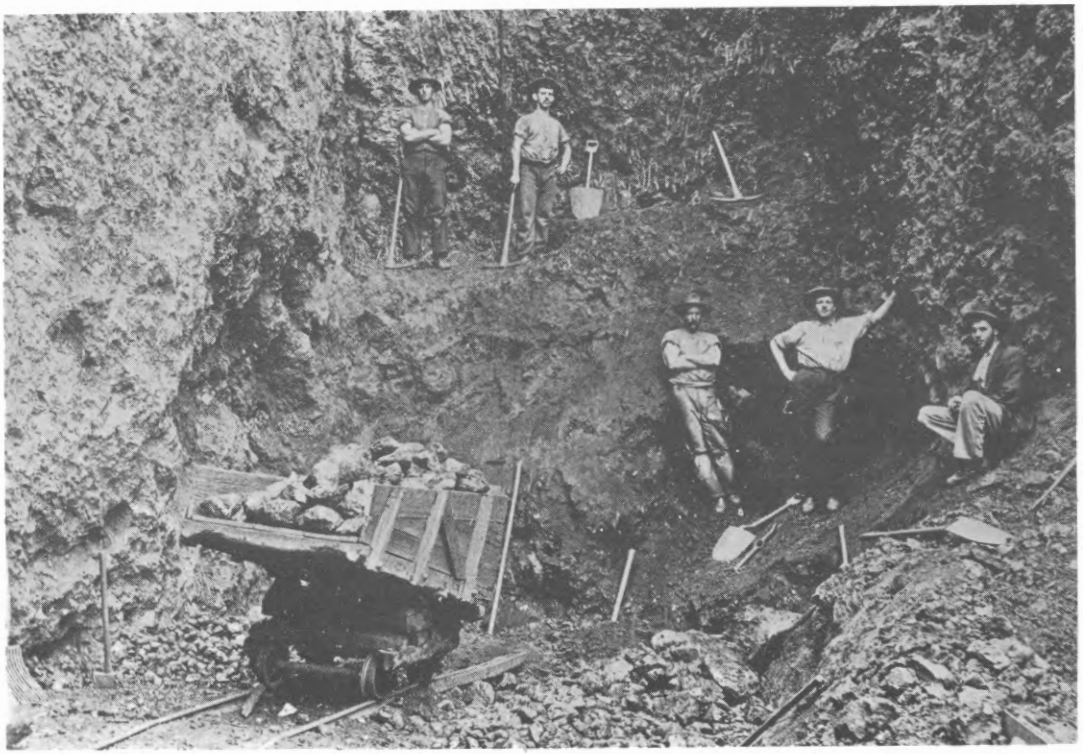
Although the ore body was of high grade and required little stripping of overburden, the cost of transporting it by road was a major restraint on mining operations. Increased output at the mines and slow road transport forced Ellis, as early as September 1897, to plan a tramway down the valley to the wharf following the easy grades of the creek. While waiting for steel rails the first mile was built in wood. Tramway rights were obtained from five of the six landowners between the mines and the wharf. The last three quarters of a mile lay across *Coroneagh Estate*, owned by a man named Florence McCarthy Clerk, who refused tramway rights saying it would devalue the land and spoil its charm.

In February 1898 the Union liner *Tekapo* landed 50 tons of steel rails at Devonport which were transhipped to Penguin by the ketch *Victory*. With this material the tramway was extended through the five properties to the southern boundary of *Coroneagh.*

Because of Clerke's refusal Ellis diverted his line eastwards away from the creek to where the Iron Cove Road entered the town boundary. At this point an unloading terminus was built and this remained in operation until January 1903. The ore was tipped into a horse drawn cart for the remainder of the journey by road to the wharf.[8]

Fenton Denny, now aged 95, tells of how at the age of nearly nine he cadged a lift on this dray. Halfway to the wharf the driver disconnected the lead horse to take it for a drink. This left little Fenton sitting on the ore with *Old Bill* in the shafts. For some reason *Old Bill* took fright and galloped off tipping itself, the ore and Frenton onto the road with the dray on top of them. Fortunately, Fenton and the horse escaped unharmed.[9]

Clerke's refusal to grant tramway rights was anathema to Ellis. Ellis, a surly man, was one of Australia's largest private shipowners and would not brook interference with his ambitions and profits by Clerke. He appealed to the Tasmanian Government who, through Mr Mulcahy using his power as Minister of Lands, over-rode Clerke's objections. It was hinted later that some influence was involved as Mulcahy's son had married Mrs Ellis' youngest sister. Ellis completed the line in early 1903.[10]



Getting out the ore from the face. Photo: TRG Williams

Tramway Construction

Clerke and other landowners forced Ellis to build his three and a quarter mile wood and steel tramway in several sections. The first mile laid in 1898 was in wood and started at Hudson's east side workings. Next year, having obtained all permission but Clerke's, he extended the line to the Iron Cliff Road.

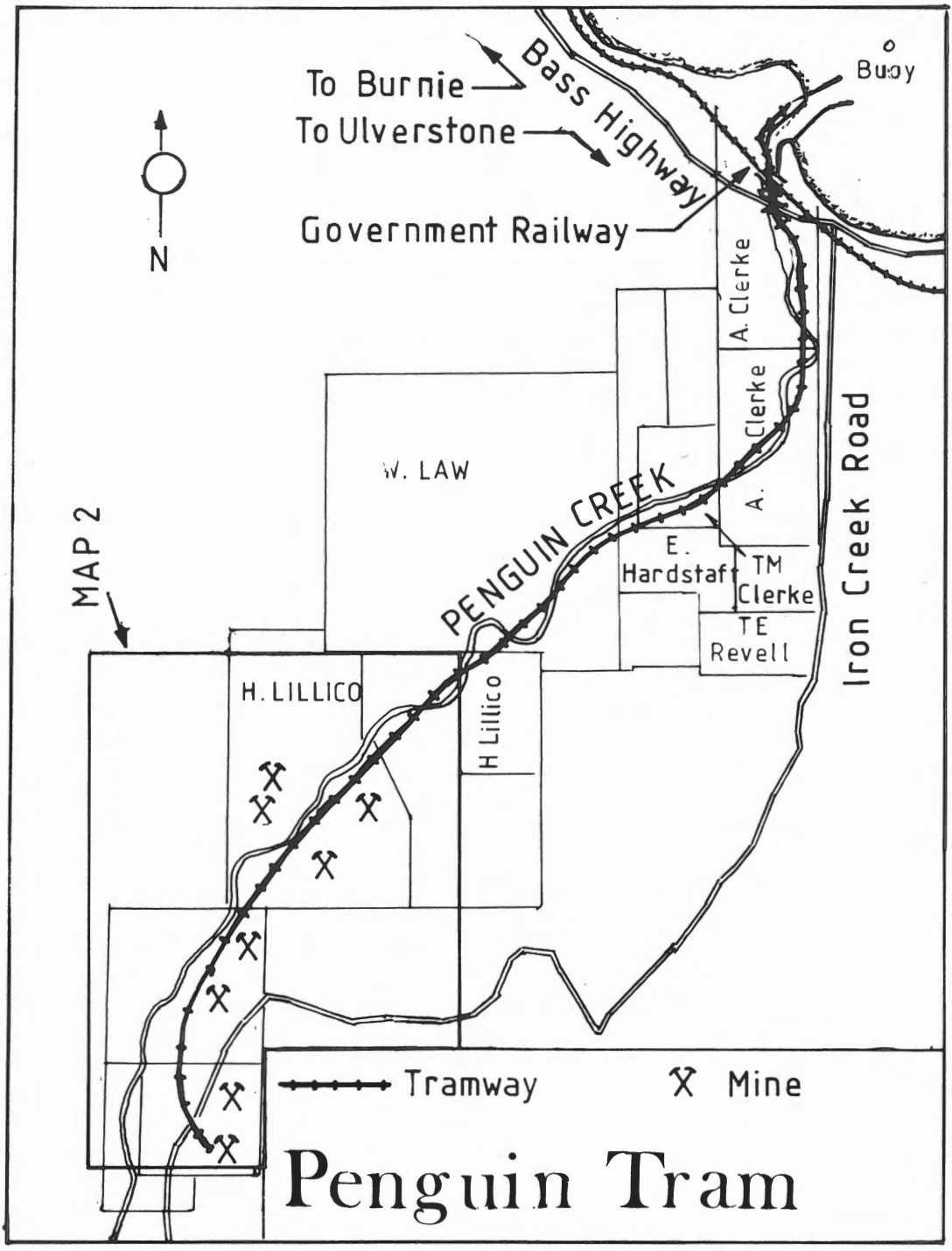
Between 1898 and 1902 the 20ft shaft on Good's land, which is south and 150ft higher than the other mines, was worked as an open cut with a second developed nearby. The tramway was extended to the original mine and connected to the new open cut by a self acting tramway. Late in 1902 the Government granted Ellis permission to put the line through Clerke's land and this he did in steel rails.

