

Recommended reading:

SAWDUST AND STEAM by Norm Houghton. A comprehensive history of rail transport in the East Otways, including the Forrest railway, timber and mining tramways which connected with it, and tramways of Apollo Bay, Wye River, Kennett River and Lome. 106 pages, 12 plans and maps, 60 photographs, threecolour fold-out map. (LRRSA publication) \$4.20

THE SHALE RAILWAYS OF NEW SOUTH WALES by Gifford Eardley and E. M. Stephens. The story of a series of interesting private railways which served the shale oil industry in NSW. Numerous magnificent photographs in really rugged scenery. Extensive text and many maps and plans. 240 pages. (ARHS publication) \$7-50

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ARTICULATED LOCOMOTIVES OF THE WORLD by Donald Binns. A hardbound book of 96 pages published by Bradford Barton (UK) and maintaining that publisher's very high standard. This book includes technical descriptions and an excellent variety of photographs of 29 different forms of true articulated loco from all parts of the world. \$6.50

THE LAL LAL IRON TRAMWAY This is a reprint on matt art paper of 'Light Railways' No.34 which included a wellillustrated 22 page article on the Lai Lai iron tramway and the associated iron works and blast furnace, which are now classified by the National Trust. This was Victoria's only pig iron industry which folded over 80 years ago. \$1.10



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Whilst every effort is made to ensure the accuracy of articles published in *Light Railways* errors may creep in. Additional information is being discovered all the time, and this sometimes contradicts previous information.

If you see any errors, or can add information, please contact the editor, and so help us to record the full history of Australia's light railways.

Historical references to sums of money in *Light Railways* are in Australian pounds (\pounds). One pound equalled two dollars on changing to decimal currency in 1966.

Articles and news items are always welcome. It greatly assists the editors if they are typed or written on one side of the paper only and double spaced.

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Editor's column

METRICATION

When writing historical articles for *Light Railways* authors should leave all references to weights and measures in the Imperial system. Similarly all references to currency should be left in pounds, shillings and pence. It is not historically accurate, for example, to describe the Powelltown Tramway as a 914 mm gauge tramway. Physically accurate it may be, but it was built as a 3 ft gauge tramway, which, within the context of the Imperial system sounds a logical choice. Similarly it is misleading and inaccurate to convert pounds, shillings and pence to dollars and cents, particularly as there is no exact decimal equivalent of a penny.

For *News Notes and Comments* items the metric system may be used when describing the location of relics. This is virtually imposed upon us by the change of road signs, maps and car speedometers to the metric system. But, to reduce confusion in the minds of readers, editorial policy will be to give Imperial equivalents to key figures, as in the item on New Federal Mill in this issue.

HISTORICAL RESEARCH AWARD

In LR 43 we announced the establishment of a \$35.00 Historical Research Award for the author of the best major article published in each year's issues of *Light Railways*. Judging for the award is now in progress and the winner will be announced in the next issue. To qualify for consideration, articles must consist of substantially original research by the author, and must be fully supported by references. Judging is primarily based on thoroughness of the author's research, the historical significance of his work, the adequacy of maps and other illustrations, and the literary standard of the finished article.

Front cover: Timber tramway at Ringwood (Emu Bay Railway), Tasmania. Photo: Winter's Studio, Burnie We would welcome good vertical format black and white photographs for front covers of *Light Railways*. Suitable photographs can depict any Australian light railway including preservation projects, and any form of motive power. An annual prize of \$10.00 will be awarded for the best photograph taken by a member and published on the front cover.

Tramways of Woods Point District, 1863-68

by Norm Houghton

Many gold mining towns sprang into existence during the 1851-70 period and, following the initial rush, either died or dwindled into insignificance. The region of the Victorian Alps along and below the Great Dividing Range at the heads of the Goulburn, Thomson, Jordan and Aberfeldy rivers was the scene of such an episode when settlements mushroomed to serve the gold mines. Thus were born Woods Point, Matlock, and Aberfeldy to name the survivors, while places such as Loch Fyne, B.B. Township, Royal Standard Township, Jericho, Red Jacket and Edwards Reef enjoyed a brief but interesting existence.

Woods Point became the centre of this rugged region that owed its exploitation to the gold mania that gripped Victoria after 1851 when prospectors were motivated to scour nearly all the colony looking for their Eldorado. The sheer remoteness and difficult terrain of the uncharted area warded off prospectors until 1861 when the first parties broke into the district and struck it rich. Within a matter of weeks a settlement had sprung up around a store erected by Harry Woods and Woods Point was on the map.

Alluvial gold was the primary attraction so the discovery of rich quartz reefs on the Morning Star hill at Woods Point attracted scant attention. By the end of 1861 further alluvial discoveries south over the Great Divide at

Matlock, B.B. Township and Jericho practically emptied the Goulburn Valley. Nevertheless, individual parties continued to fossick in the quartz reefs on the Goulburn and the McDougall brothers achieved the first success in August 1862.' The revealed richness of the Morning Star reef was computed in pounds to the ton, not pennyweights as in other gold fields, and after two years of obscurity (for such was the isolation of the area and the silence of the lucky prospectors) the Morning Star hill was 'rushed' by numerous syndicates and companies.

Quartz or hard rock mining on a major scale requires considerable plant and equipment to extract and crush the quartz and treat the slurry on ripple tables and copper blankets in order to collect the gold and, as a result, by early 1864 Woods Point became dotted with poppet heads, adits (tunnels), various types of winding apparatus, chutes, tramlines, crushing batteries and water races.

