A note from Random002:

For years these older Australian railway books have been out of print. Rather than hoard limited quantities in dusty baby-boomer book shelves these books need to be made available to the railway community as a whole. Education and information should be made freely available to those who seek it and if it is not made available from the publisher then alternative measures will always be taken. I have spent considerable time scanning and editing these copies for your enjoyment, so please do us all a favour and share freely with others.

Enjoy.
BYWAYS OF STEAM

3

On the New South Wales Railways in the 1950s and 1960s

Eveleigh Press
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Australia.

Front Cover: A well-weathered 5268, at the head of No.187 goods, awaits a crossing in Pangela loop, between Murrurundi and Ardglen on 31 July 1965. The fireman is no doubt glad of a spell from the hard slog up the long 1 in 40 of the Liverpool Range. Ray Love

Back Cover, Above: Passengers on No.23 “Northern Tablelands Express” are getting their last glimpse of picturesquely located Murrurundi and the Pages River valley, before the train plunges into the stygian depths of Ardglen tunnel. Assistant engine 5472 and train engine 3515 appear to have the 348 ton load of eight-car, air-conditioned RUB set well in hand on 4 February 1959. John Elliot

Back Cover, Below: One of the last duties for the Southern valve-geared 55 class was the northern metropolitan shunt. Here 5619 tops Eastwood bank, near the Rutledge Street overbridge, with No.251 goods on Saturday, 8 August 1964. Ian Wallace
The fireman rests on the tender handrail as 5278 drifts to a stand at the terminus with the Merriwa goods in 1968. In the compact ‘loco’, the water column has just been painted. There is sufficient coal in 5278’s tender for the return journey, so the fireman will not need to shovel fuel from the low coal stage.

R.R. Belzer

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Introduction

The photo above commemorates the zenith of a great engineering enterprise: the Eveleigh Locomotive Workshops of the New South Wales Government Railways.

Taken on 3 December 1945, it marks the culmination of years of planning and effort by the Mechanical Branch to bring forth a modern express locomotive type. On that day forty-six years ago, the men and women of Eveleigh were proud to be photographed alongside their creation: 3806.

Along with Newport in Victoria, Islington in South Australia and Midland in Western Australia, Eveleigh possessed the capability to construct locomotives, in all stages from raw materials to immaculately groomed leviathan of the rails. Engineers, draughtsmen, tracing ladies and clerks laboured in the Department’s Wilson Street and York Street offices over the design, which was then transformed into flesh by the myriad toolmakers, fitters, shop boys, boilermakers, coppersmiths, welders and other craftsmen. These capable people, under the guidance of the shop foremen, the Works Manager and his staff, were conscious of the value and importance of the work they were engaged upon, and of the almost absolute self-sufficiency of their enterprise.

That knowledge engendered an esprit de corps. To them, it was natural that their dour Scottish chief, Chief Mechanical Engineer Harold Young and his boss, Commissioner Hartigan, should come down to inspect, to be seen with and to admire the product of their labours. For Mr Young was proud of his ‘Australian lads’, who had absorbed the lessons of overseas practice and translated his conceptions for an express locomotive into the C38 class Pacific, designed in Australia for local conditions, wholly constructed in the Railways’ own workshops in times of great difficulty, and equal to anything in the country.
Just eleven days later, the photographer was called to the adjacent Eveleigh Carriage Works, where the craftsmen painters had adorned Eveleigh’s creation in immaculate green finery, which enhanced the svelte lines of the locomotive and conveyed the feeling of pride to the passenger and spectator. Here was not just any locomotive: it was Eveleigh’s finest, and deserved admiration.

These days, when ‘human resources’ are enjoined to attend motivation and development courses, when the concept of pride in the job is alien, management seems to have lost sight of the values which impelled Mr Young and his staff. They knew that their 38 class locomotive and the air-conditioned trains it would pull were needed, wanted and were up to the task. Their motivation lay in the production of a quality product, with which they were proud to be associated.

Alas, recent generations of politicians and their time-serving underlings have destroyed a great enterprise; in the name of rationalisation, much of intrinsic worth has been discarded along with a great deal of undoubtedly wasteful practices. A confident, almost completely self-sufficient enterprise committed to public service has been reduced to a dithering and defensive reactionary to political dictation. The ordered process of conception, planning, construction, delivery and evaluation of product seems to be anathema within the administration as it lurches from one motive power crisis to the next.

Let us celebrate, then, with Mr Hartigan, Mr Young and their colleagues of Eveleigh, the pride, the achievement, the continuity and the greatness of Eveleigh Locomotive Workshops.

Ian Dunn
Brass ‘barge plate’ for depot No.18 - Murrurundi. These were later known as ‘depot plates’ and carried on the cab-side rather than on the barge board at the rear of the cab roof. R.D. Love

Above Right: Standard Goods engines of the 50, 53 and 55 class assisted trains over the summit of the Liverpool Range at Ardgen for more than 45 years. In the bumper wheat season of 1964, the oldest Standard Goods engine then in service, 5032, pilots train engine 3517 up the 1 in 40 grade toward Ardgen Tunnel on No.380 goods. 5032 was on its last ‘bank’ for the day and was working home to Murrurundi depot. R.D. Love

Right: The ‘Big J’ Baldwin-built 2-8-0s were normal motive power in the Murrurundi area in the early years of the present century. Although giving the impression of being large and ‘hulking’, their axle loading was far less than the T class 2-8-0s (later 50 class) which eventually replaced them. This particular engine, J486 was rebuilt in 1917 and fitted with the then-experimental Southern valve gear. The engine later became 2904. It was withdrawn in 1931 and scrapped in 1937. SRA
THE STEAM LOCOMOTIVE DEPOTS IN NSW

Ray Love

Locomotive Depot No.18: Murrurundi

Preamble.
This essay continues the series dealing with the history and working of the depots located in the Hunter Valley and how they operated in conjunction with each other. It deals with one of the oldest and most important locomotive depots in the state, Murrurundi. Its companions, the sub-depts of Muswellbrook and Merriwa, are covered elsewhere in this issue.

Murrurundi is picturesquely located in the valley
The Baldwin-built ‘Little J’ J131 class 2-8-0s were also in use in the far north of the state in the early years, on both goods work and as bank engines. J134 was later renumbered 1006 and joined in with others (renumbered as 28 class) in slow freight traffic, finishing up its service in 1929.

of the Pages River, a tributary of the Hunter, whilst Muswellbrook, Merriwa and Singleton (previously covered) are located in the upper Hunter River valley. On the surface, it may seem strange to have three locomotive depots on the mainline (Singleton, Muswellbrook, and Murrurundi) so close together geographically, but they represent different eras, and different types of work. Singleton and Murrurundi were what could be termed ‘old’ depots, dating from the earliest days of the line, whereas Muswellbrook came along much later, as the coal-field traffic developed in the region. On the other hand, the small depot of Merriwa, a sub-depot of Muswellbrook in recent years, was there for the convenience of working the branchline which junctioned with the mainline at Muswellbrook.

As the traffic along the main northern line increased (with a consequent increase in size of motive power), the old depots of Singleton and Murrurundi lost their involvement in mainline work, and, as a result, the work associated with Muswellbrook increased.

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**Murrurundi Locomotive Depot 1937**

<table>
<thead>
<tr>
<th>Key to Symbols</th>
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<tbody>
<tr>
<td>1. 60 Foot Dia. Manual Turntable</td>
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<tr>
<td>2. Coal Stages (2)</td>
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<tr>
<td>3. Water Tanks (2)</td>
</tr>
<tr>
<td>4. Loco Barracks</td>
</tr>
<tr>
<td>6. Small Records Store</td>
</tr>
<tr>
<td>7. Chargeman/Sign-On Room</td>
</tr>
</tbody>
</table>

A. Main Northern Line
B. Engine Run Around
C. Arrival Road
D. Ash Siding
E. Turntable Siding
F. Depressed Ash Road
G. Elevated Coal Road, Nicknamed ‘Burma’ Road.
Dieselisation arrived in the early 1970s, rationalisation and rebuilding of the railway system were on the horizon for the mid-1980s. By the late 1980s, all four depots had closed, both from a locomotive and crew aspect.

**Brief Area History.**

In May 1863, the 14m. 25ch. (23km) section of the line between Branxton and the town of Singleton was opened for traffic. Railway construction continued toward the north over the next six years, the 30 mile section (48km) between Singleton and Muswellbrook being opened on 19 May 1869. A number of contractors were involved in construction of this last mentioned section of line, including Randle & Gibbons, McNamara & Edwards, George Blunt, and Larkin & Wakeford, all being well known in the construction business for the railways of this state.

Railway construction continued toward the north over the next nine years. West Tamworth was reached in 1878. Newcastle was then finally linked to the upper Hunter Valley and the rich New England area by a continuous single line, 183 miles (293km) long, which incorporated many sections of 1 in 30 and 1 in 40 grades. The line rises from 19 feet (5.8m) above sea level at Maitland, to 2073 feet (632m) in the Liverpool Range at Ardglen. Bank and pilot engine work was commonplace over this section of the line in steam days, and Murrurundi depot provided locomotives for both mainline and bank engine work.