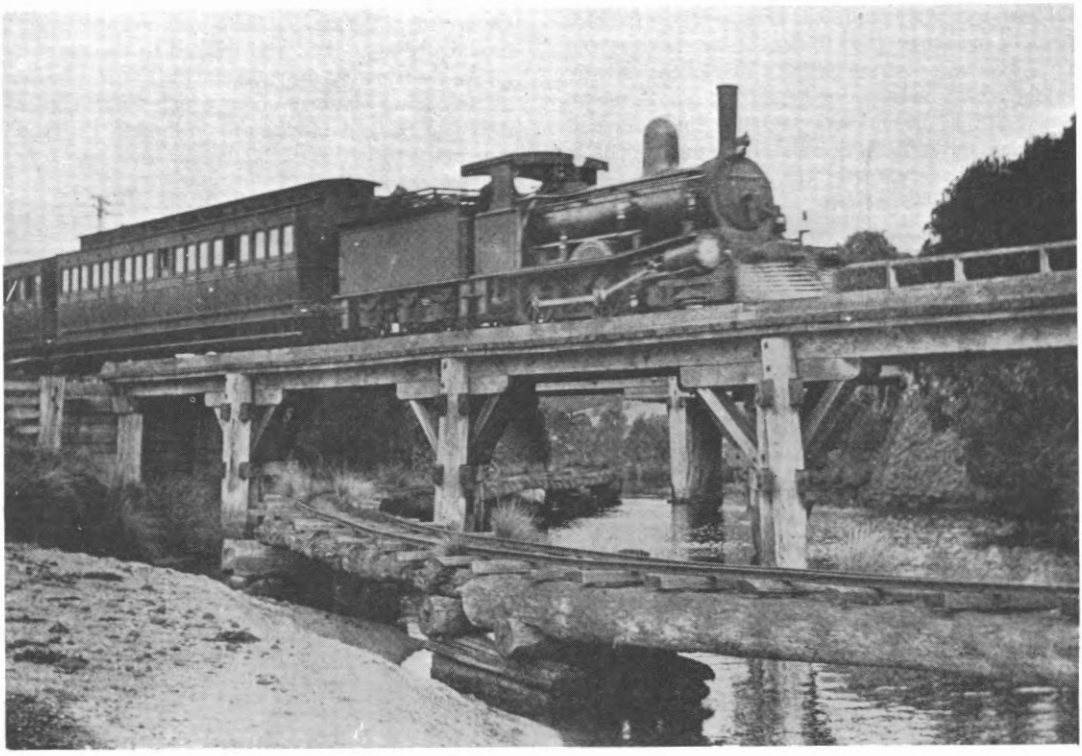
The wooden section rails were 10ft lone of 4in x 4in sawn hardwood spiked to 5ft split sleepers adzed to bed the rails level. Across flat country the sleepers were laid directly on the ground but to span any depression they were fixed to close fitted horizontal logs. The top of the rails had 1 5/16in x ¼in concave metal bars[11] secured to them to take the wear and tear of iron flanged wheels. The last section used 26lb Bullhead steel rail[12] spiked to sleepers and horizontals as for wood.

Many bridges were needed to cross the winding creek and all but one rested on pig-sty type trestles placed on land or in the water as required. The trestles consisted of 6ft long by 8in diameter logs notched over each other and the bridge beams spanning them were close fitted. The track was ballasted with tailings from the open cuts to form a walking path for the horses.[13]

Because of the easy grade of the creek, the method of building the tramway and the absense of all but one deep ravine, there were little bridge abutment earthworks, few embankments or cuttings required. The only bridge exception was one about 20ft high on the timber section of the line and this was built in the orthodox 'A' frame system.[14]

About a mile from the mines the tramway left Penguin Creek and turned eastwards over a gradual rise of about 100ft to fall and finish at the terminus on the Iron Cliff Road. This was at a point where today Lester Road rises to join the new route of the Iron Cliff Road. In the early days of the century Lester Road was a deep rutted track.





A Tasmanian Railways special train crosses the bridge at Penguin in December 1914. The disused Penguin tramway winds its way along Penguin Creek.

At the start of its journey east the tramway crossed Lings Creek on a 20ft high bridge and overcame the climb by means of a three legged zig-zag. The first leg started about 150 feet from the bridge and ran in a south east direction, ending amist tall timbers and rocky outcrops. The second leg ran due north, but still rising: the third turned south east, then curved north east up the remainder of the hill and down a straight through thin scrub and cleared land.

The 350ft long centre leg of the zig-zag finished as a spur at each end, which was of sufficient length to hold six trucks and their attendant horses. the ends of this centre leg consisted of a free section of track pivoted at the junction with the spurs. Operation of the zig-zag was achieved by sliding this free piece from leg to leg across the surface of flattened logs with the assistance of crowbars.

The self-acting tram at Good's mine was a three railed 4in x 4in metal stripped hardwood track, the centre rail acting for both trucks except at a passing point. Rollers between the tracks were placed at strategic intervals to prevent damage to the sleepers by the steel haulage rope. As the wagons were side hinged the storage bins were alongside the track and not at the end. Steel rails were used at the open cuts and these ran from the working face to the storage bins and were moved to follow the working face.[15]

Clerke was away when Ellis started the final steel railed section of the line in October 1902.[16] This crossed through the middle of what was known as the 'Station Paddock', necessitating a shallow but lengthy cutting with gates on each end.[17]

On 28th November 1902 Ellis applied to the Tasmanian Government for permission to complete his tramway to the wharf by building a low bridge under the existing town and railway bridges. His sketch plan showed the tramway leaving the east bank of the creek at the south east corner of the road bridge and crossing the creek at a long angle to emerge on the west bank at the harbour side of the railway bridge rising to the wharf. The Railway Department, on 3rd December 1902, responded that the angle of the tramway bridge would block debris coming down the creek at flood time and if Ellis' bridge gave way this could place a strain on

their bridge. They requested Ellis to follow the east bank of the creek, pass under the two bridges and cross the water on the harbour side of the railway bridge which instructions he carried out. A memo dated 8th January 1903 said the Engineer had inspected the construction and found the work of "a most primitive character".[18]

Tramway Operation

During the period the wooden tramway was operating some few hundred tons of ore were sent away. Once the line was completed to the wharf the output increased dramatically.[19]

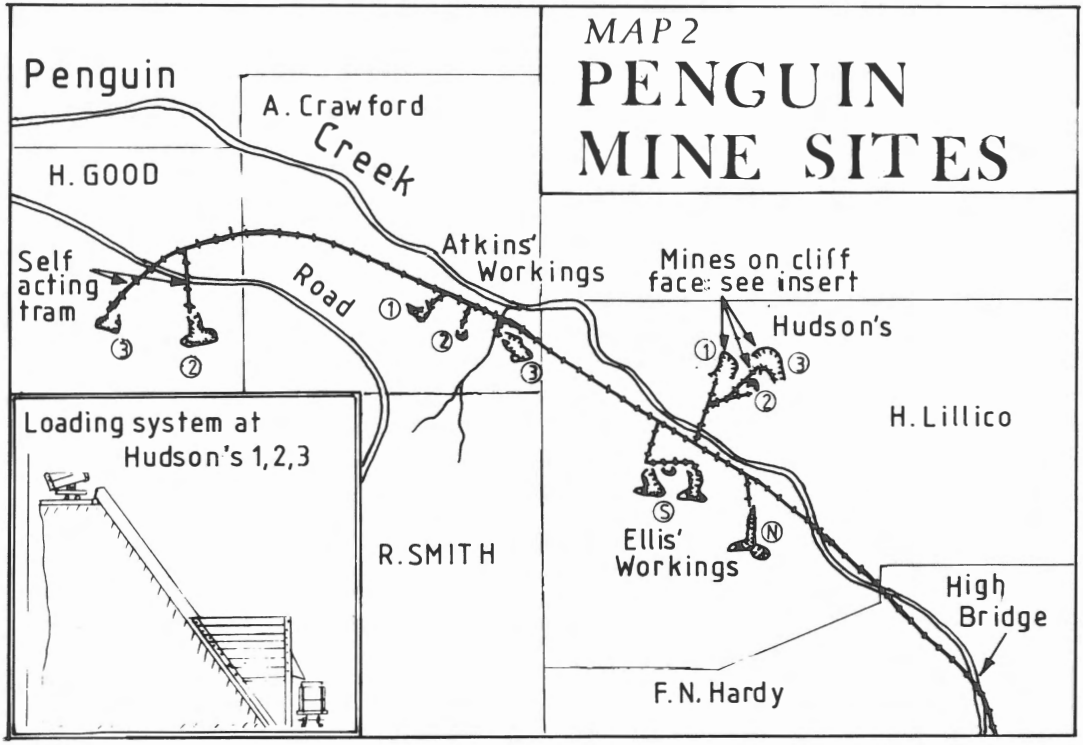
No power tools or compressed air were used in the actual mining, only brawny arms wielding maul, pick and steel. The lumps of ore would be gouged from the cuts with a pick and manhandled into the trucks which were pushed to storage bins built above the tramway and the contents tipped into them. Big boulders were broken up with mauls and steels while dynamite was used on the ex ra large ones which weighed as much as 25 tons. On one occasion 100 tons of ore was taken from six boulders.[20]