The terrain was so rough that none but foot parties and pack horses could enter the region. The packers, as the pack horse operators were dubbed, mobilised an estimated 500 horses to bring supplies to Woods Point via the Jamieson route which was the easiest, but longest, way from Melbourne³. Two hundredweight was the usual load and rates were four pence per pound for store goods and around six pence for equipment³. All mining





NOTES ON THE MAPS

Map sources: Map of the Mining District round Woods Point by J. Butler, 1865; and Map of the Mining District of Woods Point and the Black River by A. Ainsworth, 1866. These two contemporary maps do not show all the tramways of the period, for many were short lived affairs but, curiously, notable lines such as Drysdale's incline are now shown, and the Prospector's 3 mile timber tramway is only shown for half its length. In cases like these the detailed literary descriptions in Dickers Mining Record have been used to plot location, length and direction, although it must be borne in mind that these may differ in some respects to actual ground plans. The location of mine sites and reefs has been derived from Butler, Ainsworth and the Geographical and Topographical Maps of Woods Point, 1915, and of Aberfeldy, 1909. All details have been transposed onto Australian Survey Corps 1:50,000 scale Matlock and Aberfeldy maps. Note that the Left Branch of the Goulburn River is now known as Morning Star Creek. machinery consigned to Woods Point had to be specially constructed to suit a pack horse load. Flywheels, steam engine cylinders etc were made in separate pieces and were provided with tongues, grooves and flanges so that all parts could be bolted together to form the completed component⁴. Boilers were transported in pieces and rivetted together on site. The curved boiler plates were draped over the horses and all that could be seen of the animals were their heads and tails poking out from under their amoured cargo⁵.

The basic structure of an alps mine at this time was as follows. The reefs were worked by means of shafts, tunnels or open cuts or by combinations of these. Since the terrain was hilly and many reefs were on high ground it became usual to convey the quartz down to a battery, that was situated on the nearest watercourse, by chutes or by laying a tramway incline down the hill face. These inclines were mostly of the three-rail balanced type i.e., the descending full trucks raised the empties. At first batteries were driven by water wheels but later steam power was used. Wood for the boiler and for mine props and slabs was obtained in the immediate vicinity of the mine until this source was exhausted, and then timber was brought in from further afield over a timber tramway or in contractor's sleds and wagons. So, in simple terms, an alps mine consisted of (a) a source of quartz extraction, (b) a means of conveying quartz to a battery, and (c) routes (water race, timber tramway, sled or wagon) to supply the means of powering the battery. Few details of the tramways have survived so their gauges and construction methods are not known. Wooden rails 3'/4 in square⁶ laid on spaced sleepers was one form used. Motive power was provided by horses, men and gravity.

Many mines directly employed the men engaged in mining, shifting and crushing the ore but tended to use contractors to sink shafts, drill tunnels, build tramlines and obtain timber. The bigger mines employed up to 60 men'. Some mines, because of their capital arrangement, were worked entirely on contract as did other mines that were obviously past their prime. The contract miners were known as 'tributers' because they worked on tribute i.e., they received as payment a fixed percentage of the gold won in return for working the mine with an agreed number of men for a specified term. If a tribute rate was say 62'/2% the mine owners received the balance and this was sufficient for a profitable return because few or no wages and few running costs had to be paid, but it was not a way to 'get rich quick'.

The mining ventures were private companies set up by co-operative parties of miners, or public companies formed with subscribed share capital. The latter enabled many mines to become established quickly but reckless speculation intervened and gave Woods Point a bad name. The ground at Woods Point was rich, which could not be disputed, but share prices skyrocketed out of all proportion and the consequent enormous overvaluation



Woods Point in 1870 was a considerably more crowded town than the Woods Point of today. Photo: Arthur Straffen collection



turned away investors. Occasional salting of claims that did not come up to expectation, abuse of the Limited Liability Act and share racketeering completed the malodorous situation. The Melbourne Age called this speculative boom 'Woods Point Mania' and roundly condemned it, while other metropoliton sceptics poured scorn on the declared vields of some Woods Point mines. The effects on Woods Point were twofold. Firstly, holders of over valued shares were tardy of meeting calls on their shares, and some mines in proven ground but still in their development stages were compelled to fold up. Secondly, genuine share issues were slow to sell because of the local reputation. Woods Point residents were sensitive to this as the following report shows... 'The levanting of one of the principal sharebrokers and mining managers here has had a very depressing effect on the share market, and facts are appearing which show that the finale was contemplated for a considerable time; one claim upon which calls were made for the purpose of applying for a lease of the ground was worked for four months and about £900 spent and it was only discovered today that no lease had ever been applied for and the ground for that period been liable to forfeiture".

Apart from shaky financial arrangements mining activity at Woods Point was restricted by the weather. In winter snow lay on the ground and severely curtailed communication and travel. Supplies and parts were doubly difficult to transport because the thick scrub bordering the narrow, government cut access tracks became weighed down with snow and collapsed into these tracks^{*}. Labour to work the mines became scarce in these conditions. During summer the stream flows diminished to the extent that insufficient water was available to power the batteries and crushing ceased for several weeks each summer.¹⁹.

Water wheels were the original source of power because of the unavailability of steam engines. A wheel could be built with locally produced timber and all that was required from outside was an iron shaft to mount it on. Most of the early wheels were made by Messrs Drummond and Larritt", one a millwright, the other an engineer. Wheels up to 33-36 feet in diameter were constructed and these consumed water at a brisk pace. The mines had two solutions to this problem but it took them two to three years to act because of transport problems in one case and conservatism in the other. One solution was to use steam power and the other was to achieve a more economical use of water by means of an improvement in water wheel design. The first steam engine in the area, and claimed to be the first in the Australian Alps¹², was introduced by the Loch Fyne Company in 1864 at an enormous cost, but its value as a permanent source of power was worth this cost. At the same time a new design of waterwheel was available, a vortex wheel or turbine as they were called, and presumably it was a form of Pelton wheel. In 1864-5 Mr Binnie, the engineer of the Morning Star Prospecting Claim at Woods Point, imported the first turbine from the firm Douglas of Kirkaldy. This was purely a private venture at his own cost but prejudice against its introduction was so great that it lay in storage for one

year. When it was installed it proved a great success and its 10 horsepower was more than sufficient to drive the battery¹³.