In all, there were nine depots located along the 372 mile (595km) section of the main line between Maitland and the Queensland border: Singleton, Muswellbrook, Murrurundi, Werris Creek, West Tamworth, Armidale, Glen Innes, Tenterfield and the small depot on the branchline at Merriwa.

**Locomotive Depot No.18: Murrurundi.**

Murrurundi is a small town located some 120 rail miles (192km) to the north of Newcastle, and 220 rail miles (352km) from Sydney. The railway reached Murrurundi on 5 April 1872, the contract for this particular section of the line, north from Wingen, being let to John Algers.

An important locomotive depot was established in Murrurundi, opening in 1891 and closing 74 years later, in 1965. Readers are advised at this point that a comprehensive article on the steam operations centred on Murrurundi was produced by Robert Booth in the October 1981 issue of *Roundhouse*, the journal of the New South Wales Rail Transport Museum. In that article, the historical and geographical details of the area are presented, the result of that author’s extensive research. That information will not be repeated here, where the subject is the history and details of the locomotive depot located in the town.

**History of the Locomotive Depot.**

On 12 September 1871, an agreement was signed between the Commissioner for Railways and the contractor, James Stephens, for construction of a two-road engine shed at Murrurundi. The drawing was titled “Great Northern Railway, Extension Musclebrook To Murrurundi, Engine Shed Murrurundi” and was approved by Engineer Hutchinson on 27 July 1871. Contract drawings for station buildings, goods shed and wool platform were issued in the same year.

The precise location of this original shed is uncertain, a local historian believing it to have been located close to the station, opposite the goods shed on the same side of the line as the more recent depot.

Murrurundi remained the terminus of the line for five years, and obviously this relatively small shed...
was quite adequate for the purpose at the time.

In 1891, authority was obtained for the expenditure of £2326, to permit construction of sidings to the engine shed, construction of ash pits and the installation of a turntable. A further £150 was authorised for the construction of a coal stage 'of old sleepers'. In August 1891, a further £1880 was approved for the construction of 'engine sheds, ash pits and a workshop'. In September 1891, Murrurundi depot was noted as "opened", with 6 passenger engines and 10 goods engines allocated.

In 1896, a 4hp (3kW) vertical engine and shafting were added to drive the workshop lathe.

The inability of the original depot to handle the through traffic and the largest locomotives was obvious by this time, and in November 1898, £2588 was allocated for the construction of a new locomotive shed, coal stage and water tanks with stands, the successful contractor being W. Taylor and Sons. The Annual Report of the Railway Commissioners for the year 1898 (issued in January 1899), mentioned "the new shed at Murrurundi..." By April 1899, new shed lighting had been completed, and in December of the same year, a 60 foot diameter (18.3m) turntable had been provided to replace the original 50 foot (15.2m.) turntable.

Various improvements and alterations to Murrurundi depot were carried out over the next fifteen years, including the provision of two ash pits at the south end of the shed in November 1901, the replacement of the original 4hp steam boiler and engine by a 6½hp (5kW) oil engine, and the addition of roofing over the nearby elevated water tanks in April 1913.

Over the next fifty years, only minimal improvements were made to the depot, no doubt due in part to the fact that the importance of Murrurundi depot was reduced by the installation of Werris Creek as the headquarters for the district from both a locomotive and traffic viewpoint. In 1923, an air compressor was installed and in October 1929, approval was obtained for repairs to the engine shed and ash pits. Seven years later, the town water supply was connected to the loco depot storage tanks, together with associated piping and valves.

At the Locomotive Officers’ Conference of July 1948, approval was obtained for the installation of electric lighting in the shed, District Locomotive Engineer’s office and the rest house (barracks).

This appeared to be the last improvement carried out on the depot facilities and for the next ten years nothing was done to improve working conditions or locomotive servicing.

The depot fell into disrepair over the ensuing years, as a result of lack of expenditure on essential maintenance and by the early 1950s, it had a dilapidated appearance.

On 12 August 1965, the locomotive shed area and associated sidings were closed, and locomotives (diesel-electrics had taken over by this time) ceased using the former depot area. Some crews remained at Murrurundi for a further twelve months. In September 1966, it was noted that the loco depot at Murrurundi was being demolished, the water service had been completely dismantled, two of the elevated water tanks had been scrapped, whilst a third had been sold to the Shire Council.

The days of this old depot were over, 74 years
Above: By the mid-1960s, the old depot of Murrurundi was literally falling apart. In this photo, taken at the northern end of the shed in May 1965, 5466 and 5139 are marshalled tender-to-tender, vertical-boilered coal grab 1064 rests near the coal supply dump with 5354 in the distance. R.K. Booth

Right: Just because you’re famous (or infamous), doesn’t mean you miss out on the bank-work. Engine 5461 (originally TF1174, infamous as a poor steamer of early years, as depicted in the well-known poem) heads toward the turntable in Murrurundi depot after an evening on the bank.

M. Farrell
Cross Section of Murrurundi Engine Shed - 1900

Arest from bank work to do the household chores: banker 5189 shunts an S truck of loco ashes beside the shed in 1960. The building in the right background is the small records store with the covered, elevated water tank beyond that.

M. Farrell
after it had been noted as “opened”.

Description.
The original engine shed at Murrurundi was a two-road, straight-through style building, fitted with double swing doors on each end of each road. It was 107'4" long by 40'0" wide (32.7m x 12.2m). No smoke chutes were provided on the roof, smoke dispersion being provided by a ventilating ridge running almost the full length of the roof peak. Eight arched windows were fitted to each side of the building, the roofing and wall material was galvanised corrugated iron, and the flooring of the shed was 9" thick (230mm) 'hardwood paving blocks'. A store measuring 26'6" long by 9'0" wide (8.15m x 2.74m) was built, attached to one side of the main shed, the sloping roof being an extension of the main shed roof. The floor of the store was also hardwood blocks.

A rather unusual aspect of the design was the provision of two inspection pits, each 40' long (12.2m), on each road within the shed, four in total, a pair being placed end to end, rather than the usual arrangement of having one long pit on each road. The usual timber work-benches were provided in the main shed.

About 1899, a drawing was issued (noted as Drawing No.1) for the construction of a new engine shed at Murrurundi. This ‘new’ shed was actually two engine sheds of identical design built side-by-side to produce what was, in effect, a four-road locomotive shed. Each shed was 168'0" long by 31'0" wide (51.2m x 9.45m) giving an overall width of 62' (18.9m). Each shed had a gabled roof, but no ventilating ridge was included, smoke dispersion being achieved by six individual smoke chutes above each road (24 in total).

Cladding for the shed was galvanised corrugated-iron sheet on the roof, walls and doors. As with the original shed built in Murrurundi, the flooring was wood billets, each 9" thick (230mm). Each shed road was fitted with an inspection pit, 150' (45.7m) long. In addition, 35' (10.7m) long ‘outside’ pits were constructed on three of the roads at the northern or Werris Creek end of the shed.

Natural lighting in the shed was provided by a number of 40" (1.2m) square windows in the side walls and an arrangement of skylights on the roof slopes, a total of 24 being fitted. As usual, timber work benches were provided along the side walls inside the main shed. An attached shed foreman’s office and fitting shop were built external to the west

Vertical-boilered, three-ton steam coal grab 1064 at rest in Murrurundi loco in 1965. This coal grab (Harman, 1918, originally numbered Lo39) is presently in a dismantled condition at the NSWRTM at Thirlmere.

R.K. Booth
wall of the main shed.

Construction also included a store and an inspector’s office near the shed. The flooring of the fitting shop was also wood billets.

The layout of the depot at turn of the century, apart from the main shed and the buildings mentioned above, included a drivers’ barracks, two elevated water tanks, two low-level coal stages and a 60’ (18.3m) diameter turntable. This turntable was originally located adjacent to the Newcastle end of the shed in a rather cramped location, but was soon moved to its final location at the Werris Creek end of the depot area. The turntable in use in during the last steam years was a 60’ (18.3m) diameter Sellers, ball-race type, Way & Works Branch ref. number 2086.

By the 1930s, the loco facilities at Murrurundi had expanded, and with the relocation of some structures and trackwork alterations, the layout had improved. Included in these changes were additional ash pits, water columns and elevated water tanks. The coal stages were positioned to suit better the fueling of locomotives, and a depressed ash road (to assist with removal of firebox ashes) had been added. Provision had been made in the original drawing of 1899 for the construction ‘by the Railway Commissioners’ of a sand furnace adjacent to the main locomotive shed. A drawing, signed by E.E. Lucy, and issued in 1922, shows a sand furnace and a sand house located in this area of the depot, but by the 1930s, only a simple sand bin utilising dry sand sent up from Broadmeadow depot was in use, located at the northern end of the shed adjoining the fitting shop.

The loco water supply to the depot and the station was upgraded in 1931, the arrangement being approved by Chief Mechanical Engineer E.E. Lucy. A drawing was issued in October of that year illustrating the arrangement of water tanks and relative levels of the water supply system. Supply was obtained from the Pages River by a pipeline / flume system almost 3 miles (4.8km) in length, the river rising in the Liverpool Range behind the depot. The long pipeline was used to obtain gravitational feed, rather than using pumps to lift the water from the river in the town, where it is considerably below the level of the depot. The difference in levels between the flume on the dam in the river and rail level at loco and the station was 155 feet (47.2m). The water was fed into a series of cast-iron elevated water tanks at various levels on the hills behind the depot, one of 40,000 gallons (182kL), and two of 20,000 gallon capacity, supplying the water columns located at the station and at loco. A water softening plant was also located in the pipeline. In 1952, this large water softening plant was relocated adjacent to the two elevated tanks in loco. The 1961 Local Appendix to the Working Timetable (North) quotes Murrurundi loco as having a 9 inch (230mm) water column and two 6 inch (150mm) stand pipes for locomotive water supply.