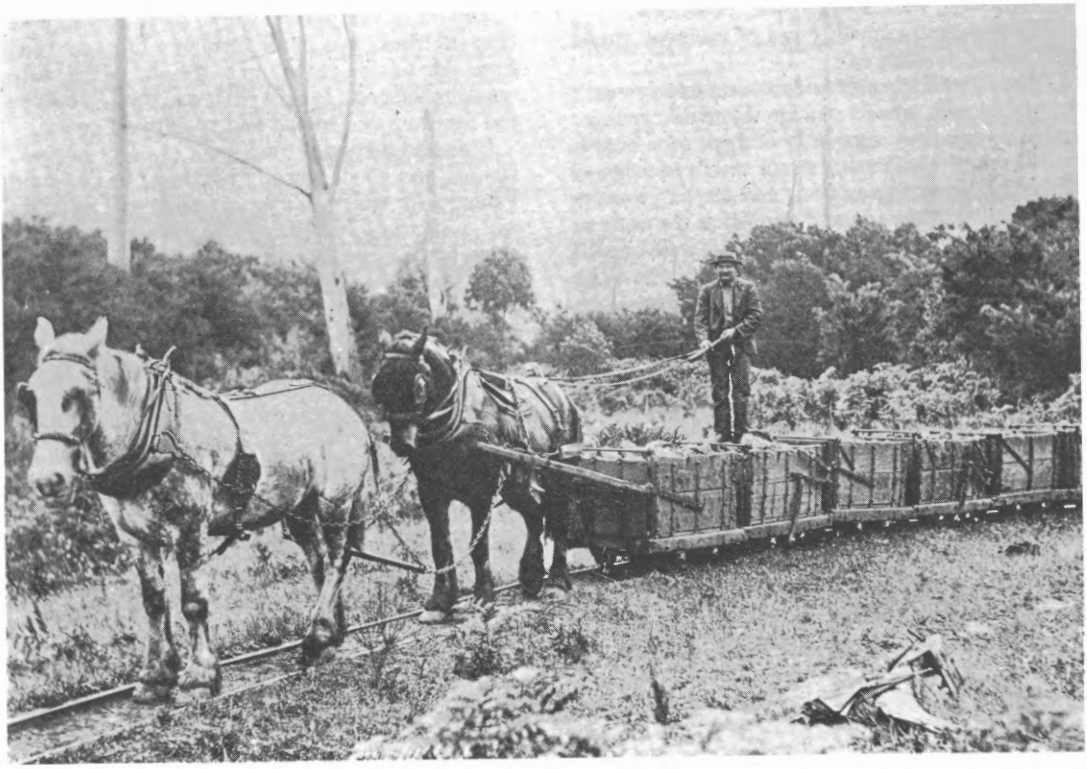
A train consisted of six tramway trucks with a total capacity of 15 tons and during peak production periods two trips per day were made to the wharf. On arrival at the zig-zag the horses and shafts were repeatedly unhooked and refitted to the opposite end of the train. At the road end the line finished on an unloading platform under which a horse drawn dray was backed and the ore off loaded. Provision was made to withdraw the empty truck and a full one to take its place.[21]

On arrival at Penguin a truck was picked up by a hand operated jib crane, swung over a lighter, the hinged end door clips knocked off and the ore slid into the hold. The 200 ton wooden lighter was moved under the crane for even distribution of the load.

When full, the lighter was manoeuvred by a wire rope attached to the bow which passed through a sheave shackled to a buoy anchored in deep water outside the breakwater and then returned to a manual winch on the wharf. Once winched out, the lighter was secured to a line from the buoy to await a towing vessel. The lighters were usually picked up by passing steamers on Monday morning and at peak production times two lighters would be waiting.[22]

A towing contract was held by the shipowners, William Holyman and Sons who at first used their two small steamers the *Amy* (76 tons) and *Star* (50





A load of ore heads for Penguin wharf under the direction of Jim Sims. Photo: TRG Williams

tons). As the tonnage increased the *Toroa* (388 tons under Captain Roy Holyman) and later the *Wareatea* (512 tons) were used.[23]

Bill Fraser was Ellis' man-in-charge of wharf operations during the life of the mines with D Monson his assistant.[24] One day a ketch the *Welcome Home*, the steamer *Star* and a fully laden lighter with Monson on board were moored at the wharf when a severe storm blew up. It tumbled the skeleton end of the wharf onto the Penguin beach and broke one by one the mooring lines of the lighter. For over two days Monson and helpers from the other ships fought to fix new lines between the fall of gigantic breakers. Had the lighter got away it would have crushed the ketch like an eggshell.[25]

Rolling Stock

A variety of rolling stock was used, each designed for a specific purpose and location. The vehicle in which Fenton Denny had his narrow escape was a normal two wheeled horse dray of the period for use on roads. To increase the volume of ore carried, Ellis had a special tip dray of 7-ton capacity built in Penguin by Daniel Hall, Wheelright and Coachbuilder. Some 10ft long by 5ft wide on four high wheels, it was drawn by two shaft horses and two leaders abreast. The back of the dray was specially designed to form a shute when tipping ore into the hold of the lighter. This was used for carting when the line finished at the Iron Cliff Road. Penguin residents nicknamed it 'The Night Soil Cart'.[26]

Trucks used in the open cut tramways were some 6ft long by 4ft wide the body pivoted on a flattened log fixed across the centre of the undercarriage and the truck bottom at an angle of 40° to the horizontal. The top of the sides were level and the lower end formed a back with the upper end open for tipping. The undercarriage side frames were outside the 9 in diameter spoked and flanged wheels on 2in diameter axles. The truck capacity was about 1½ tons.

Trucks on the self acting tram were a side hopper type, the floor again about 40° from the horizontal. The discharge was by a side door hinged at the top and clipped at the bottom, its capacity was similar to the open cut trucks. The side frames of the

undercarriage were also outside the wheels.

There were two main types of tramway trucks with minor differences:

(a) those with wheels inside the undercarriage;

(b) those with wheels outside the undercarriage.

In both cases they were built of thick wide boards bolted together with metal straps and fixed to heavy timber undercarriages. Their end-discharge doors were hinged at the top and clipped at the bottom.

Type (a) were about 6ft long by 4ft wide and 2ft 6ins high, with a load capacity of 2½ to 3 tons. With slight variations of metal strapping there were two types in this category, one with steel work for attaching the horse shafts and the other with hand lever operated wheel brakes. The shape of the brake shoe on this type is unknown.

Type (b) trucks were smaller due to the wheels being outside the undercarriage. On these vehicles some of the metal strapping was bolted inside the bodywork. Brakes were hand-lever operated curved blocks on top of a pair of wheels on the second and fourth truck in the train. The end doors were of the same pattern as type (a). All trucks were connected by protruding flat metal brackets with a hole in each to receive a chained pin.

The lifting gear for the wharf-crane operation of type (a) trucks was in the form of a bracketed rod from side to side at the top of the end of the truck opposite the door. In type (b) it was similar, but the rod ran from end-to-end and slightly off-centre.