To outsiders Woods Point was a remote canvas town, snow bound for most of the year, and perched somewhere in the alps. The latter qualification was correct but the others were not because canvas reigned supreme only for a short time on account of the weather. Substantial slab and shingle huts were necessary because of the rigorous climate and these were hastily thrown up wherever the diggers went. By 1864 the population of Woods Point was over 2000 and nearly 1000 miners were active in the Matlock area¹⁴. All the comforts of civilisation were available in these settlements with their hotels, stores, bowling allevs, billiard rooms etc¹⁵. The thumping tones of pianos, brass instruments, raucous singing, dancing and drunken shouting reverberated every night for most of the night at Jericho, which was the acme of a wild, frontier gold town. Woods Point was not far behind its neighbour and capped it off by having a brass procession along the main street every day of the week. Alluvial miners could collect sufficient gold in a few hours to pay for a day long or week long binge and many lived by this pattern. The necessary adjunct of barmaids and dancing girls were brought into the area on the pack horses and were charged by weight for the trip. The most celebrated cargo of this nature was one Bessie the barmaid who tipped the scales at 16 stone. Rich and reckless diggers lit cigars with pound notes but this proved to be a mere sideline to the sport of playing skittles with full bottles of champagne and betting on the results. Non-alcoholic entertainment was provided by football matches, boxing and horse racing. The first race meeting in the alps was held at Matlock on a course that consisted of a roughly cleared, irregular 440 yard track over which the horses shuttled back and forth until the required distance had elapsed. Beyond this so called civilised perimeter was a wild desolation that taxed the physical and mental well being of all who ventured into it.

The first explorers and prospectors hacked their way through the dense dogwood scrub with axes and firesticks and, once in the area, found the only way out was to follow the rivers downstream, a daunting task, so they remained where they were and waited for civilisation to catch up to them¹⁶. When settlements were established isolated mine workers and prospectors were slightly better off but, even so, often the only outsiders they saw were on Saturdays when they trudged up to Matlock or Woods Point for supplies. As in all gold towns drink was the universal panacea of frustrated fortune and those running away from the law, their wives or a life they hoped to forget, and at Woods Point alcohol and the stultifying isolation took its usual gold town toll in lives. One bark hut not far east of Woods Point had four of its inhabitants do themselves in during one 18 month period. The first hanged himself, the second threw himself into a water hole, the third slashed his arteries, the fourth left the hut as soon as he realised its awful history but the fifth went insane. The overall isolation of the area was relieved with the establishment of telegraphic communication between Woods Point and Melbourne in 1865 and this





did away with relying on a five day postal service to notify Melbourne of yields and other mining developments¹⁷

THE MINES

Woods Point

The first prospecting claim at Woods Point was that of McDougall & Co., otherwise known as the Morning Star Prospecting Claim. This claim was pegged on the northeast slope of the Morning Star hill on the ground originally prospected by Joseph Corry, the discoverer of gold at Woods Point. The quartz from this mine was crushed by two water powered batteries that were fed by means of two water races, each two miles in length, and cut along the Left and Right branches. The batteries were sited one above the other so as to use a single stream that first ran into a 20ft wheel driving eight stamping heads, and then dropped onto a 25ft wheel driving twelve heads. The wheels remained in use for three years until 1866 when they were replaced by a 15¹/2 in diameter vortex wheel. This was the first such installation at Woods Point. Mining timber was obtained along the Left branch and from their claim McDougalls constructed a timber tramway for three miles along the west bank on a rising gradient as it headed for the summit of the Great Divide. The tramway was horse powered and valued at £1,600¹³.

Adjacent to the Prospector's claim and straddling the crest of the hill was the No. 1 & 2 North Morning Star Gold Mining Co., or better known as Scott & Cherrys. This claim was worked by means of a tunnel from which issued an ore tramway 500 yards in length running down to a water and steam powered battery on the west bank of the Left Branch. Timber supplies for this mine were obtained over the same tramway used by the Prospectors as the two companies each contributed a half share in its construction costs¹⁰.

Butting onto the above two claims was Scott & Hurley's claim. This was worked by a tunnel and the quartz was trucked out from the mouth for some distance over a tramway that terminated at a chute to the battery situated 70 feet below the level of the tunnel. The battery was supplied by two water races, one being 3'/2 miles and the other 2,100 yards in length, driving a 27ft wheel and 15 heads. The iron shaft for the wheel was slightly more than 6 ft 6 in long with a diameter of 5 in and a weight of 467 lbs. It was brought in by packhorse at a cost of £20, which was triple the purchase price of £6.15s. Beginning

at a point above their tunnel mouth Scott & Hurley laid a timber tramway on a gradient of 1 in 12 for nearly three miles along the Left branch parallel to, but perched at a higher elevation than the other timber tramway. Contract cutters delivered slabs at the upper end of the tramway for seven shillings a hundred, and 6 ft and 7 ft props for £5.10s per hundred.⁵⁰