Murrurundi, like many of the old depots, did not possess the luxury of an elevated coal stage or a mechanical coal elevator, and all coaling of locomotive tenders was carried out by hand from the low timber stages. In the early 1960s, a 10 class steam coal grab was sent to Murrurundi to assist with the coaling of engines but only remained for a short period of time.

Loco barracks were located near the engine shed at the Newcastle end, and consisted of a building containing ‘about 8 bedrooms and a kitchen’. To quote a Werris Creek driver, “Murrurundi barracks had no ceiling, the roof peak and all the timbers being visible from the inside. The dividing walls of the rooms were of minimal height with no ceilings above, the area above the walls being open space. Any noise could be heard in all rooms simultaneously.” Murrurundi barracks saw infrequent use during the latter steam days, mainly by men on loan from North Coast depots, such as Grafton and Taree, during the heavy wheat seasons. They were also used as single men’s quarters, where single traffic or loco men could live in the barracks whilst
5376 again, coal grab 1064 on the extreme right with 5354 standing on the slightly elevated turntable road.

R.D. Love
employed on local work. In other instances, crews from Broadmeadow or Muswellbrook would use the barracks if some delay or unforeseen circumstances on the main line, such as floods, derailments or excessive hours, meant the crew could not continue on.

The only shower facilities for the entire depot were located here, hot water being provided by a chip heater. No separate locker room was provided, crew lockers being fixed to one wall inside the main shed.

In the early days, when Murrurundi was the hub of locomotive and traffic activities in the north, this building seems to have been used entirely for the

Left: Bank engine 5439 has finished for the day and reverses on to the turntable at the north end of the depot. The elevated road on the left is the ash siding road, and the S truck on the right is standing on the depressed ash road. Note the covered water tank on the hill behind the depot, the subject of current (1991) preservation plans. M. Farrell

Right: Even the select few, the 'specially-balanced wheel' goods engines were thrown into bank work. Engine 5390, complete with 'X' on the front buffer-beam to indicate its status, stands ready for work in 1964. R.K. Booth

Left: The extent of the deterioration of the old shed is well illustrated in this photo. Bank engines 5326 and 5461 (obscured) enjoy the minimal shelter in 1960. M. Farrell

Right: The southern or Newcastle end of the shed in 1960, and 5326 enters after working on the bank all night. In the left background, the old barracks can be seen, by this time (1960) also containing the DLE's office. M. Farrell
administrative side of locomotive operations. The Steam Shed Inspector and his staff then occupied the entire building. In recent years, however, the DLE and the clerk/timekeeper only required the use of one room, the remainder being converted to barracks use.

As noted previously, the shed and servicing facilities fell into a dilapidated state during the early 1950s, large cladding sheets were not replaced when they fell off or corroded, and by the 1960s, the main shed building was in an appalling state. Demolition and removal soon followed.

**Locomotives.**

As with Singleton depot, documentation of locomotive allocations to Murrurundi during the latter part of last century is difficult to obtain. In a past issue (September 1941) of the Australasian Railway & Locomotive Historical Society Bulletin a fine article, titled “North of Newcastle in the Nineties”, contains descriptions and information on the locomotives and working applying to the period. To quote selected parts relevant to Murrurundi: “...the next depot was located at Murrurundi. This was an extremely busy show, as practically in every case, engines working goods trains were changed, and in addition, goods trains had to be pushed from Murrurundi to Ardglen, and in the case of southbound trains, from Willow Tree to Ardglen.”

These notes go on to quote the Baldwin J131 (Z28) class 2-8-0s as the main motive power on goods north from Murrurundi, with the same engines and the 'Native Bears' or J522 class (also renumbered as 28 class) as the push-up engines. “For a time, one of the I class 2-6-2 saddle tanks (later Z26 class) was stabled here, and earned its keep on push-ups and
indulged in similar push-up duties on goods trains from Wingen to Murrurundi. About the year 1898, two of the Baldwin O class 4-6-0s (Z23 class), numbers 446 and 447 (later 2301 and 2302) arrived in Murrurundi and these gave the firemen a lot of work."

From these notes, it is seen that in the 1890 period Murrurundi played host to B (Z25) class, J class, O class, I class, plus an assortment of C (Z12) class, D (Z15 & Z16) class, and the K class.

In 1912, Murrurundi (along with Hamilton and Eveleigh) possessed a 30 ton, steam accident crane which, according to the Weekly Notice "...could run on the mainline in the area at the same speed as a T class engine, 30mph."

Transfer of locomotives to and from various depots, was recorded during the year 1917. Typical transfers during that year are listed in Table 1, the abbreviation 'MDI' is used for Murrurundi.

By the end of 1917, the official allocation to Murrurundi depot was:
D263 (1603) D335 (1626) D345 (1636) I127 (2608) I128 (2609) I400 (2618)
P591 (3268) T731 (5101) TF 974 (5356)

Typical allotment changes which took place during the next ten years are listed in Table 2.

It was during the next few years that the increased power of the Standard Goods engines as bankers over the Range became a necessity, due to a number of factors, and the depot lost the allocations of 15, 16, 26, 28, 29 and 32 class engines and became a bank-engine depot with the Standard Goods engines on allotment.

By March, 1930 the allocation to the depot included the following:
5120 5122 5166 5174 5176 5177

In December 1930, the last 32 class 4-6-0 left the depot, and Murrurundi became exclusively a Standard Goods depot for bank engine working.

Typical transfers and allotment changes which took place during the next three years included:

- September 1932
  - 5120 MDI to Port Waratah
  - 5122 MDI to Port Waratah
  - 5007 Port Waratah to Murrurundi

- March 1933
  - 5112 Port Waratah to Murrurundi (exch. with 5101)

- June 1933
  - 5104 Werris Ck to Murrurundi (in lieu of 5192)

- July 1933, engines 5110 and 5156 were placed in storage at Murrurundi, and remained there until June 1937, when they were then hauled dead to Eveleigh Workshops for stripping. This move took place four months after the depot had lost its work-

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**Table 1**

<table>
<thead>
<tr>
<th>January 1917</th>
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<tbody>
<tr>
<td>D335 (1626) Ev. Shops to MDI (release 1603)</td>
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<tr>
<td>T560 (5032) MDI to Port Waratah (transferred)</td>
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<td>T570 (5042) MDI to Port Waratah (transferred)</td>
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<th>February 1917</th>
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<tr>
<td>B315 (2552) MDI to Hamilton (release 2529)</td>
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<tr>
<td>J131 (2801) Ev. Shops to MDI (replace 2903)</td>
</tr>
<tr>
<td>J133 (2802) Ev. Shops to MDI (replace 2908)</td>
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<td>J135 (2803) Honesuckle Shops to MDI (replace 2552)</td>
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<th>March 1917</th>
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<tr>
<td>I1400 (2618) Ev. Shops to MDI (replace 2605)</td>
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**Table 2**

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<th>March 1919</th>
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<tr>
<td>D276 (1616) Honesuckle Shops to MDI (additional)</td>
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<th>March 1923</th>
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<td>TF939 (5301) Ev. Shops to Murrurundi (exch. with TF967)</td>
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<th>June 1923</th>
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<tr>
<td>J523 (2807) Ev. Shops to Murrurundi (exch. with J132)</td>
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<th>August 1924</th>
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<td>1007 (old 137X, ex-J131 class) Honesuckle Shops to MDI (additional)</td>
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<th>May 1925</th>
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<td>1007 Temora to MDI (exchange with 1009)</td>
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ing allocation of locomotives, in February, 1937. In November 1933, 5104 was also placed in storage at Murrurundi loco, but in December 1936, was sent dead to Eveleigh Works and returned to service.

On 31 July 1933, the allocation to the depot stood at six of the 50 class 2-8-0 goods engines and during the next four years, the number of engines working out of the depot remained fairly static.

In November 1933, a 30T class was loaned to the depot from Werris Creek but returned to its home depot the following month.

In mid-1934, five of the 50 class were allocated there, by 1935 this had increased to six, and by the start of 1936, one saturated 50 class, and five saturated 53 class were working from this depot.

Toward the end of 1936, four engines were work-

**Above:** Once a common sight on the NSWGR, double TFs: bank engine 5485 assists train engine 5481 up the 1 in 40 grade toward Ardglen tunnel on No.86 goods on 30 January 1965. R.D. Love

**Right:** A few seconds after this photograph was taken on Australia Day, 1960, bank engine 5452 detached from train engine 3530 on the up main line at Murrurundi, and headed for loco. Train No.22, the up Northern Tablelands Express was an eight-car, 348 ton load and was regularly assisted from Willow Tree to Murrurundi. R.T. Clarke
A wet and gloomy day in Murrurundi, 7 December 1963, and bank-engines 5362 + 5433 + 5465 return light-coupled from Ardglen after assisting or pushing down trains. The engines will proceed to nearby loco for servicing and prepare for more work later in the day.