Ellis had a special truck built to carry himself, visitors and goods (mostly potatoes) to and from Penguin, for which he charged a minimal fee. This was a flat truck 10ft long by 4ft wide with 3in high sides and ran on twin four-wheeled bogies. The truck was pulled by a single horse. Visitor seating accommodation was either kerosene or fruit boxes, but for Ellis a cushioned chair.[27] This was the truck on which, after the closure, the Penguin children played on. At least on one occasion it was used by the local police. At this time it was poled along like a river punt.[28]

Tramway Motive Power

Motive power was supplied by horses imported from South Africa where they were specially trained for tramway use. However, there were accidents and several animals were lost in falls.[29] Though their breed is unknown they were fine animals, well looked after and would walk the track without reins.

Horse drawn tram near Penguin, c1900.

Colonel and *Major* were heavy grey shafters while *Rose* and *Peg* were attractive bay leaders. *Doll* was a leader while *Old-Bill* was a spare. The leading horse was coupled to the shafter by a swingle tree and traces.[30]

The horses were stabled in Main Street Penguin and, like their human counterparts, had to walk to the mines each morning. Normally two horses pulled the train but on occasion three would be seen, possibly when the drivers, either Jim Sims or Don Maquis, were returning the flat truck horse.

Mining Operations

Ellis, through his company was the first to actually create and develop an export industry for Tasmania's iron ore.[31]

During the ten years of its working life the tramway carried over 30,000 tons of ore.[32] Most went to NSW but a small quantity was bought by the North Mt Lyell Company for their smelters at Crotty on Tasmania's West Coast.[33]

The town and district of Penguin benefitted from his thrust and push for it meant constant work for twelve men, rising to seventeen in 1905. There was a business spin-off such as feed and harness for the horses, tool and materials for the mines and increased buying in the town through steady wages.

Work and conditions were hard, but so were times. Most of the men lived in or near Penguin and walked the three miles to the mines. Pay was six shillings per day with no overtime rates. If it rained hard the ore could not be worked so it was a 'No work, no pay' situation with a three mile walk back. There were no shelter sheds, no crib huts at the mines, only a blacksmiths shop. Here Charlie Marshall, the smith, tempered the steels, shoed the horses and did any blacksmiths work required.[34]

In the early years the ore quantity exported was controlled by the difficult transport problem but with that solved the only control was market demand. A small local factor was the weather as the ore could not be worked profitably in the wet and, even today, the mines are closed in winter.[35]

Production figures for the early years are either not available or unreliable but it is interesting to note the rise and fall in the table.

After 1905 production was reduced from 300 tons per week to 150 because of South Australian competition; then it slowly rose until November 1908.[36] That month Ellis lost not only the contract with the Cockle Creek Smelters but also his tramway rights.

The Mini War

Ruthless, ambitious business man Ellis was not one to see his new enterprise and its profits destroyed by the intractability of one man. In May 1901 he wrote to Clerke's solicitors offering rent for the tramway rights £20 per year plus royalties of ½d per ton over 10,000 tons. This offer was refused. At the same time he was soliciting the Government who later informed him that he had the right to take his tramway through Clerke's land. He started construction in October 1902 while Clerke was away. The last section of the line passed through the Station Paddock which belonged to Mrs Clerke. As her husband was away, she gamely pulled up the

Table 1
Iron Ore Production, Penguin Mines

Year	Production (tons)	Year	Production (tons)
1898	250	1904	6840
1899	-	1905	6300
1900	-	1906	2600
1901	-	1907	2000
1902	2380	1908	3600
1903	3550	1909	Closure

Source: Secretary of Mines Report for Years 1897-1910.

Florence McCarthy Clerke.

survey pegs as quickly as they went in but to no avail. When Clerke returned his lawyers advised him to let the line go through and they would sue later.[37]

In 1904 Clerke and architect Ernest Lloyd roughly pegged out the site of a machinery showroom which later was praised as the best business site in the town. The building site would straddle the tramway as the latter ran parallel to the creek, ramped down the bank before passing under the bridges. Plans and specifications were drawn up, but Clerke hesitated to do anything because of the tramway and the attitude of Ellis.[38]

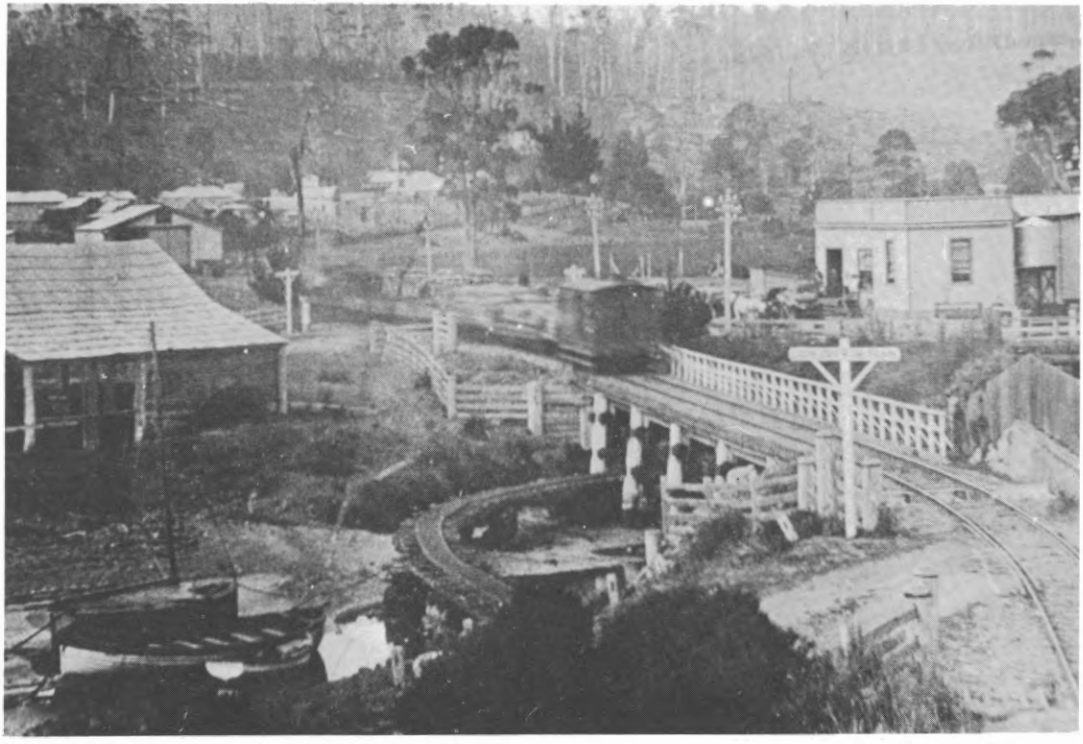
His hesitation lasted for twelve months but finally, on Monday night, the 8th of December 1905, he engaged a gang of men to remove the line which would run through his new building. Ellis had become aware of these plans and also took action by instructing his men to leave loaded trucks of ore chained to the rails.

The next morning Clerke's gang started to remove the trucks watched by Trooper Gibbens and Constable Pemberton, who had been summoned to the site by Clerke. Ellis and his men tried to stop the removal of the line by placing obstacles in the way but to no avail.[39] With every possibility of a fight at this point Ellis clambered onto one of the trucks and challenged one of the gang, named Saunderson, to move him. There was a lot of strong language as Saunderson said, "Come on Ellis, we'll take you for a little ride." Ellis responded by clawing Saunderson's chest with his finger nails and drawing blood.[40] No doubt because of the police presence no real blows were thrown. The police took no action because, as they said, their task was to see there was no breach of the peace and not to interfere in the dispute.[41]

About 12 mine workers were idle for the three days it took to relay the line in its new position.[42] The showroom was built and stands today, disguised as a modern hardware store, although its original outline is still visible among the additions.

The Court Case

The Lewis Government, of which Mulcahy was Minister of Lands and Works, was defeated in 1903, by which time Ellis had completed the



A view of Penguin with the Government railway bridge with the tramway beneath. F. McCarthy-Clerke's showroom is on the right of the photo and W. Roger's mill on the left. Florence McCarthy-Clerke and family are standing on the platform. c1900-15.

After closure the Penguin tramway provided locals with a valuable fishing platform. This photograph appeared in the *Weekly Courier* on 9 September 1909.

tramway through *Coroneagh*. The new Minister, Carmichael Lyn, under pressure it is hinted, warned Ellis to settle his quarrel with Clerke, either by negotiation or arbitration, otherwise he would revoke the previous Government's decision. The first was tried and failed, so in March 1906, Ellis applied to have compensation assessed by arbitration.

His application, originally set down for Launceston, was held over for twelve months before being heard by Mr RL Chambers, PM of the newly created office of Warden of Mines. Because the *Coroneagh* land at this point in time was held in Clerke's wife's name, the case was recorded as JC Ellis, applicant and Mrs AM Clerke, owner. It opened in the Penguin Court House on the 24 October 1907.