On the western slope of the hill was the Alps Great Central Gold Mining Co., or commonly known as Drysdale and Party. The party's first shaft was sunk on the crown of the hill in 1863 and gold was struck in July of that year. This shaft was soon abandoned and another one sunk lower down the hill. A new poppet head and winding plant was installed to work the No. 2 shaft. The quartz was sent down a tramway incline to the battery situated on the Right Branch. The incline was 440 yards long and laid on a gradient so steep that one observer described it 'as almost perpendicular, and to stand on the opposite side of the creek and face the tramway (is to view) quite an imposing appearance as a straight passage through the forest has been cleared to make way for it.' The incline was of the four-railed balanced type and was worked with a seven-eights inch wire rope around a 4 ft 6 in pulley wheel. At the time this rope of 11 cwt was the heaviest load ever carried into Woods Point and with bushmens' ingenuity it was wound into three loops and mounted on three packhorses so that it could be transported intact. The two tramroads of the incline were 27 in wide inside the rollers and 34 in outside, whatever this means, but possibly it refers to a gauge of 27 in with 3¹/2 in wide rails. A water and steam powered battery of 20 heads was used to crush the quartz. Water power was used for seven months of the year until summer shortages intervened and then a steam engine was rigged to the battery. This engine was the first steam powered battery at Woods Point and was introduced in 1864. Transport costs for the entire engine assembly totalled £1,800, a colossal figure, but the amount of gold produced by the mine when working all year round justified the investment. The cylinders for the engine had a diameter of





11 in and a stroke of 30 in and were constructed in three pieces for ease of transport. During winter the engine was used to power a sawmill. Timber for the mine and the sawmill was obtained over a horse hauled timber tramway that was laid for three miles west along the Right Branch. Drysdale employed six men to work the incline and tramline²¹.

The No. 1 South Morning Star Co took up a claim on the lower south side of the Morning Star hill adjacent to the Left Branch and, early in 1866, erected a 20 head, steam powered battery in conjunction with the Woods Point Quartz Mining Co. The battery was sited on the opposite side of the Left Branch, about 400 yards northeast of the South Co's tunnel entrance and quartz was trucked over a tramway that was laid across the river and then along the bank to the hoppers²⁷.

Fifty chains south-east of Woods Point, over the next ridge from the Left Branch, was Harper Creek and near where this watercourse joined the main stream of the Goulburn River the Woods Point Central Gold Mining Co was established. In 1865 this company obtained a claim on the south bank of the creek and began operations in January 1866. The mine was worked by a tunnel that was driven south into the hill and quartz was despatched to a battery situated on the Goulburn, a distance of 766 yards. From the mine a tramway was laid north across the creek on a route that followed the creek bank until swinging along the Goulburn for a short length to the battery³³.

The battery used by the Central Mine did not belong to them but was owned and operated as a separate entity. The mines in the vicinity engaged it to crush their quartz and it was known as the Femoy machine, presumably after a manufacturer or patentee. The ridge rising up from the northern side of the Goulburn opposite this machine terminated at Cherry Point and at this location was the Vulcan line of reef. Mines were established here in mid 1865 and from 1866 the Femoy machine was employed on crushing Vulcan quartz. The Vulcan Prospecting and Amalgamated Co was one major mine but details on how their quartz reached the battery are not known. A later mine was the Vulcan Gold Mining Co. It began operating in October 1867 and used a quartz tramway that ran from the tunnel mouth to a wooden chute laid down the side of the ridge. At the bottom of the chute another tramway began and ran across the Goulburn to the company's water powered battery on the south bank. No maps show this tramway so the directional alignment of the two trams is not known to the author²⁴.

A little more than fifty chains south-east of Harper Creek was another tributary of the Goulburn called Goolevs Creek. It was here, high on the south-east ridge. that the Never Mind Co was established in August 1865. The next seven months were spent in development work and construction of the necessary tramways. Originally several shafts were used to extract the quartz but open cut mining soon replaced this so that the mine more resembled a rock quarry than a gold mine. Three levels of quarrying were dug on the side of the spur and tramways were used to dispose of mullock and to carry quartz on each level. The quartz was dropped through the quarry floors via chutes to a tunnel on the lower level and then sent over a semi-circular tramline to the brake house at the top of an incline. The steeply graded, three-railed, double acting incline was 480 yards in length and ran north-west to the eight-head, water powered battery on Gooleys Creek. The cable machanism for the incline was very simple and consisted of a brake pulley around which the rope was twirled two or three times. The trucks were of 18 cwt or half a cubic yard capacity and four men were employed to push them from the quarry face to the brake house.

The Never Mind Co appears to have been one of the better managed mines and worked its claim vigorously, so much so, that by October 1866 the middle rail on the incline was worn out and the cable was suffering from the effects of the crude brake arrangement. A heavier cable was spliced in and, as the increased weight required heavier loading, the trucks were increased in capacity. The mine manager also modified the brake arrangement to reduce wear on the new cable. A pulley with a brake band and separate compound lever was mounted in front of the main pulley and the large trough of the latter was divided around the middle by a half-round iron band so as to prevent the two or three turns of cable from binding and rubbing against itself. The cable was reeved through the divisions in the main pulley and then continued around the front pulley. The new arrangement enabled 60 trucks a day to be sent down the incline and, as an improvement to meet this, a horse was used to haul the trucks to the brake house and return with timber for the mine. The tramway traffic of the next year or so completely wore out the incline and by February 1868 all the rails had to be replaced. The front brake wheel was also changed for one of larger diameter in an attempt to ease the wear on the cable²⁵.

On the adjoining spur to the Never Mind was the Atlantic reef and in mid 1866 the Great Atlantic Gold Mining Co took up its claim. From the mine a balanced incline descended north west to Cook & Hodson's vortex wheel battery on the Goulburn²⁶.