G. Pegg

ing from there: one superheated 50 class, two saturated 53 class, and one superheated 53 class engine.

In December 1936, engines 5119, 5306, and 5415 were transferred to Broadmeadow, but remained at Murrurundi on loan until replaced by engines of the same class.

Each month, at the Locomotive Officers' Conferences (a series of meetings held by senior Mechanical Branch officers), a table was presented titled “Number Of Engines Counted Working In Each District” and it sets out the precise types of locomotives available and working for each of the Locomotive Districts in the state. By the middle months of 1937, Murrurundi Locomotive District had “nil” locomotives counted working.

In February 1937, the last locomotive, 5322, transferred away from Murrurundi to Port Waratah depot. Steam locomotives never returned on official allocation to this depot, all bank engines in subsequent use being based at either Werris Creek or Broadmeadow, particularly the latter.

Murrurundi station around mid-day and No.23 Northern Tablelands Express hauled by 3522 at the head of an eight-car, air-conditioned RUB set has arrived on the scene. Murrurundi banker 5189 attaches in the lead whilst the train engine takes water. The banker detached at Ardglen as usual, but on occasions the assistant engine continued on to Willow Tree. A few years earlier, this train was assisted from Singleton to this point by a 32 or 35 class, which was replaced by a Murrurundi banker for the trip up the range. The Singleton engine then turned, serviced and returned to its home depot. By the late 1950s, a few extra minutes running time were allowed, thus doing away with the Singleton banker.

M. Farrell
Goods trains were assisted in the rear on both sides of the Liverpool Range. Train engine 3614 at the head of No.310 wheat approaches Kankool whilst bank engine 5242 assists at the rear of the brakevan on 19 December 1964.
R.D. Love

Bank engine 5242, on the same train, puts on a good display approaching the crossing loop of Kankool.
R.D. Love

In the 1950s, all classes of Standard Goods engines (50, 53 and 55 class) were used as bank engines, but from the late 1950s until closure in the mid-1960s, only 53 and superheated 50 class were to be found there. Small-tendered 50 class were commonplace and as many as 7 or 8 engines could be shedded in the old depot at any one time, especially in wheat and stock times.

In the late 1950s, four engines were stationed at Murrurundi depot for bank work, being 5037, 5143, 5149 and 5254, but officially they were still allocated to Enfield or Broadmeadow.

On 29 January 1964, at the height of the 1963/64 wheat season, locomotives 5192, 5345, 5439 and 5483 were in the shed, with 5032 and 5242 out on the road on bank work. This represented a typical line-up during visits at that period of time. In the mid-1960s, with increased dieselisation and more through loads, the number of Standard Goods engines working as bankers declined, and in the winter of 1965, coal-burning 59 class joined in. These were Broadmeadow-based engines, but came down from Werris Creek, performed a few banks, then returned to Werris Creek. It was usual to find one (sometimes two or three) on bank work at any one time. Also during the winter of 1965, Locomotive Inspectors arrived in Murrurundi to commence crew training of the local men in the operation of the 48 class diesel-electrics. For a period in mid-1965, the 48 class and the 59 class shared the banking jobs on both sides of the range. The 59 class did not remain in the area long as bankers and by late 1965, Werris Creek-based 48 class took over this work. Full use of the diesel-electrics on both main line and bank work followed in 1967, and steam locomotives never returned to the old depot.

Crews.
As in the case with
locomotives, the precise number of men working out of a depot in those far-off days is difficult to obtain, mainly through lack of accurate documentation. Again it is necessary to turn to previously published information, in particular A.R.H.S. Bulletin of November 1968, where an article by K.T. Groves relates the history of retired Murrurundi engineman, Percy Budden. Mr Budden joined the locomotive staff at Murrurundi in 1901, moving on to Wellington depot in 1912. “The main depots on the main northern line were then at Hamilton, Murrurundi, Armidale, Tenterfield, and Narrabri West. Werris Creek was only an out-depot of Murrurundi and had approximately 4 sets of men with regular jobs, and an allotment of 4 engines... In addition to drivers and firemen, Murrurundi had a Steam Shed Inspector, a Leading Fitter and Leading Boilermaker, fitters and boilermakers, and a full running shed staff, necessary as all trains changed engines for the run north.”

By 1904, the depot was noted as being under the supervision of Steam Shed Inspector E. Fletcher. Staff promotions noted in Weekly Notices of 1912 saw the appointment of the then Murrurundi Inspector J. Little to a similar position at Penrith depot, his place being taken by Mr. G. Watson, former Inspector from Junee depot. By May, 1920, the depot was under the Control of Steam Shed Inspector W. Jarman, but a few weeks later, the senior position in the depot was reclassified to that of Fitter-In-Charge. It is assumed the changing status of Werris Creek depot, which became the principal depot in the north of the state, would have had some influence on the alteration.

The status of the Officer-in-Charge of the depot changed again a few years later. The 1930 Local Appendix (North) notes the Steam Shed Inspector as Mr. G. Lesmond, his sphere of responsibility then being locomotives working in the area bounded by Muswellbrook in the south, Willow Tree in the north and the Muswellbrook to Merriwa Branch.

From the 1940s through to the 1950s, the number of men working out of Murrurundi depot varied between 20 and 45, depending on seasonal traffic. This traffic (wheat, wool and livestock) was affected...
by good or bad seasons, and droughts and just as the seasons governed the traffic flow, so the work in the mainline depots (e.g. Werris Creek) was affected. The crew numbers in the bank-engine depots were also adjusted to suit the need. Of course, the opposite applied sometimes, with insufficient local men to cover minor peaks in work and then, men from either Werris Creek or Muswellbrook were used as bank crews.

During the last twenty years of operation, average crew numbers were made up as follows:
- a working District Locomotive Engineer
- a chargeman on 'back' shift.
- 10 drivers
- 10 acting drivers
- 10 firemen
- 5 cleaners
- 1 fuelman
- 2 shed labourers

Fitters and boilermakers were not normally 'on the strength' of the depot, so the working District Locomotive Engineer, assisted by one of the shed labourers, carried out any running repairs on locomotives as required. If more substantial repairs were needed, fitters or boilermakers came from either Werris Creek or Broadmeadow depot.

Similarly, no storemen or call boys were employed in the depot during the last twenty years, one of the shed labourers doing the store work (preparation of kits, etc.), attending to the cleaning and preparation of the respirators, and performing some crew calling duties on the day shift. Both of these men also did loco yard cleaning and some gardening if needed.

During the last thirty years as a steam depot, the Murrurundi men were qualified for the Standard Goods engines (50, 53 and 55 class), and toward the end the 59 class and then the 48 class diesels.

When the bank engine was required back in Murrurundi, it often assisted the train engine of an up train by leading through from Willow Tree. On 29 January 1964, 5439 assists coal-burning 5912 on No.310 wheat near Ardglen. Note the first vehicle, an unladen KF four-wheel flat wagon, with about 500 tons of load trailing it. The other bank engines in service on this particular morning were 5483, 5192 and 5345.

R.D. Love

All cleaners were acting firemen and carried out fueling duties, some calling of crews, and firing in seniority order. To quote a long-time Murrurundi driver: "The cleaners had quite a hard job, fueling engines by shovel from either S trucks or the coal stage, unloading coal from trucks onto the coal stages, raking out ash-pans, cleaning smokeboxes, shovelling down tenders of all down mail trains and some goods trains. It was not unusual for the engine on a down goods train to cut off on arrival at Murrurundi and go into loco, there to have the tender topped up with coal after the long slog from Broadmeadow".

"On the day work, a shed-fireman and his mate signed on at 6.05am, and had to do the rostering of the crews, engine preparations, shunting in loco, as well as perform the occasional assist job."

On 20 August 1966, the remaining Murrurundi men (9 enginemen and 1 shed labourer) were transferred to other depots (such as Taree, Broadmeadow and Port Waratah) bringing to an end seventy years of locomotive enginemen in the town.

Working.

Referring again to notes published in A.R.H.S. Bulletin, September 1941, it can be seen that in the final years of the last century, Murrurundi was an extremely busy and important railway centre. The District Office, the headquarters for the administration of the railways in the northern area, was located there from 1896, and as well it was the main centre of locomotive activity. Most trains changed engines, especially goods trains, pilot and push-up engines were supplied for the climb over the Liverpool Range (both sides) and Murrurundi also supplied the bank engines used for pushing up the grade north of Werris Creek, this latter place only being a small junction town at the time. Apart from this, on 6 May 1895, bank-engine working for
down trains was introduced between Wingen and Murrurundi, and Murrurundi depot supplied the engines.

Weekly Notice of May 1895 issued Special Instructions regarding rear-end banking of down trains from Wingen, especially the situation whereby the banker remained behind the van of the train after passing the top of the grade and ran downhill toward Blandford and along the near-level sections to Murrurundi, still behind the train. When a bank-engine was required, the station master at Singleton was to inform the SM Murrurundi of the need for a bank-engine for a particular down train. The SM Murrurundi then arranged for a bank-en-

**Above:** Coal burner 5901 at the head of a load of superphosphate (No. 237) waits in the loop at Ardglen to cross No. 380 goods coming the other way with 5192 assisting 3654. The bank engine which had pushed 5901 from Murrurundi has crept down behind the van of No. 237 goods and waits for further instructions.