The Warden, Counsel for both parties, Ellis and Clerke inspected the length of the line in dispute by travelling along it on Ellis' flat truck before the court was to hear the case.

A number of witnesses including Ellis and Clerke made dispositions, while Counsel for both sides spoke at length for their respective clients. Having sat through two mornings, two afternoons and one evening session, the Warden said that he'd heard enough evidence to enable him to thoroughly examine the case. He reserved his decision for a few days, which dragged out to thirteen months. Finally on the 19th November 1908 Mr Chambers gave his decision. His considered opinion was "The present route of the tramway affected the land both agriculturally and as future building sites." Therefore he found in favour of Clerke and instructed Ellis to pay £292 compensation and all costs which combined exceeded £400. If Ellis moved the line in the Station Paddock to follow the course of the creek by 31st January 1909 compensation would be reduced by £25.[43]

Closure

The court case was followed with intense interest by the Penguin community. After the Warden's verdict Ellis made no public statement of what he was going to do, but by mid December the town was agog with rumours of the mines closure. Christmas came and went with no word, but finally Ellis

announced that the last two lighters of ore would leave for Davenport on January 25th, 1909.[44] Thus the curtain fell on Ellis and the demise of a valuable Penguin export.

For Bill Frazer, who was in charge of wharf operations, the closure was a tragedy in two ways. He decided to leave Penguin in his small yacht. Packing all his belongings in the vessel, he arranged to have it towed to Devonport between the last two lighters. On the way a heavy swell caused the tow rope to sink under the yacht and, on coming up, the rope tauted and overturned the boat.[45] The rope was quickly cut, but the yacht sank. Bill lost not only his job, but all his possessions.

Small though the operation was, the effect of its closure was felt by the town stables, the horse feed and harness suppliers, mail services, the Levin Harbour Trust and the bank through which wages had been handled. Also lost was £50 to £60 a month in wages and the steady employment of up to a dozen men.

Many people were shocked and dismayed by the loss of the industry to Penguin and they gave a practical demonstration of their concern by submitting a 74 signature petition which urged the local council to take over the mines and tramway and continue their operation. After a month of deliberations the council found that it was outside their jurisdiction and would not be feasible.

After the last ore was dispatched Ellis returned to New South Wales, where he died at Woolhara on January 4th, 1930, aged 88.[46] Clerke sold what remained of *Coroneagh* and went to live in Melbourne. Tragedy struck the family when, on Christmas Day 1928, he was killed in a street accident.

Today

After the closure any possessions of Ellis were subject to a court order and, because of this, the line was left in position. For a year or two it remained in its entirety, but as time passed it was cannabalised: the timber for farm use or firewood; the steel rails as fence strainers and cattle grids. Odd fish-plates are turned up by truck wheels crossing parts of the track. On Hudson's lease thick-berry bushes hide heaps of rusty concave iron bars stripped from wooden rails long since gone.

Since the tramway's closure the field has had a varied fortune. In the 1920's small quantities were sent to Melbourne for paint manufacture and because of its yellow texture it was ideal for camouflage paint during World War Two. In 1954 the mines on the properties of Good and Crawford were re-opened by Mr Allen Pearson and his son Des using modern machinery.

Before the introduction of LP and natural gas the ore was used in the Hobart, Launceston, Melbourne and Geelong Gas Companies for scrubbing coal gas. Today it is mined only as required for the manufacture of cement at the Goliath Works Railton, Tasmania.[47]

Today's mining activity is symbolised by a tall posted open shed cluttered with small heaps of material awaiting transport. Some distance away, and across the Iron Cliff Road, Good's open cuts can only be seen by climbing up a truck-wide road between embankments.

The valley is still lovely. No longer is heard the sound of maul on steel, the 'Giddy Up' call to the horses, the jingling of harness, the roar of dynamite splitting apart those great boulders. The valley peace is broken only by the lowing of cattle, the occasional hum of tractor and car and on a few days the squeals and squeaks of bulldozer, front-end loader and truck, doing in hours what it took those brawny armed men months to do.

Because of the method of construction, the tramway left little impact on the terrain and it is almost impossible to retrace the route. At Penguin the building of new road and rail bridges have torn away any evidence of the tramway's passage across the creek. The cutting on the Station Paddock is no longer visible as, in July 1984, a bulldozer blade scooped up a section of the original line, destroying it before anyone realized it was a piece of Penguin's history. Treated pine structures now dot the area as a children's playground, while the only buildings are a few storage sheds for the store. Nature has clothed the scars of open cuts and tailing heaps with trees and scrub.

A few mollusc studded piles delineate the line of the eastern breakwater while some half a dozen others belonging to that busy little wharf are just visible below a modern rubble wall.

References

1. *Cyclopedia of Tasmania.* 1900. Pages 285-286.
2. Fenton. *Bush Life in Tasmania.*
3. *Weekly Courier.* 7th December, 1927. Page 38.
4. *Ibid.*
5. Mines Dept, Report. Montgomery 1895. Page VII.
6. *Cyclopedia of Tasmania.* 1900. Pages 285-286.
7. Mines Dept Map. 1262-29. 1952.
8. Mines Dept, Report. Harcourt Smith 1898. Pages IX-X.
9. Personal Communication. F Denny.
10. Letters. Tasmania Archives. Ellis/PWD/Tasmanian Government Railway.
11. Site discovery.
12. Site discovery.
13. Personal communication. I Clerke and F Denny.
14. Photo. *Cyclopedia of Tasmania.* 1900. Page 286.
15. Photos. TE Williams.
16. Personal communication. I Clerke.
17. Photo. I Clerke.

18. Letters. Tasmania Archives. Ellis/PWD/Tasmanian Government Railway.
19. Secretary of Mines Report for years 1897-1910.
20. Mines Dept, Report. Twelvetrees 1903. Page 17.
21. Pers. Comm. F Denny.
22. Personal communication. A Overall.
23. Personal communication. I Clerke, F Denny and A Overall.
24. Personal communication. I Clerke.
25. *Pioneer Shipping of Tasmania.* L Norman. Page 190.
26. *Cyclopedia of Tasmania.* 1900. Page 287 and Personal communication, F Denny.
27. Personal communication. F Denny and P Kidd.
28. Personal communication. F Denny and P Kidd.
29. Personal communication. I Clerke.
30. Personal communication. F Denny.
31. *Cyclopedia of Tasmania.* 1900. Page 286.
32. Mines Dept. Report. Twelvetrees 1914. Page 42.
33. Blainey, G, *Peaks of Lyell.* Page 150.
34. Personal communication. F Denny.
35. *The Advocate.* 20th March 1959.
36. Mines Dept. Report. Twelvetrees 1919. Page 42.
37. Personal communication. I Clerke.
38. *North West Post* 26th October, 1907.
39. *Ibid.* 20th December, 1905.
40. Personal communication. I Clerke.
41. *North West Post.* Wednesday, 20th December, 1905.
42. Ibid.
43. *North West Post.* Friday, 25th October, 1907. Saturday, 26th October, 1907. Monday, 28th October, 1907. Friday, 20th November, 1908. *The Advocate & Times.* Friday, 25th October, 1907. Saturday, 26th October, 1907.
44. *North West Post.* 27th January, 1909.
45. Personal communication. I Clerke.
46. *Sydney Morning Herald.* 5th June, 1930.
47. *The Advocate*, 20th March, 1959.