BLACK RIVER

Six miles east of Woods Point along the Divide is the source of the Black River. In January 1865 William Singleton and Fred Stander discovered a rich reef above one of the Black River's tributaries. The reef was called the Royal Standard and the creek took its name after Stander. The Royal Standard reef was the legendary billy can reef that had been found and lost by Jack Russell in 1862. Russell had stumbled onto this glittering mass of quartz and left his billy can on it to mark the position but, as he was not sure of his bearings, he lost it just as quickly in the morning fog. He spent the next few weeks in an intensive search on the spurs running down to the Jordan River i.e., on the opposite side of the Divide, but failed to locate his treasure. Singleton came across the reef three years later when he took the wrong turn down a spur on his way back from Matlock. Russell refused to concede that the Royal Standard and the billy can reefs were the same body of quartz and spent the next 30 years looking for it and arguing his case in the local pubs²⁷.

The Royal Standard Gold Mining Co began active gold winning operations in May 1866 on the crown of the spur that rose west from Stander Creek. A shaft was sunk for 150 ft and was then intersected by a 300 ft tunnel that was driven into the spur. A tramway was laid along the tunnel and connected with a hopper that fed the quartz into another set of tramway trucks that were used on a 600 vard balanced incline that ran down to the battery on the creek. Five men were employed in this operation - two on pushing the trucks to the hopper, one man operating the incline brake, another at the bottom to empty the trucks and one repairer engaged full time on maintaining the incline. The battery had 15 heads and was water powered by means of a wheel 36 ft in diameter. The iron pinion wheel attached to the water wheel was 24 ft in diameter and was constructed in segments to enable its transport to such a remote location. After a short period of operation it was decided to erect a steam battery and by early 1867 the boiler had been rivetted and rigged for work²⁸. Local legend has it that this battery never saw one day of operation as the mine closed before it was commissioned29.

Adjacent to the Royal Standard Co was the Victory Gold Mining Co. This claim was worked by a tunnel and from it a tramway 190 ft in length ran south on a gradient of 1 in 60 to meet with the Royal Standard tramway at the top hopper. Their quartz was crushed by the Royal Standard battery¹⁰.

On the opposite side of Stander Creek, on the Champion Spur, Jack the Swede and Carlo Svenson took up a claim in February 1865 and formed the Champion Reef Quartz Mining Co. This claim was worked by means of a tunnel and quartz was despatched down a 600 yard incline that was worked in two sections. A brake at the upper end controlled the top half down to a bend where a second brake was situated. The trucks were lowered to the bend, detached from the upper cable and then re-attached to the lower one before descending to a hopper at the water powered 16 head battery. Presumably the incline was of the four-railed balanced type because only the brakes were needed to work it".

The neighbouring claim was that of the Robert Burns Gold Mining Co, an amalgamated claim of the former Alpine Rose Nos. 3 & 4. The mine was sited low on the spur that rose from Independent Creek. A steam powered battery was erected 344 ft downstream and connected to the mine by means of a tramway that was laid along the face of the spur. At the battery the tramline terminated on a platform 13 ft 6 in high and from here the quartz plummeted down into a hopper after being released by a lever operated bottom discharge system installed in the trucks. The tramway was completed in June 1866 and saw but a short life for the mine closed three months later when calls on shares were ignored¹⁰.

MATLOCK

Early in 1864 McDougall & Co of Woods Point erected a steam battery on Fern Tree Creek, about 440 yards below the Divide, to crush on hire. The motivation for this came from the original prospecting party on the Loch Fyne reef who did not have the resources for such an undertaking, but agreed to supply the quartz to maintain a battery in the locality. The battery was known as the Loch Fyne Co and possessed the first steam engine in the Australian Alps. The eight head battery was powered by a Langland's boiler 14 ft 9 in long by 4 ft 11 in. in diameter with 11 in cylinders having a 24 in stroke. It cost £4,000 to purchase, cart and erect. From the Prospecting claim the quartz was dropped down a hardwood chute for 125 ft to



a staging platform and then shovelled down another 36 ft chute leading to a tramway. The chute was 3 ft by 2 ft constructed with 3 in planks and cost £200. The tramway ran 90 ft south to the battery. A firewood tram was laid along the gully from the boiler house but its length and direction is not known to the author³³.

Next to the Prospecting claim was the Loch Fyne and Fern Tree Co. This mine was worked by a 300 ft tunnel that was boxed all the way and 5 ft 11 in. high clear of the timbers. A tramway was laid along the tunnel and continued out to the Prospector's chute so that access could be gained to the Loch Fyne machine".

East over the next spur from Loch Fyne was the Garibaldi or One Spec Creek and on the east side of this creek and north of the B.B. Creek junction was the Charleston reef. In 1864 the Charleston & B.B. Gold Mining Co was established on the spur. The claim was worked by both a shaft and a tunnel and quartz was trucked along a tramway for 200 yards from the tunnel mouth before it connected with the main tramway running to the battery situated on the other side of One Spec Creek and near the B.B. Creek junction³⁵. The length of this tramway is not known nor does this mine appear on the maps so the respective positions of the mine facilities cannot be plotted. The origin of the odd name for B.B. Creek supposedly came from Sam Beardmore and Jim Young, the discoverers of gold at Matlock, who, as they hacked their way along a creek, had their clothes torn to shreds and commented that their sartorial inelegance was due to that 'b-b--−' creek³⁶.