R.D. Love

**Right:** Winter of 1965 and there is a 'new kid on the block'. Train engine 5268 gets a much needed push up the rising 1 in 40 grades near Pangela by coal-burning 5913. The train is No. 187 goods and the date is 31 July 1965.

R.D. Love
engine to depart Murrurundi and proceed to Wingen. He also advised all stations along the way as far as Scone of the time of the additional light engine proceeding to Wingen. A matter of a few days after the above instructions were issued, a set of Supplementary Instructions was issued covering the requirements of the use of Westinghouse-braked equipment on these trains, and also permitting the assistant engine to go on the front of the train from Wingen. These instructions also advised that “A passenger engine will be sent from Murrurundi to Wingen attached to No.8 passenger to meet No.63 down goods train at the latter station. This engine will assist No.63 in the rear to Blandford, then remain at Blandford until No.63 has reached Murrurundi, and permission has been given for a tablet (single line token) to be withdrawn for the engine to follow. As this light engine will be running tender-first from Blandford to Murrurundi, the speed must not exceed 15mph over any portion of the line.” From this, it can be seen that the rear-end assistance from Wingen to the summit of the grade at Blandford was carried out with tender-first engines.

The above working was short-lived, and on Saturday 26 October 1895, a bank-engine key was introduced on the Wingen-Blandford section. This permitted a push-up engine to assist in the rear up Warlands Range from Wingen to (old) mileage 111 at the top of the heavy grade and to return light to Wingen.

In the late 1890s, an I class 2-6-2 tank was noted as the push-up engine. It is also of interest to note the I class, as well as the J131 and J522 class 2-8-0s were used on the local branchline out to the shale oil works from Temple Court, near Murrurundi.

On 17 May 1900, a 50 foot (15.5m) diameter turntable was installed at Wingen, and by 1902 an elevated water tank and a coal stage had been added, obviously to service the bank engine. The importance of Wingen to the operation of northbound freight trains was noted in the July 1919 issue of NSW Railway and Tramway Magazine: “Wingen is a small but picturesque town on the main northern line, 206 miles from Sydney. It is rather scattered, the chief buildings being a School of Arts, Post Office, store, public school and two churches (Anglican and Roman Catholic). ... The railway station, although small, is a busy one, the officers being kept active dealing with push-up engines, or reducing trains, etc.”

By 1917, all T and TF (50 and 53) class goods engines were in service (470 engines in total), and through working of these Standard Goods engines between Hamilton and Werris Creek commenced. In February 1924, the Wingen bank-engine was dispensed with and through goods loads and times were issued, set out in the Weekly Notice No.5 of that year.

The prime purpose of Murrurundi depot from the 1920s onward was that of a bank-engine depot, supplying men and servicing the locomotives which assisted down trains from Murrurundi to Ardglen, and up trains from Willow Tree to Ardglen. This working involved long 1 in 40 grades to the summit in Ardglen Tunnel.

Precise details of the bank engine working over this difficult section of the main northern railway are contained in Robert Booth’s article “Byways Of Steam - Murrurundi”, which deals with bank engine operation, servicing of locomotives at Murrurundi and Willow Tree, traffic patterns and the safeworking system in operation. It forms a valuable complement to these notes.

By the 1950s, a crew would do an average of four banks in a single shift, sometimes only three, and at other times, as many as five or six. Each down banking job consisted of either assisting a down passenger train in the lead from Murrurundi to Ardglen (sometimes continuing on to Willow Tree) or pushing a down goods in the rear from Murrurundi to Ardglen.

An up bank job usually meant assisting passenger or goods trains in the lead from Willow Tree right through to Murrurundi or pushing goods
Left: The guard of No. 187 goods is more intent on watching the photographer than the bank engine just a few feet behind the van. The banker, 5913, was replaced by 4861 later on that day.

R.D. Love

Right: Same day, same train: No. 187 goods went into the loop at Pangela to cross No. 420 meat express from Tenterfield and when the staff for the Pangela - Ardglen section was handed over, the fireman on 5268 showed all present what pollution was all about. Coal burner 5913 shared in the action at the rear of the train.

R.D. Love.

trains in the rear from Willow Tree to the summit of the grade at Ardglen Tunnel.

A long-time Murrurundi driver recalls: "To my knowledge, six banks on a shift was the most, and we quite often did that many. In my days as a fireman, (late 1940s) we had one job where you signed on at 8.41pm, assisted No. 17 Brisbane Express out of Murrurundi, through to Willow Tree, assisted No. 8 up North West Mail back to Murrurundi, assisted No. 7 down North West Mail back to Willow Tree, assisted No. 12 up Glen Innes Mail back to Murrurundi, pushed No. 67 down goods out of Murrurundi to Ardglen, continued light-engine on to Willow Tree, and then finally assisted No. 18 up Brisbane Express back to Murrurundi, to finish. In that shift, you covered 90 miles (144km), coupled up five times, uncoupled five times, took water five times, turned the engine five times, shovelled down whenever possible (all small tenders in those days), grabbed a cup of tea 'on the run', and got just under 9 hours pay for the shift.” With changes in traffic pattern and timetable alterations, the regular sign-on times later became:
- 8.41pm assist No. 17 down Brisbane Express
- 10.57pm assist No. 7 down North West Mail
- 3.57am assist No. 13 down Glen Innes Mail
- 12.57pm assist No. 23 down Northern Tablelands Express

The assistance of the last-mentioned train (No. 23 Northern Tablelands Express) is interesting. In the early 1950s, this train ran to an accelerated timetable (eight-car, air-conditioned RUB set, 348 ton load) and was assisted from Singleton to Murrurundi by either a 32 or 35 class engine with a Singleton crew. The assistant engine was replaced in Murrurundi by a Standard Goods banker and Murrurundi crew, the Singleton crew and their engine returning to Singleton.

All other banking jobs varied as traffic flow dictated. Crew sign-on times were ‘laid-back’ or ‘lifted-up’ as trains ran out-of-course, early, or seriously delayed due to missed crossings on the single line sections. Apart from the continual bank work, Murrurundi men knew the road on the mainline through to Werris Creek in the north and Muswellbrook in the south. In time of drought, Murrurundi men would work water trains to Quirindi and return, or to Scone as required, and would be used on mainline work when the men could not be fully employed in the depot due to insufficient bank-work duties.

Going away to barracks was not a normal part of Murrurundi’s work: “On occasions, we would sign on at Murrurundi, bank two or three trains, change over on to a through train and go to Werris Creek, where we would go into barracks. After resting
there, we would then sign on again, work a through train to Muswellbrook, into barracks there, rest, sign-on and work another through train back to Werris Creek. From there, we then went 'home passenger'. In 19 years at Murrurundi, I only did this job three or four times."

The Standard Goods engines of the 50 and 53 class (and 55 class prior to the 60s) were the normal bank engines over the Liverpool Range for more than 40 years. Other classes of steam locomotives had been used up until the 1920s, when a fatal accident saw the banning of all other types of engine as bankers, and the then-powerful Standard Goods 2-8-0s took over exclusively. The fatal accident happened 'around 1920', when a P(C32) class was being used as a push-up engine and it slipped badly at the tunnel, causing the train engine to stall in the tunnel. The crew on the train engine passed out due to heat, fumes and gases, the train ran away and turned over on the heavy falling grade toward Willow Tree, with the fireman on the train engine being killed. As a consequence of that incident, only the Standard Goods engines were then used as bankers.

On odd occasions, problems with train running or the location of bank-engines meant that a suitable Murrurundi engine and crew were not available to assist a Mail train over the range and so a nearby train engine and crew were deputed to do the assist job. Naturally, the train engine crew would think of all sorts of excuses to get out of this job (shortage of coal, not qualified for Mail working, etc.), but all to no avail. After assisting the Mail, they returned to their train and continued on their way.

With the winding down of the depot and the servicing facilities in 1965, the use of Standard Goods engines declined, and the coal-burning 59 class engines arrived on the scene. Up to two or three of these 2-8-2 goods engines could be found working out of the old depot, with its run-down facilities and, to quote a driver "We still had a driver-in-charge at Murrurundi, a fuelman and a shed hand or two around the depot, and the engines usually stayed around for a few days."

As the statewide drought really took hold into 1965, traffic fell away and the need for bank-engines fell away with it. More of the depot staff were moved on and the working of the bankers changed again. The coal-burning 59 class (or the occasional 50 or 53 class) would be fully coaled in Werris Creek, then work down to Willow Tree, work the bank jobs over the range until the tenders needed recoaling. Then they worked back to Werris Creek and were replaced by a fresh engine. "When a bank crew was relieved, the fresh crew had to let Control know how the coal situation was and Control would then arrange to get a new engine down for bank work as the circumstances permitted."

By the end of 1965, the steam locomotives had departed from bank work, and the 48 class diesel-electrics took over.