Acknowledgements

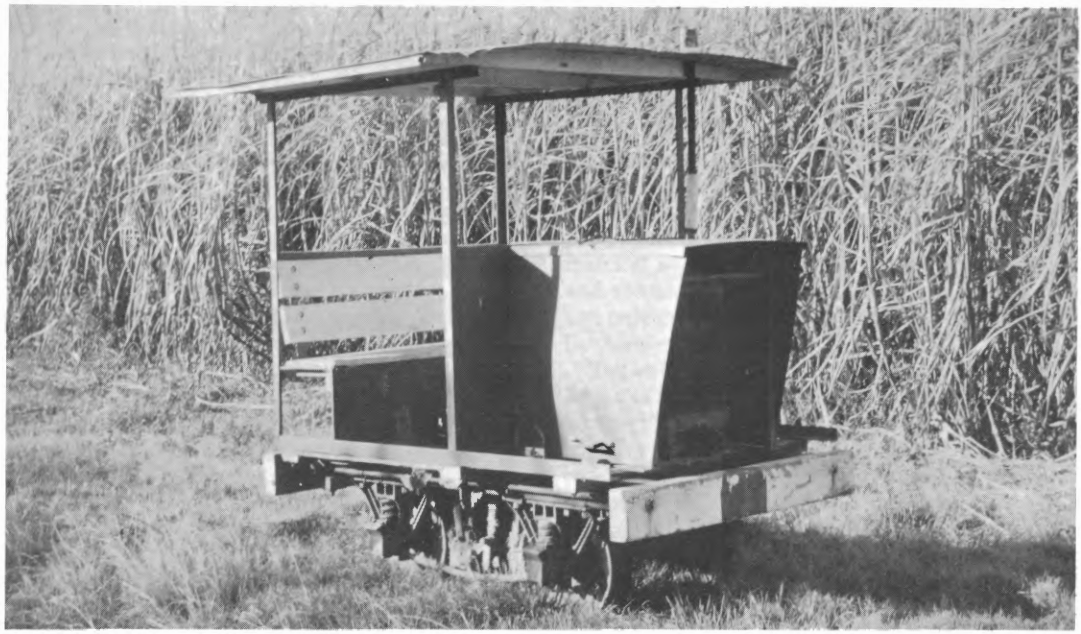
Ray Good - Information and site research.
Des Pearson - Information and permission to explore Good's and Crawford's mines.
Gary Ling - Information and permission to explore Hudson's mines.
Albert Deacon - Information.
Ian Clerke - Information, photographs and maps.
Fenton Denny - Information and sketches.
Athol Overall - Information.
Staff of Hellyer Library. Burnie.
Archives Office of Tasmania.
Newcastle Regional Public Library.

SOME HOME-BUILT 2FT GAUGE LOCOMOTIVES IN QUEENSLAND

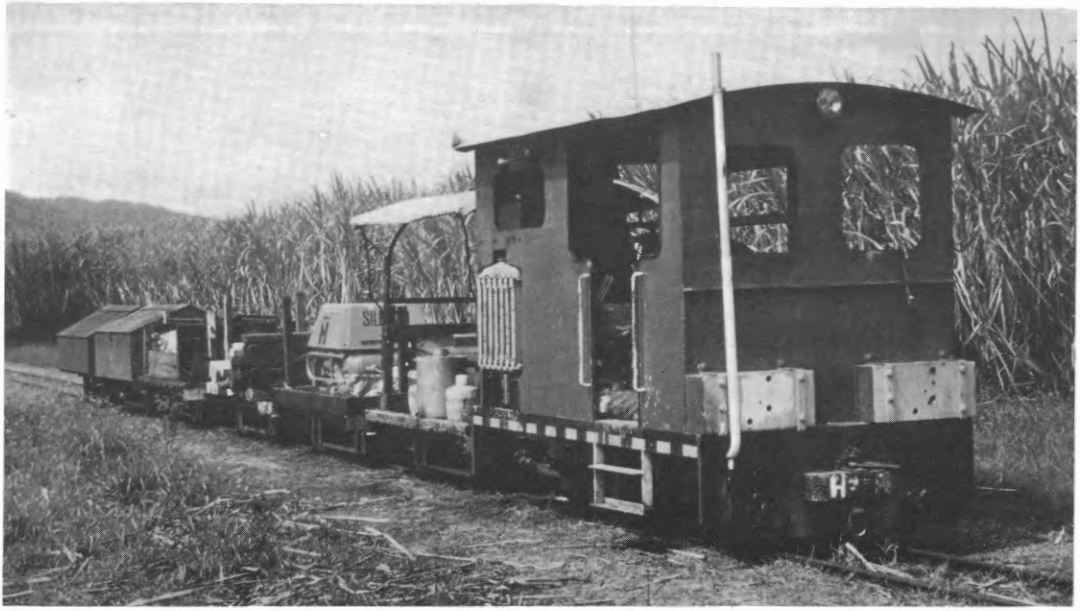
by John Browning

Completed in 1983 in Mildura, Victoria, Russell Savage built this 0-4-0 petrol locomotive for use on his Timbeerwah Mountain Tramway near Cooroy. The basis of this unit was a Victorian Railways luggage platform tractor and it carries a replica VR locomotive number plate.

Photo: courtesy Russell Savage



Mr Arbuthnot, a cane farmer of Homebush, near Mackay owns this four-wheel petrol locomotive which was built on the farm perhaps 25 years ago. Photographed here in 1977, it was retained for use on the "horse line" on the farm when conditions were unusually wet. Photo: John Browning



The Mulgrave Central Sugar Co. Ltd. constructed this locomotive in their own workshops in 1956. Equipped with a *Southern Cross* diesel engine, this four-wheel diesel-mechanical was designed to be able to haul cane over flooded track. It is now used to haul the navvies' train and was photographed on this duty near Fishery Falls in 1980. Photo: John Browning

Alwyn Zinn built this four-wheel petrol locomotive in his back yard in the Ipswich suburb of Leichhardt in 1974. It was his third locomotive and was intended to be run on a tramway he hoped to construct. Unfortunately, his early death prevented him from carrying fulfilling this ambition. It is now part of the Australian Narrow Gauge Railway Museum Society collection and is pictured here in store in Brisbane in 1982. Photo: John Browning

THE OAKLEIGH AND FERN TREE GULLY STEAM TRAMWAY COMPANY

by Arthur Winzenried

In common with other country communities, the Ferntree Gully of the late nineteenth century suffered severe transport difficulties. Rich virgin soil meant that unsealed roads became deep, impassable quagmires during the wet periods and deep dust baths during summer.

Transport of farm produce and other commodities was necessarily limited as to both quantities and costs. Many cash crops were impossible to produce until an all-weather transport link could be forged.

For a number of settlers the answer to their difficulties lay in a railway or its cheaper version - the tramway. Ferntree Gully, in common with many other communities, looked to tramways to provide important connections with established railways and townships.

Early Tramway Proposals

These early railways (the Victorian Railways reached Ferntree Gully in 1889) solved some problems. For those living more than a few miles away from the stations however, the situation was little different. Lighter and cheaper "railways" were seen as the ideal solution for areas such as Scoresby, Rowville and Lysterfield. Early tramway proposals for the district included main lines connecting Ferntree Gully and Dandenong, Glen Waverley, Oakleigh and Nar Nar Goon. Of these, the line to Oakleigh received the greatest popular support and looked most likely to succeed.

Many early pioneers put their support behind the proposal. Among them were T Dobson and JW Dobson, both of whom stood in need of transport

for farm produce from their Scoresby properties to a railhead. They traded most with Oakleigh, making several trips each week with hay or potatoes so the proposed route was ideal. By the 1880's FE Selman had retired from active farming at Scoresby and was living in Kew. Like those still working land he realized the importance of such a tram and took considerable interest in the venture.

Philip Thompson had one of the largest single properties in the Ferntree Gully area. He had purchased 460 acres along Ferntree Gully Road in 1875. It was in his interests then, to support a tramway running along that road - at his very front door.

Other interested parties included WK Ross (Ferntree Gully), WM and JT Horner (Scoresby) and Thomas Chandler (Notting Hill). To most of these farmers the railway was still too far from their properties to enable them to grow profitable cash crops.

To discuss the possibility of such a tramway, meetings had been held as early as 1880. However, when the railway to Ferntree Gully was approved in December 1884, many proposals became less necessary. The Oakleigh project though, continued to gain support from those more remote farmers.

Tramway Company Prospectus

Things moved slowly but by 1888 progress was such that a company was formally registered on November 13th. This Company known as the "Oakleigh and Fern Tree Gully Steam Tramway Company" established its offices at 229-231 Collins Street, Melbourne and was duly Gazetted on December 7th, 1888.

Routes were discussed at length and finally a road-side style tramway concept was decided on. The line would follow established roads from Oakleigh to Ferntree Gully.

A Prospectus for the Company was prepared and appeared during September 1889. This proclaimed the intention to raise £40,000 capital in £1 shares. Provisional directors named included:-

JW Dobson	GL Barrow	T Chandler
T Dobson	B Cowderoy	TS Grimwood
WM Horner	W Ingram	E Jones
JT Horner	WR Looker	J Marshall
FE Selman	J Scott	EL Thomspon
WK Ross	E Wilkes	DK Tolmie
JR Watson	TG Wilkinson	

Shareholders included these as well as other well known identities. Among them were WJ Clarke, TE Dobson, WH Edgar, and Agnes Sutherland.