Immediately north of Matlock at the head of the Left Branch was a series of reefs that included the Royal Saxon, All Nations, Prince of Wales, Donaldson's, Britannia, Emerald, Perseverance and Magenta. The Prince of Wales Amalgamated Gold Mining Co was established on the east side of the spur that divided two of the upper reaches of the Left Branch, while on the western slope was the All Nations Co. The latter company erected their battery near the bottom of the spur at the watercourse junctions, about 330 yards north of the Prince of Wales. It is not known how the All Nations quartz was conveyed to the battery but by April 1866 the Prince of Wales Co let its mine on tribute to this company so that both claims were worked as a single mine. The existing tramway arrangement at the Prince of Wales was redesigned to enable the quartz to be trucked north from the tunnel mouth to the All Nation's battery. A reference to a brake being erected at this time probably indicates that an incline was used for some of the distance, but no maps illustrate any of the tramways in this locality so this cannot be confirmed³⁷.

Conclusion

Fabulous fortunes were made by the successful companies at Woods Point e.g., in the years 1864 and 1865 Drysdale's mine obtained 24,500 ounces of gold from 4,820 tons crushed and the Royal Standard in its short life obtained 13,718 ounces". At the height of the boom 30 ounces to the ton was the average yield but when this plunged to eight ounces and diminished even further to pennyweights the investors lost interest". The Woods

Point bubble of frenzied speculation and engineering activity burst in 1867 and the field declined in as spectacular a fashion as it had risen. Throughout 1867 the easily obtainable rich portions of the original reefs became exhausted. Deeper sinking would prove that payable gold still remained but this was not attempted because the practice of paying out immediate dividends left little or no capital for exploratory work. This meant that once the mining companies cleaned out the rich quartz at adit floor level they usually put the mine on tribute or closed it40. Thus closed the Morning Star Prospecting Claim, Loch Fyne, All Nations and many others. Some mines struggled along on tribute (Alps) but others could not entice any tributer to work them (Royal Standard). Other mines such as the Never Mind, Hope, Leviathin and the Sir John Franklin continued in operation but the peak had passed and Woods Point was never the same again⁴¹. By January 1868 the wheel had turned a full circle and alluvial mining was revived⁴². A few local residents with faith in the quartz potential of the district spent the next few decades attempting to entice capital back into the area. Their efforts were successful and periodically there were revivals that lasted until recent times 43.

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Note The late Harry Stacpoole and the late Steve Holliday, both former Woods Point residents, amassed considerable historical material on the area and their manuscripts have been consulted to supplement the major source.

ACKNOWLEDGMENTS

The author acknowledges the assistance of the Ballarat Mechanic's Institute Library, John Bywater for providing maps, and John Knight for providing maps and access to the papers of Stacpoole and Holliday.

THE FYANSFORD RAILWAY 850 incl. postage by W. A. Pearce, A 17 page article in Industrial Railway Record No.56, including 18 very well printed photographs, map, signalling diagram, locomotive list and historical details. Available from: LRRSA Sales Dept., 7 Talaskia Rd, Upper Ferntree Gully 3156

Square Pegs in Round Holes

THE BRUNY ISLAND TRAMWAY

by A. C. E. Knight

I do not know how the saying about square pegs in round holes originated, but this method of fastening timber tramlines appears to be quite successful. I presume that this system was used because it is easier to make square pegs than round pegs, and to drill round holes than to cut square ones. The pegs were probably cut oversize to hold well in the holes.

One such line ran some six miles south from Adventure Bay on Bruny Island, off the south-east coast of Tasmania. It was used for hauling logs from bush to mill until about 1953. It was still in use in 1952, and some of it had been pulled up in 1955.

Some details of this tramway may be of interest, and are briefly described below, and shown on the photographs.

The rails were mostly of sawn timber about 5 in by $3^{1/2}$ in pegged to decking on bearers with pegs one inch square in holes one-and-a-quarter inch in diameter. In some places the rails appeared to have been laid directly on the ground. A few steel rails were used, presumably for security in dangerous places. Most of the line crossed steep hilly country which required many bridges and viaducts, and considerable lengths of the track built up quite high on the downhill side. Much of this was decked with split timber. The substructure consisted of logs laid on each other and held in place by slots.







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Right: A length of the Bruny Island tramway along the coast, when still In use in 1952. Note the steep transverse slope of the terrain.

Below. A steam log hauler used to haul logs from bush to track. Note the trolleys under winch and boiler, and the steep spur track leading up to them. Photo, p.16 An undecked viaduct photographed when still in use in 1952.

All photographs. A. C. E. Knight





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LIGHT RAILWAYS





Left: Bridge over Midway Creek as it was in 1951. Far left: The same bridge in 1974 after a bush fire caused its collapse.

Below left: A pice of rail and decking, each upsidedown, on a viaduct showing the square peg in round hole. The boot (size 6) was used to give some idea of the scale.

Right: A length of track on the steep coastline at an altitude of 200 m, taken in 1952. The photograph below it shows the same section in 1974. It gives some idea of the way the track was built up, and shows how a timber structure, without appreciable earthworks, can merge with the country in 20 years, and soon disappear altogether.

Below. A viaduct over a small creek, taken in 1974.







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The Walhalla and Thomson River Steam Tramway early in 1975, when the locomotive was in steam every weekend. Regular steam operation has now stopped indefinitely, but work on the project is continuing. Photo: Ron Kain



QUEENSLAND TRAMWAYS 1974

Left: Hudson Hunslet internal-combustion loco derelict at Cattle Creek (Finch Hatton) Sugar

Below: Fairymead No. 71 at Bingera, 11 November 1974, en route to Gin Gin Sugar Mill. Both photos: Ray Graf



News,

NEW SOUTH WALES

CSR Limited, Condong Mill

The last 2 ft (610 mm) gauge cane tram at Condong Mill ran in late 1974, and I inspected the remains of the tramway system, and the mill (which is now served by road transport), on 27 August 1975. Most track had been pulled up. Some sections were intact, however, in the Cudgen and Condong areas, and also round the mill. The 4 ft 8/2 in (1 435 mm) gauge line from Murwillumbah to Condong Mill (formerly used by trains from Crabbes Creek) was overgrown, and one of the bridges along it, near the mill, had been removed.