**General Notes.**

Recognition for good work is usually rare. At the Locomotive Officers' Conference on 17 March 1910, with C.M.E. Thow in the chair, a travelling inspector reported engine P854 from Murrurundi shed as "being kept in a very creditable condition, due chiefly to driver McCullum." Mr. Thow directed that a letter of commendation be written to him. In 1913, the same engine, P854 hauled the official train to open the railway into Taree. This engine later became 3344.

As previously stated, Murrurundi depot was opened in September 1891, and in October 1912 the then recently appointed Chief Mechanical Engineer, E.E. Lucy, signed a drawing giving authority for the fabrication and fitting of depot plates (then termed 'barge plates'). Old steam depots like Murrurundi figured prominently on the list of plates to be made. At the time, Murrurundi was given the depot number of 9, and seventy-five brass 'barge plates' bearing the number and name '9 Murrurundi' were authorised to be cast and fitted
The 48 class were making appearances as bank engines in mid-1965 and continued in that duty up until the mid-1980s. On 31 July 1965, 4861 assists 5362 on No.86 up goods near Kankool. R.D. Love

to the engines allocated there. (Obviously, only 10 or 12 of these plates would have been required at any one time, thus giving 60-odd spares to be fitted when needed.) A few short years later, Werris Creek depot assumed the depot number 9, and Murrurundi became depot No.18, and both cast-iron and brass plates were noted for depot No.18. The time of this change in depot number is not certain, but it is possibly linked to either one or both events, whereby, in 1926, the District Superintendent was transferred to Werris Creek from Murrurundi or when Werris Creek depot was enlarged. In 1917, a new roundhouse was completed there and it took over from Murrurundi as the headquarters for locomotive operations in the north-west and north of the state. Murrurundi became a sub-depot of Werris Creek with the opening of the latter (perhaps explaining the change in depot numbers), all administrative decisions being made by the parent depot some 36 miles to the north. It is of course possible that in fact no '9 Murrurundi' plates were ever cast, for, of the theoretical 75 plates originally called for on the drawing, none has ever been seen by the 10 or 12 known collectors of depot plates.

The 'writing was on the wall' for Murrurundi depot when, on 18 June 1917, through working of locomotives between the Newcastle area and Werris Creek commenced. The event warranted mention in the NSW Railway and Tramway Budget, the staff magazine of the day. "Instead of the old arrangement, which provided for engines and crews being changed on practically every train, the system now adopted allows of trains being worked through by the one engine. This has been made possible by the large numbers of new engines of the T and TF class which have been put into use for this service.

"With the changing of the trainmen at Muswellbrook instead of being relieved at Murrurundi and Singleton, as hitherto, a better day's work is provided, which will be appreciated by the men on the running staff, and at the same time prove an economical arrangement so far as the Department is concerned.

"To meet the altered conditions, extensive changes have been made in the personnel of the staff and in the allotment of trainmen, engines, etc."

On 31 March 1926, the Office of the District Superintendent was transferred from Murrurundi to Werris Creek. It had originally been located at Tamworth, and was established in Murrurundi on 17 September 1896. Murrurundi had therefore been the administrative centre for traffic operations for the whole of the north of the state for 30 years. With the opening of new branchlines in the north and north-west of the state, and resultant increases in traffic and business, Werris Creek became an important and busy junction and it was deemed more desirable to have the centre of supervision at the junction of the two major lines in the north. With the increase in size of Werris Creek both from a traffic and locomotive viewpoint, Murrurundi was no longer the major railway centre.
In the early days of 48 class bankers, training of the local Murrurundi men in their operation was of prime importance. It was usual for the 48 class engine to be marshalled leading (rather than rear-end banking) on both up and down trains. Rear-end banking with the diesels was brought in a little later on. Bank engine 4861 assists 3521 out of Murrurundi early one morning in 1965, on a down goods. J.S. Glastonbury

One of the important and regular duties performed by the shed men at Murrurundi was the cleaning and sterilisation of the sets of respirators used over the range by the train crews. Respirators were used at Murrurundi for more than 40 years. In the later steam days one estimate is that 30-40 sets were available for use. All had to be cleaned and prepared for use by train crews and be readily available at any time. All bank engines were issued with them and all through train crews picked up a set. After passing through the tunnel, on the down, the train-engine crew dropped them off at either Ardglen or Willow Tree, to be returned to Murrurundi depot for cleaning. Like many interesting items of equipment associated with the operation of steam locomotives, these relics have faded from the scene. However, the necessity of providing fresh air for locomotive crews working diesel-elctrics through confined tunnels has not faded away. It is still a requirement for breathing devices to be available for diesel crews in certain circumstances. The subject of respirators and their successors will be the topic of a future essay.

As stated in the section dealing with crews, Murrurundi ceased being a railway town near the end of 1966, when the remaining enginemen were transferred away to other depots. It is true to say that traffic employees, such as station staff and signalmen together with some fettlers, remained in Murrurundi for a time after that date, but once loco had gone, the town became just like many others, and was on the decline as a railway centre. Some men had a long association with the town and the railway. Local schoolboys joined the railway at the local locomotive depot, in the railway yard or on the station and spent their entire working lives there. In a railway town like Murrurundi (others come to mind, like Werris Creek and Junee) it is the main employer, and the demise of the local locomotive depot had a devastating effect on the town, especially when men with 25 and 30 years of service, too young to retire, are required to move to other locations, perhaps many miles distant. In that situation, men have to remove their families from the town, in some cases where their relations remain as residents, take the children out of school and make a new home hundreds of miles away. The move is not voluntary, nor are there increased grades or finan-
Most (but not all) trains were assisted over the range, but the severe drought of late 1965 (and lasting into late 1966) saw a dramatic reduction in traffic flow in the state, including the main north. As a result, a lot of trains were well under the maximum load for the climb. 5376 leads No.245 goods toward Pangela Loop, the load of S, four fuel tankers, S and PHG van meaning the old TF is just a few tons short of requiring assistance over the 1 in 40 grades on 6 November 1965.

R.D. Love

cial incentive, but is essential in order to retain one’s seniority and current position. This occurred in the case of the old depot of Murrurundi and the men were required to start a new life away from their home town.

A last remnant of Murrurundi locomotive depot is, at present (1991), the subject of some historical debate. The last remaining elevated water storage tank, a 40,000 gallon cast-iron standard style, fitted with a cover and situated on the hill overlooking the site of the depot, is no longer required for town water supply purposes. The tank was handed over to the Murrurundi Shire Council some years ago by the railway administration to assist with local supply, but the Council now have no use for the tank. State Rail has now advised the Council of its intention to demolish the tank. The Murrurundi Historical Society has announced plans to have this last local landmark preserved.

Epilogue.

The old depot of Murrurundi has long closed, both from a locomotive and crew viewpoint, it being more than twenty years since the loco sidings were placed out of use. The site is overgrown with weeds, it is difficult to imagine it as being one of the most important in the state and to appreciate the intense locomotive activity which once took place there, 24 hours a day, 7 days a week for more than 70 years. Similarly, it is hard to visualise the headquarters for the main north being located near Murrurundi station. The old, but well preserved station building now stands unattended, an almost unbelievable circumstance.

The bank engines still operate over the Liverpool Range: usually three modified 45 class diesel-electrics (called 35 class), working as a multiple-unit, come down regularly from Werris Creek, push or assist a through train in the up direction and return to the Creek.

Progress and modernisation are intended to bring efficiency and the current methods in use over the Liverpool Ranges echo that ideal, but it is hard to forget the sights and sounds of three old Standard Goods 2-8-0s labouring on the 1 in 40s in the freez ing night air near Ardglen so many years ago.
Above: The line between Newcastle and Maitland is relatively flat, requiring road and pedestrian bridges to be the overhead type. This caused difficulty for train crews sighting certain signals and a number of inverted bracket signals were used to overcome the problem. The up main starting signal at Tarro was a well-known example. 3246 with the morning passenger train from Singleton to Newcastle sets out of Tarro in the late 1960s. Note the finial and counterweight on the bracketed doll.

R.K. Booth

Left: The old Hume Highway overbridge south of Yanderra made the sighting of the upper quadrant signal at mileage 69.0 difficult and necessitated an inverted bracket structure. This example is a steel fabricated type. Note the guy wires which stabilise the structure.

P.C. Booth

Above Right: 6024 heads a coal train from Glenlee to Rozelle and is passing through Campbelltown yards where an inverted bracket signal was located for southbound trains. This example has the counterweight fixed to the main post. A 1:1 balance lever whose fulcrum was bolted to the centre of the bracket face transmitted movement to the signal arm. A smaller casting supports the bracket.

R.K. Booth
The clear sighting of signals has always been a priority of the signal engineer. Tall posts, posts on top of cuttings, signal gantries and bracket signals are a means of providing an unambiguous indication with sufficient distance for braking should the signal be at stop. Overhead bridges, station awnings and tunnels are awkward obstructions to deal with and the inverted bracket signal (or 'hanging signal' as some people unofficially call them) was devised to ensure a good line of sight. The locations of inverted bracket signals are often remembered for the odd reason that their use was the exception rather than the rule.

Inverted bracket signals on the NSW Railways showed quite a number of detail variations from the general pattern, despite the small number of examples used. These variations include wooden or steel posts and dolls, type of support to the bracket, use of finial, position of the lever plate and counter weight. Most inverted bracket signals on the NSW Railways were designed for mechanically-operated, lower quadrant semaphores, but a few employed motor-driven, upper quadrant arms.