The Directors intended to build a "steam tramway along the direct road through the townships of Notting Hill, past Black Flat, Scoresby and etc., to Fern Tree Gully". Passengers as well as goods was to be carried while the whole arrangement was to "provide a long-felt need of residents and property owners in the neighbourhood as well as by the general public".

The Ferntree Gully Road, c.1910-12. The traffic volume does not look all that promising for the proposed tramway, which would have run along the left hand side of the road.

Head'sLuncheon Rooms at Fern Tree Gully was a popular tourist refreshment destination in the early 1900s.

Construction Proposals

Details of the scheme were also provided along with the usual invitation to share in the project. The rails were to be laid along the sides of the relevant roads on a similar pattern to "light lines in England and Wales". While construction costs were estimated to be in the vicinity of £30,000, an expected profit of 15% or more was also predicted. The route was described as populous, though this must surely be a relative statement as the district covered by then line was, taken as a whole, quite sparsely settled. The Melbourne land boom was still in full swing no doubt giving the impression of populous times to come.

Tourism was even at this early stage, considerable. Estimates made by the tramway Company put the annual tourist figure at "not much less than 50,000". A tramway, it was claimed, would raise this figure considerably. Also there were the quantities of stone, timber, bricks and produce "already travelling by road". These items with a low profit margin stood to gain the most out of a decrease in transport costs.

As a final comment it was pointed out that the Oakleigh end of the tramway could join with the then under construction Rosstown Railway through to Elsternwick. Plans were also tabled to extend to Gembrook from the Ferntree Gully end.

Altogether the line was to be 14 miles long with grades up to 1 in 25, quite reasonable for a tramway.

Rail gauge was to be 5ft 3in in common with the government system. This would seem to indicate that interchange between the tramway and the VR was contemplated. A maximum speed restriction of 10 mph was placed on the line which was to be laid using light rails and could be operated using steam locomotives. The while line was to be completed by June 1892 which allowed a construction time of two years.

Charges for the carriage of the principle commodities were also set out in the prospectus, being based on the division of the line into three sections (see table 1).

Parliamentry Sanction

The Victorian Government Gazette for June 27th, 1890 listed the granting of Parliament sanction for the line commencing at Oakleigh railway station. Adjoining the northern side of the VR the line ran northerly along Hanover Street. Turning west with Hannover Street the line was to arrive at Warragul Road which it would follow until Dandenong Road

Table 1

Section	Charges			
	Passengers Return	Single	Goods, Produce	Stone, Wood
Oakleigh to Wheelers Hill	9d	1/-	2/- ton	1/- ton
Oakleigh to Scoresby	1/-	1/6	3/- ton	1/3 ton
Oakleigh to Ferntree Gully	2/-	3/-	4/- ton	2/6 ton

was reached. Travelling first east and then south-east along Ferntree Gully Road the tramway would pass through Scoresby before arriving eventually at Ferntree Gully.

Capital Formation

Progress on the tramway plans continued through the early part of 1889 with an application for financial assistance from the government being made on May 6th. The directors were concerned that share sales were slow and might not sell sufficiently for a start of work to be made. They sought assistance on the basis that another tramway, the Kerang and Koondrook Tramway in north-western Victoria, had just been granted funds. However, the government reply was in the form of a refusal on the basis that the Kerang concern was a country development while that at Ferntree Gully was in a populated area where local means of finance should exist.

Further delay occured with the establishment of the Ferntree Gully Shire in 1889. Permission to build the line has been obtained from the Berwick Shire, but with the formation of the new Shire permission had to be sought from that body for those sections of the line now under its control. Permission was duly given and progress towards construction continued.

Share sales continued to be slow so the company requested an extension of the construction time. By this stage however, the boom was over. Financial institutions all around Melbourne were beginning to appear uncertain and the share buying public was fast dissappearing. With the dropping share market in general, the Ferntree Gully concern suffered. During 1891 a constructing company, known as the "Oakleigh and Fern Tree Gully Steam Tramway Company Limited", was announced but the writing was on the wall.

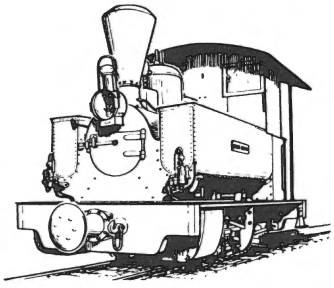
A Sudden End

Late 1891 saw many of Melbourne's financial institutions collapse, taking with them the hopes of many small concerns such as the tramway company. Altogether some 14000 or 15000 shares had been requested, but of those less than 12000 were paid up to more than 2/6 or one eighth their value. With virtually no capital and a serious depression the whole question of tramway connections vanished overnight in the individual struggle to stay alive.

References

Material for this article was taken from working notes as well as from study of Gazettes, VR Reports, etc held by the La Trobe Library, Melbourne, the Melbourne University Archives and the Public Records Office. Apart from that, there are several published works that make mention of the tramway or its associated events. These include:-

Coulson, H; *The Story of the Dandenongs*; Melb., 1982.
Davison, G; *The Rise and Fall of Marvellous Melbourne*; Melb., 1978.
Fiddian, M; *Potatoes, Passengers and Posterity*; Melb., 1978.
Jowett, DF & Weickhardt, IG; *Return to Rosstown*; Melb., 1978.
Winzenried, AP; *Scoresby Tramways*; Melb., 1983.

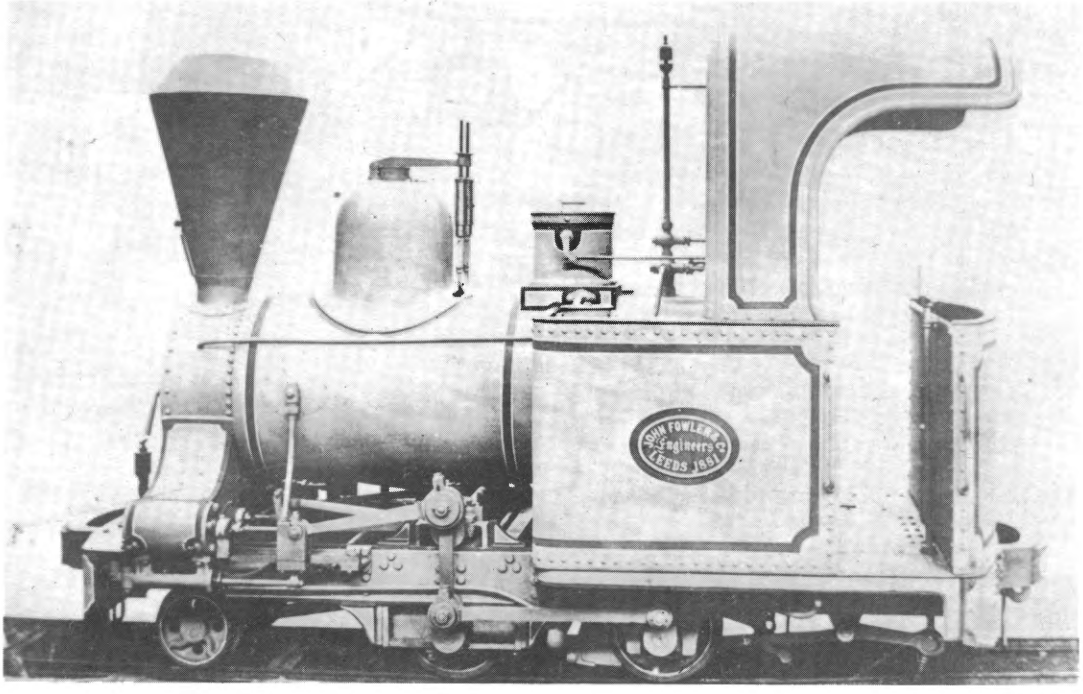


LETTERS

EARLY JOHN FOWLER LOCOMOTIVES IN AUSTRALIA: LR.81 Following Richard Horne's letter on early John Fowler locomotives in Australia I enclose a builders photograph of a jackshaft drive Fowler 2-4-0T with the date 1881 clearly visible on the builders plate. Judging from the shape of the cab, the locomotive is possibly the pattern for the hitherto mysterious 3ft gauge Fowlers at the Great Cobar Copper Mine in Western NSW. The original photograph was amongst the papers of the late JCM Rolland in the La Trobe Library, Melbourne.

JL Buckland
East Brighton, Vic.