Five locomotives were stored, in fairly good condition, at Condong Mill. These are listed in the table below.

Nos 3-5 and No. 7 were stored in the former truck shops at the northern end of the mill yard, while No. 6 was sitting in the open, across the Pacific Highway from the mill. Most other rolling stock appeared to have been disposed of.

(Anthony Weston)

F.J. Walker Ltd, Abattoir, Byron Bay

I inspected the 4 ft 8/2 in (1435 mm) gauge tramway from Byron Bay station to the local abattoir (which formerly served the Byron Bay jetty) on 27 August 1975 and found it still shunted by a four-wheel Simplex petrol locomotive. This was Motor Rail B/No. 2129, with a date, 1920, cast on the axleboxes. A four-cylinder 40 h.p. (30 kw) Dorman petrol engine drove through a two-speed gearbox, with final drive by chains to both axles. The locomotive appeared well maintained, but was housed in a decaying timber shed near the abattoir. The future for the tramway and locomotive appears relatively secure. The Simplex has apparently coped quite well with the moderate level of fail traffic in the past, and there is nothing to show that it cannot continue to do so in the future. Notes & Comments

VICTORIA

NEW FEDERAL MILL (LR 50, p.20)

Regarding the above item, the grid reference given for the location of the New Federal Mill should have been 867358, not 877358 - an error of one kilometre. Please accept my apologies for such a basic error.

Before members attempt the drive to the New Federal I suggest that they obtain a copy of the Neerim 1:50 000 map sheet as this accurately shows the position of the *main* Ada Valley tramways and their access roads. These are obtainable from the Central Plan Office of the Department of Crown Lands and Survey, Treasury Place, Melbourne, at a cost of 75c. All grid references I give come from this sheet. (This map is also obtainable from the Minerals & Energy Department of the Australian Government, 460 Bourke Street, Melbourne - Ed.).

To reach the New Federal Mill proceed in an easterly direction from Powelltown towards Noojee for approximately 6.5 km (4 miles) to a fork in the road at the 'Bump' tunnel (grid ref. 813301). Take the left fork and proceed in a northerly direction along Big Creek Road for a distance of about 6 km (3.7 miles) to Dowey Spur Road (the sign post was missing in March 1975), grid ref. 817336. At this point there are two possible choices. I shall describe both in case for some reason one or other is not traffickable (tree across road etc).

Taking the New Federal Short Cut access first, proceed along Big Creek Road for a further 11 km (6.8 miles) approximately, until the New Federal Short Cut Road is reached at grid ref. 848389. Turn right into the N. F. S. C. Road and proceed in an easterly direction for a distance of 3 km (1.9 miles) until the Ada River Road is reached at grid ref. 872378. This section should not be attempted by two wheel drive vehicles in *very* wet conditions.

Also the road from Big Creek Road (grid ref. 883388) to N.F.S.C. Road (grid ref. 872378) should not be attempted (even though it is an all-weather road) because

(Anthony Weston)

LOCOMOTIVES AT CSR CONDONG MILL, NSW

No.	Builder	Model	B/No.	Туре	Engine	Model	No.
3	Motor Rail "Simplex"		11023	4wDM	Dorman		EE62034
4	Motor Rail "Simplex"		11035	4wDM	Dorman		EE64843
5	Ruston & Hornsby	40DL	279567	4wDM	Ruston	3VRHL	270935
6	Ruston & Hornsby	40DL	371959	4wDM	Ruston	3VRHL	369629
7	John Fowler		16830	0-6-0DM	Gardner		

of padlocked gates at both ends of this section of Ada River Road.

Turn right (southerly) out of N.F.S.C. Road into Ada River Road, proceed along this for a distance of 1.3 km (0.8 mile) approximately, to Federal Road (grid ref. 874366) take Federal Road (right fork, south-west direction) for a further kilometre (0.6 mile) to where the road turns right (east, grid ref. 870358) on this bend a track leads off in a southerly direction (left). This track is not shown on the 1:50 000 map.

Proceed along this track a short distance to where it forks. Take the right-hand fork (the lesser used of the two, the other being used by 'pulpies'). Continue along here for another half-kilometre (0.3 mile) approximately, and the New Federal is reached at grid ref. 867358. This access can be trafficked by two-wheel drive vehicles with a small amount of difficulty in the wet. I gained access by VW van in June 1974.

For the alternative access route, from the Big Creek Road (grid ref. 817336) proceed along here for a distance of about 11.5 km (7.1 miles) until the Federal Road is reached at grid ref. 874336. From here see previous directions. Ignore the break in the road shown on the map between grid refs 876326 and 875333, it must have been constructed after the map was compiled in 1966. By using this route you avoid the wet section of the New Federal Short Cut. This road is not as well maintained as the Big Creek access but is easily trafficked by two-wheel drive vehicles in the wet.

(Ray Owens)



LETTERS

LOCOMOTIVE LOG SNIGGING

I would like to comment on two matters mentioned in LR 50. The first is Ian Crellin's query concerning the use of a locomotive for log snigging. (LR 50, p 18). This was effected by attaching a wire rope around a log which was required to be loaded onto a pair of bunts and, after passing the rope through a snatch block anchored to an adjacent tree, the other end of the rope was attached to the coupling hook of the loco. The loco would then move backwards and draw the log onto the vehicle. This could be done either off the ground by using skid ramps or off the top of a loading dump. This method was fairly widely used on logging tramways of my aquaintance in New South Wales and Tasmania.