The earliest and most common type of inverted bracket signal used wooden post, bracket and doll. (The doll is the shorter post which had the signal arm attached.) Support for the bracket extension was made using an ornamental iron casting bolted underneath. Several varieties of casting were used, but there was nothing exceptional about this, since the same practice could be seen among ordinary bracket signals. The variations in the bracket castings can be traced back to the days when the British signal engineering firm of McKenzie & Holland were the main suppliers to the NSW Railways.

Plans issued in 1928 by the Signals and
## Location of Inverted Bracket Signals

<table>
<thead>
<tr>
<th>Place</th>
<th>Date</th>
<th>Designation</th>
<th>Obstruction</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacktown</td>
<td>1920</td>
<td>No.34 Up Second Home Mainline</td>
<td>Footbridge</td>
<td>Removed about 1954.</td>
</tr>
<tr>
<td>Bowning</td>
<td>??</td>
<td>No.4 Down Third Home Mainline No.7 Down Refuge to Mainline</td>
<td>Road overbridge</td>
<td>Renewed recently using a steel fabricated structure.</td>
</tr>
<tr>
<td>Bundanoon</td>
<td>1959</td>
<td>No.5 Down Starting</td>
<td>Road overbridge</td>
<td>Subsequently moved forward and replaced with a short straight post.</td>
</tr>
<tr>
<td>Campbelltown</td>
<td>1919</td>
<td>No.3 Down Second Home</td>
<td>Footbridge and tank</td>
<td>Removed late 1960s.</td>
</tr>
<tr>
<td>Goulburn</td>
<td>1914</td>
<td>No.3 Down Home Main</td>
<td>Footbridge and station awning</td>
<td>Operated by Goulburn South Box. Removed.</td>
</tr>
<tr>
<td>Hawkesbury River</td>
<td>1941</td>
<td>36.3 Down Automatic Hawkesbury River Bridge</td>
<td>Long Island Tunnel Hawkesbury River Bridge</td>
<td>Down signal north of tunnel mouth. Upper quadrant.</td>
</tr>
<tr>
<td></td>
<td>1928</td>
<td>36.2 Up Distant</td>
<td>Hawkesbury River Bridge</td>
<td>Upper quadrant.</td>
</tr>
<tr>
<td>Hercules Street Jct. (Metropolitan Goods Lines)</td>
<td>1915</td>
<td>See text</td>
<td>Road overbridge</td>
<td></td>
</tr>
<tr>
<td>Kogarah</td>
<td>c1913</td>
<td>No.3 Down Starting</td>
<td>Footbridge</td>
<td>Removed early 1920s.</td>
</tr>
<tr>
<td>Sandgate</td>
<td>1925</td>
<td>No.16 Up Starting Main No.30 Up Starting Coal</td>
<td>Overbridge</td>
<td></td>
</tr>
<tr>
<td>Tarro</td>
<td>1946</td>
<td>No.11 Up Starting Main</td>
<td>Overbridge</td>
<td></td>
</tr>
<tr>
<td>Wyong</td>
<td>1912</td>
<td>No.29 Up Starting</td>
<td>Footbridge</td>
<td>Moved forward in 1937 and replaced by a straight post.</td>
</tr>
<tr>
<td>Yanderra</td>
<td>1948?</td>
<td>69.0 (mileage)</td>
<td>Overbridge</td>
<td>Steel fabricated structure. Upper quadrant automatic.</td>
</tr>
</tbody>
</table>

### Principal Dimensions of Inverted Bracket Signals

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height to top of bracket</td>
<td>25'0&quot;</td>
</tr>
<tr>
<td>Height above rail level to centre of signal arm</td>
<td>16'6&quot;</td>
</tr>
<tr>
<td>Length of bracket (1928 braced type)</td>
<td>7'3&quot;</td>
</tr>
<tr>
<td>Distance of post centre from left-hand running rail</td>
<td>6'6&quot;</td>
</tr>
</tbody>
</table>

**Above Right:** A wooden main post and a tubular steel doll were used in the construction of this inverted bracket signal at Hawkesbury River. The signal is an electric motor-driven, upper quadrant type whose weight required additional bracing from the top. S.R.A.

**Right:** Sandgate had quite a variety of semaphore signals including two inverted bracket type, numbered 16 and 30.
SANDGATE
1937

Signal Box
This well-known photograph of 5701 returning tender-first from its trial run to Penrith in 1929 shows how close the inverted bracket signal comes to the structure or loading gauge. This particular example was located at Blacktown and has the post and doll no higher than the bracket itself. S.R.A.

Telegraph branch revised the structure of the inverted bracket signal for any new manufacturer. A wooden post was retained but the bracket consisted of two horizontal steel channels bolted to either side of the post. Support for the bracket was given by a simple brace on the underside. An amendment on the drawing allowed for an alternative brace for the bracket to be fixed on the upper side but this required the post to be extended well above the bracket itself. In either case, 6" diameter tubular steel was used for the doll.

The use of finials seems to be the most inconsistent, as the accompanying photographs show. Some drawings have finials for both post and doll, but most examples in practice had no finials at all. Where the wooden post and doll were cut off to be little higher than the top of the bracket, no finial was used since the thickness of the timber there was too wide to accommodate a standard finial. Both the post and doll were cut on a taper and cutting them short to reduce their length produced the increased width. Instead of a finial, a simple cap fashioned out of sheet galvanised iron was substituted to protect the end grain of the timber. Admittedly, a tall finial

Hercules Street Junction
The home signal for the divergence of lines confronting down trains coming from the Rozelle end was located in a cutting between two closely spaced brick overhead road bridges - New Canterbury Road and Hercules Street. Good sighting dictated underhung signal arms fixed to a structure which could be described more correctly as a half signal bridge.

The designations of the signal arms shown in the accompanying symbolic diagram were:

- **18H** - Home, Glebe Island to Up East Fork
- **17W** - Up Distant, East Fork
- **21H** - Home, Glebe Island to Down West Fork
- **9W** - Down Distant, West Fork
- **H** - Hercules Street Box
- **W** - Wardell Road Box
makes a signal marginally easier to see from a
distance, but since most of the structure of an in-
verted bracket signal was obscured from the driver
of a train until close distance, the use of a finial
served little purpose except for ornamentation. The
official drawing for the variation having a tubular
steel doll indicates a standard finial fixed to the top
of the doll.

The lever plate and counter weight fixture were
placed either on the main post or on the doll above
the signal arm. In the former case, movement to the
signal arm was transmitted by a 1:1 balance lever
whose fulcrum was bolted to the face of the horizon-
tal bracket. In the second case, pulleys guided the
signal wire from the main post to the doll. A chain
was inserted into the wire where it had to pass
around a pulley.

Access for tending to the lamp, cleaning the arm
and spectacle glass, and oiling the arm spindle was
provided by a platform or decking located beneath
the bracket. This platform was attached to both the
main post and the bottom of the doll.

The weight of the motor and assembly of an
electrically-driven, upper quadrant signal was
much greater than that of a mechanical signal. This
required additional bracing from the top of the
signal post down to the bracket. As was standard
practice for all bracket signals, stay wires were
attached to minimise sway and twisting in the wind.
The underhung doll and signal assembly came very
close to the ordinary structure gauge (loading
gauge) and actually would have encroached upon
the structure gauge of electrified lines. So inverted
bracket signals were not used for the latter.

In the normal context, an inverted bracket signal
consisted of a single doll with one signal arm. An
interesting extension of the inverted bracket struc-
ture having two underhung dolls with two signal
arms each was installed at Hercules Street Junction
in 1916. Hercules Street Junction was the original
name given to the northern fork of the triangular
connection on the goods lines near Dulwich Hill.
Initially, a separate mechanical interlocking called
Hercules Street Junction Signal Box operated this
connection. Subsequently, Wardell Road Junction
Signal Box controlled all forks of this triangular
Both the down mainline and refuge loop at Bowning have inverted bracket signals which stand side by side. The signal on the left applies to the loop and has its shorter arm mounted lower than that of the mainline signal.  

P.C. Booth

Even though the mechanical signalling at Bowning is earmarked for replacement by colour light signals, the condition of the mainline inverted bracket signal had deteriorated to such an extent that its replacement was imperative before the modernisation programme could be implemented. The substituted signal is the steel fabricated type.  R.A. Gallagher

Out-of-gauge steel loads from Port Kembla to Melbourne had to be worked clear of other traffic and the down refuge loop at Bowning was convenient for such moves. The loop signal has been cleared to allow 4498 and 42101 to regain the mainline and proceed on their way south with a steel train.  R.K. Booth
Today only three examples of inverted bracket signals remain on the NSW Railways—two lower quadrant examples at Bowning and an upper quadrant type near Yanderra, all on the main southern line. A policy of converting main line signals to colour light operation will see these examples become redundant before long.

The two tables accompanying this article show the principal dimensions and a list of known installations of inverted bracket signals. The locations did not all exist simultaneously because of changes to track and signalling arrangements over the years. They have been included for the benefit of readers whose interest in railways is local. The year indicated in the table is that of the date of issue of the track and signal circular specifying their use.