BEYER PEACOCK 1876/1879 NEWCASTLE LR. 85 There are a number of Beyer Peacock & Co builder's photos in the Australian National Library collection showing locomotives similar to types used in Australia, but pre-dating them. One is of Beyer Peacock 1707/1878, a 5ft 3in gauge 2-4-0T.IC of the Belfast Central Railway, which was similar to the South Australian Railways P-class. Similarly, there is a works photo of a standard gauge 0-4-2ST.IC, one of 28 such built over a period of 24 years for use in the UK, Sweden, Germany and Australia. The Australian one was the last built, Beyer Peacock 1876/1879, being the Newcastle Coal Mining Co's



Newcastle. It was named from new and, unlike the earlier locomotive in the ANL collection, had Ramsbottom valve (in place of a elegant steam "trumpet"), curved cabside cutways and builder's plate on the bunker rather than cab-side. The builder's photo of 1876 is shown on page 286 of *Beyer Peacock, Locomotive Builders to the World* by RL Hills and D Patrick.

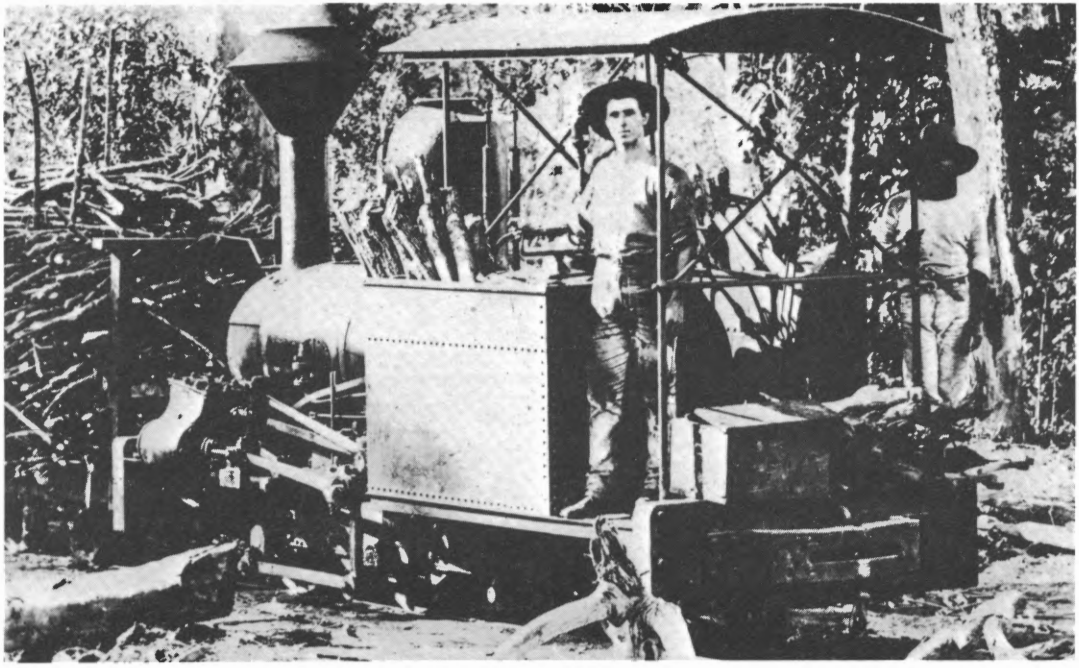
JOHN FOWLER 2-4-0T.OC JACKSHAFT DRIVE LOCO BUILT 1881 Regarding the photograph supplied by John Buckland, an examination of the original plate glass negative under a magnifying glass enabled the locomotive to be identified, as its builders number can be read stamped on the motion. It was 4085/1881 which had 4½in diameter cylinders and was ordered by Mirlees Tait & Watson (sugar machinery agents). According to Conde, it was of 2ft gauge and belonged to the Kilauea Sugar Plantation Co., Kauai, Hawaii. The Great Cobar locomotives (of 2ft 6in gauge it should be noted) were considerably larger than the locomotive illustrated, although their cylinder dimensions of 5½in x 9in, were relatively small.

Richard Horne
Surrey, UK.

EARLY JOHN FOWLER LOCOMOTIVES IN AUSTRALIA The discoveries outlined by Richard Horne in his letter published in *Light Railways* 81 give rise to several further comments:

4368/1882 I believe that the note in Fowler records in fact reads "Whittingham Bros.", and I am informed by David Mews that Whittingham Brothers were the proprietors of Hamleigh Sugar Mill in the Herbert River district. This locomotive could have been sold to Hamleigh when the Burdekin Delta Sugar Company's Airdmillan Mill closed in 1886.

4667/1883; 4668/1883 I am informed by Richard Horne that in fact both these numbers are found on the locomotive restored by Bruce Macdonald. My opinion is that only 4668 was at Mourilyan. Not only is there evidence that Mourilyan's first two locos were of different types, but also it is difficult to conceive of two similar locomotives with consecutive builder's numbers being obtained by the same mill through two different agents. It is known that tender 4956 was supplied by Fowler to Mourilyan for locomotive 4668.



Believed to be Fowler 4368/1882 at Airdmillan Mill prior to 1886.
Photo: Pioneer Sugar Ltd Archives

4778/1883 I believe that this is the locomotive purchased by Bingera in 1896. The accompanying photogragh, believed to have been taken at Bingera, seems to show this locomotive. It appears to have jackshaft drive and has a square saddle tank, reminiscent of that on the locomotive shown on p.4 of *LR.78*.

5938/1890 I am advised by Keith McDonald that many years ago a scrap merchant from north Queensland noted this number on the remains of an 0-4-0T or ST recovered from the Habana area near Mackay, without knowing what the make of the locomotive was. Habana Mill did receive machinery through Mirrlees Tait & Wilson in 1883.

From the same source came the information that the number 4085 had been found on the remains of an 0-4-0T removed from the Bloomfield River district, north of Mossman. This was the site of the Bloomfield River district, north of Mossman. This was the site of the Bloomfield River Sugar Company's mill, where it is known a steam locomotive operated. The mill operated under various owners from about 1883 to 1890. Fowler 4085/1881 was delivered to the Kilauea Sugar Plantation Co. in Hawaii, according to Jesse Conde, but it is recorded by him as being a 2-4-0T. Richard Horne tells me that although Fowler's records show several ploughing engines being ordered by the Bloomfield River Company, no locomotive was ordered by them.

Jackshaft driver Fowler locomotive at Bingera Mill. (4778/1883?)
Photo: Bruce Macdonald Collection

Although this evidence is rather tenuous, the correspondence of the numbers quoted to locomotives known to have been built by Fowler is striking.

6338-40/1891-2 The agent "Merchant Banking Co." appears to have a link with CSR (see 6521 in Richard Horne's list in *LR.81*). If so, could one of these locomotives be the one named *Lord Hopetoun* in the accompanying photograph? This locomotive appears to be a small 0-6-0T decorated for some special event.

A further photograph is also enclosed. It shows a *Patent* 0-4-2T similar to the *Airdmillan* locomotive, and rather different in detail to the locomotive restored by Bruce MacDonald (see cover of *LR.64*). However, there appear to be at least two differences between the Airdmillan locomotive and that shown in the photograph. These are the apparent lack of a lap joint on the smokebox and the two parallel pipes which project from the front of the dome. Can any reader comment on the significance of the above features or suggest a possible location?

Can any reader confirm that the 2ft 6ins gauge locomotives listed by Richard Horne for Brooks & Co came to Australia, and if so, say where they operated?

SEC RAILWAYS, YALLOURN: LR.82

According to my records, the Malcolm Moore 2ft gauge four-wheel petrol locomotive which worked on ash disposal at Yallourn (pictured on p.23 of *Light Railways 82*) is one of at least two used for this purpose at this location.

Malcolm Moore 1049 of 1943, numbered 26-C-1 by the SECV, was donated to the Gippsland Folk Museum at Moe in 1974. It was on display there until going to the Alexandra Historical Society Museum in late 1977 or early 1978, accompanied by eight side-tipping skips from the same source.

Malcolm Moore 1050 of 1943, numbered 26-C-2, was purchased by NSW enthusiast Bob Hague from the SECV in 1974. This unit, accompanied by nine side-tipping skips, was one of the first items on site at the Illawarra Light Railway Museum Society's Albion Park Museum. The equipment has since been moved to the Megalong Valley Railway project at Blackheath.

John Browning
Mackay, Qld

Lord Hopetoun, a small John Fowler 0-6-0T, photographed during a special occasion, almost certainly at a Colonian Sugar Regining Coy mill, quite possibly Goondi.

Photo: George Bond collection

A John Fowler jackshaft drive 0-4-2T hauls a sugar train over a large bridge at an unknown location.
Photo: South Australian Archives, courtesy John Buckland