THE SHALE RAILWAYS OF NEW SOUTH WALES

The second point is the matter of the comments that have arisen following your review of the Shale Railways book. I agree that it is unfortunate that a table of references was not provided. I cannot agree that such an omission casts doubt on the credibility of the publication as a whole. I also consider it unfortunate that John Buckland (LR 50, p.24) interpreted your comments as a criticism of Giff. Eardley.

If I may be permitted to make a general comment I would like to point out that Giff. was one of a group of persons, about five in number, who took a hobby interest in the recording of railway history as a personal pursuit some forty years ago. Because it was a personal 'thing' they did not consider that they were answerable to anybody for details of their findings or methods. As time progressed they shared these details among themselves and later adopted the use of a Roneo to cater for the increasing interest. So was born the *A. R. H.S. Bulletin.* However, the same motivation persisted and continued for a number of years because these same few people were

THE SHALE RAILWAYS
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series of interesting private
railways which served the
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basically the main contributors. It never was raised as a matter of editorial policy because the editor was one of the group. Also, the contributors and readers all knew each other and so inaccuracies were corrected and additional information supplied by personal correspondence or by word of mouth and, somehow, everybody that mattered got things straight!

These days things are different. There is a greater awareness of the needs of those who may want to use the information for academic purposes and it is these people who will be thankful for the source from which further details may be available. Also it must be remembered that in a few years the researchers will be unaware of the credibility of writers like Giff. Eardley and C.C. Singleton because they will not have known them.

To be specific, I consider that there are inaccuracies in the book, also there are areas of suspected inaccuracy but in a book on that subject matter and giving regard to the general difficulties under which the information was gained, the overall result is most pleasing.

For the purpose of record I will list the matters on which I have conflicting or additional information. Also points of thought provocation.

Dealing with the Hartley Vale venture, there appears some conflict regarding the identity of the two small locomotives used in the valley section.

The photograph on page 28 is captioned 'The Mort's Dock locomotive' whilst the text describes it as a Fowler. It is certainly of distinctive design but the only other one I have seen illustrated of this appearance was built by the Lilleshall Iron Co. of Oakengates. This Company built about fifty locomotives between 1862 and 1900.

The locomotives at Joadja are a vexing subject, on which the author and I were not able to agree. In actual fact the maker's records only show the purchasing agent's name. Their association with Joadja was coincidental to the number of imports equalling the number of locomotives shown in a survey of the Joadja venture, referred to in the text. A stock of five locomotives involved in a venture of that size seems excessive in the light of the penny-pinching policy of the management. From photographs showing the locos of Joadja which so far have come my way I can only recognise three with features of difference. In the book these are shown on page 47 (this is the smallest of them and is possibly the first loco). The caption mentions 'locomotives' but only one is shown in the picture. This locomotive has not subsequently appeared at any other location to my knowledge although its age and amount of service accumulated at Joadja would have made it quite saleable at that era.

The second recognisable locomotive is shown on pages 38 and 52. The text tells that the locomotives were neither numbered nor named but those on the pages mentioned are described as 'No. 2'. Should it be more properly described as 'the second loco' if such is in fact the case. Third recognisable is shown on pages 53, 60 and 62, and it

is described in the caption to the latter as Barclay No. 253 of 1883. This should be 1882 and it is more than likely that this is indeed the loco of that number. It appears at Bonville near Coffs Harbour as later described in the text relating to No. 222 but the old gentleman who was one time its driver at Bonville told me he remembered it was built in 1882, the year of his own birth.

The locomotive described in the text as No. 1 and shown on page 50 was certainly not built with the ugly appurtenance for a steam pipe. This was added while it was at Allen Taylor's line and was necessitated due to corrosion of the main internal steam pipe. The normal regulator was discarded and steam was admitted to the cylinders through a globe valve with an extended rod passing through the right spectacle. This can be seen in the picture. The sand boxes described were also added at the mill tramway and these started life as petrol drums in the 1914-18 war. The conversion to sandboxes was achieved by cutting the bottom out and converting it so that it became a lid on the receptacle when it was inverted, so that the tapered neck formed a funnel to allow the sand to gravitate through the pourer and down a pipe to the track.

The 0-4-0ST locomotive shown on page 59 and described as being Barclay 237 is not, nor was it ever at Joadja. Documents in the possession of the Queensland Government Railways refer to this locomotive as being supplied by Messrs Murray and Patterson of Coatbridge, England for use on a colliery line at Blackstone, and it arrived there about 1886 or early 1887. About 1908 it appeared at Woolgoola, north of Coffs Harbour and either directly or indirectly was involved on the line of the Great Northern Timber Co who had a mill tramway at that place. About 1914 it was purchased by Messrs. H. McKenzie & Co together with an 'A' type Climax loco and was taken to Fraser Island where it spent the rest of its days mostly in retirement.

Reference to all the vehicles being unsprung is incorrect. The covered vans were sprung as is evident in the photographs.

I am somewhat puzzled as to why Giff. has not fully recorded the information mentioned because he was aware of all the points I have made. Further, he has omitted mention of the loading bins which were located about halfway up the main incline and apparently were served by a horse or man worked skipway running around the side of the hill to what, according to Mr L. Gallop of Sydney, were colliery adits.

Finally on Joadja, I wish I did not have the uneasy feeling that the railway track shown in the picture on page 67 is wider than 3 ft 6 in gauge. This would make interesting speculation as to the real location of the site.

With regard to the account of the other shale oil ventures, I am unable to contribute any comment other than agreement with it as far as my fund of knowledge is concerned.

Bruce Macdonald Goulburn, NSW

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