There were quite a number of detail variations between the inverted bracket signals despite the small number of them used on the NSW Railways. The pulley mounted on top of the bracket to guide the chain connecting the signal wire to the counterweight was unusual. Similarly, the diagonal brace under the bracket was not normally applied to wooden post and doll versions. The top of the doll has been specially cut to accommodate a cast iron finial of the squat pyramid type. The hole in the supporting bracket casting is the rarer scalloped version. Goulburn is the location of this scene with the signal set for the departure from the down platform of 4205 with 439a empty wheat on 25 January 1974.

Leon Oberg
Right: No.7 down North West Mail with nine cars is hauled up Eastwood bank by 3807 with a minimum of fuss on Thursday, 17 December 1959. Note the amount of sand deposited on the down line by struggling trains compared with the up line.

I. Wallace

Left: "What a sight and sound!" was the comment by the photographer on this scene of 3804 as it blasts through Denistone station at the head of No.31 Newcastle Flyer which departed Sydney at 5pm on weekdays. This train ran non-stop between Sydney and Newcastle and was wasting no time in its ascent of the 1 in 40 grade. Wednesday, 30 December 1959.

G.J. Hughes

Left: Right on the tail of the evening Flyer, a very clean 3813 storms the grade at Denistone station hauling No.31a Cessnock Express. Wednesday, 23 December 1959.

G.J. Hughes
The main northern railway line between Sydney and Newcastle has several adverse grades for down trains which taxed the capabilities of engines and crews, particularly in steam days. One of the toughest of these, and certainly the closest to Sydney, is the section of line between the Parramatta River crossing, at Meadowbank, and Hornsby, in which the line is raised from 47 feet above sea level at Meadowbank to 594 feet in 10 miles. While it is a more or less constant climb from West Ryde to Hornsby, there are two particularly stiff pinches, with grades as steep as 1 in 40 between West Ryde and Eastwood, and between Epping and Pennant Hills through the leafy northern suburbs of Sydney. In steam days, these were known respectively as Eastwood bank and Beecroft bank. The stretch of 1 in 40 grade, about 1 mile long between West Ryde and Eastwood railway stations is the subject of this article. Denistone railway station is located on this 1 in 40 grade, but was not opened until 1937, some eight years after electrification of the line to Hornsby. This meant it was not necessary for drivers of the S class suburban tank engines to test their skill in lifting down suburban trains from a stand on the 1 in 40 at Denistone. The S class engines (C30 class in 1924) provided the main motive power on suburban passenger services between Sydney and Hornsby from their introduction in 1903 to electrification of the line in 1929. Many a down suburban electric train still has difficulty starting out from Denistone station.

The historical development of “The Short North - The Sydney-Newcastle Link Railway” was covered by C.C. Singleton in an excellent series in the Bulletin of the Australian Railway Historical Society in 1965-66. In this series, Singleton referred to “the mile long Ryde bank of 1 in 40, which contours up the steep shale ridge to pass through the gap of ‘Denistone Cut’”. In my experience, however, this stretch of track was always known as Eastwood bank. According to Singleton, the section between Strathfield and Hornsby, 14 miles 13 chains in length, was opened for traffic on 17 September 1886. At the time of opening, the stations and platforms were: Ryde, Dundas (later Eastwood), Field of Mars (later Carlingford, then Epping), Beecroft,
This old photograph, by the late O.B. Bolton (J.L.N. Southern collection), shows relatively new S class tank locomotive No.1242 (3114 in 1924) ascending Eastwood bank in 1915. The location would appear to be between what is now West Ryde and Denistone stations.

Thornleigh and Hornsby. Only Ryde, Dundas and Hornsby were manned, the others being unattended. The line was a single track when originally constructed. Ryde was provided with a crossing loop and goods loop siding while Dundas (later renamed Eastwood) had a goods loop siding. Thornleigh was provided with a goods loop siding and, later, with a crossing loop.

The completion of the Hawkesbury River bridge in 1889 along with the opening of through train services to Newcastle and the subsequent increase in train running severely strained the capacity of the steeply-graded single line between Strathfield and Hornsby. As a consequence, the line between Strathfield and Hornsby was duplicated, being opened to Ryde on 1 June 1891, to Carlingford (Epping) on 25 January 1892 and to Hornsby on 7 March 1892. Following duplication, Meadowbank, Ryde, Eastwood, Carlingford (Epping), Beecroft, Pennant Hills and Thornleigh were provided with goods sidings and goods handling facilities while, between Thornleigh and Normanhurst, the National Brick Company's Siding and the New South Wales Malting siding (later Gonarro siding) were opened in 1902 and 1912 respectively. Each of these stations and sidings served developing communities, based substantially on rural produce including timber-getting and fruit-growing as well as manufacturing industry. Besides despatching produce, these goods sidings and facilities also received loaded goods vehicles, bringing provisions such as coal, machinery and other goods items much needed by the local community. At the time, road transport was still in its infancy and people needed to travel by train over any distance. Later, Ryde railway station was renamed West Ryde to distinguish the locality from Top Ryde.

After duplication, the section between Meadowbank and Hornsby was provided with two goods relief roads, namely an up relief, some 77 chains long, opened in 1909, between Epping and Eastwood and a down relief, some 33 chains long, opened in 1912 between Pennant Hills and Thornleigh. Prior to electrification in 1929, the level crossing...
An S class suburban tank locomotive at the head of six end-platform cars, comprising a down suburban service, has just departed Eastwood station and is heading for Epping. This old post card shows an Eastwood scene far removed from the present. The dam in the foreground on Terrys Creek is now the site of a road and sporting grounds.

**Below:** In this historic photograph, two P class locomotives are shown at the head of a down passenger train, having just passed through Eastwood station. The train is running over the embankment which spans Terrys Creek. The nine car train is composed predominantly of side loading “dog box” cars. It would appear that the photograph was taken prior to 1912 as there is no overhead footway at the station. 

at Rowe Street, Eastwood was closed and a pedestrian subway provided. Vehicular traffic was diverted to the rebuilt overbridge that connected First Avenue to Rutledge Street. The public goods siding at Eastwood was closed in February 1950.

Following World War II, a start was made on a scheme to provide four lines throughout between Strathfield and Hornsby. Much preparatory work was done between the Parramatta River and Epping but a shortage of funds caused work on the project to cease. As a temporary measure, a down relief line, some 76 chains long, was opened in June 1951 between Eastwood and Epping. At about the same time, the up relief between Epping and Eastwood was extended over Terrys Creek to join with the former goods siding at the rear of the up
platform at Eastwood. In 1958, this up relief was electrified, whilst substantial improvements to Eastwood station were made. These involved replacing the inconvenient overhead footway and offices, which had been in service since 1912, with a subway under the station buildings. The booking and parcels offices were relocated to the western side of the new station complex.

I lived the first 23 years of my life at Eastwood, my parents' home being located in Vimiera Road, less than 1 mile to the east of the railway line. From our front yard, facing towards the west, we had an interrupted view of the line through the trees between Eastwood and Epping and could certainly hear the trains, particularly when the wind was blowing from the west and south-west. My parents had each lived at Eastwood long before I was born and have told me of their experiences of steam train working near Eastwood prior to, during and after World War I. My mother, who was born at Eastwood in 1906, travelled regularly by steam train between Eastwood and Sydney to attend Fort Street Girls' High School, business college and then a city-based secretarial job. She remembers well the day in 1918 when her eldest brother arrived at Eastwood via a steam train from Sydney with the latest newspaper, thus informing many of Eastwood's residents of the end of World War I.

While I remember many experiences of holiday rail travel by steam on the northern line between Hornsby and Gosford in my early childhood years, it was not until I commenced my secondary education at Homebush Boys' High School in 1957, that I started taking an active interest in railways and steam working. In my daily travels to and from school I observed a great deal of railway working on the northern line between Eastwood and Strath-

field. I can remember standing on the old overhead footbridge at Eastwood station on many afternoons in 1957 and 1958 as I returned home from school, and viewing goods trains stopped at the signal on the up relief line near the northern end of the up platform. These goods trains were usually worked by 59 or 60 class engines.

I found Eastwood bank an ideal place for train photography, as it was easily accessible on my push bike and down trains were usually travelling relatively slowly, so that they were generally within the capacity of my camera with a maximum shutter speed of 1/200th second. Most of the steam action that I recorded on Eastwood bank took place between November 1958, when I obtained my camera, and January 1960 when, to my great disappointment, electrification to Gosford was opened. After electrification, there were regular, daily goods services to Hornsby and occasional light engine movements. However, no more could I stand in the front yard and hear the dramatic sound of a 38 on an express or mail train attacking the grade, or be woken in the middle of the night with the noise and vibration of a slow-moving Beyer-Garratt on a heavy goods, the occasional wheel-slip changing the exhaust note. Occasionally, the panes of glass in the front windows on the house would vibrate with the passage of a Garratt. Also gone was the distinctive, mournful sound of the whistle on a Baldwin (D59) as it moved up or down the grade.

One of the most enjoyable steam experiences was to stand in the front yard just before 5.20pm on weekdays and wait for the sound of the 5.00pm Newcastle Flyer, No.31, to become obvious from the south. This was the really fast down Flyer, which ran non-stop between Sydney and Newcastle, and always appeared to be in a hurry. Imagine, if you
On Friday, 8 January 1960, 3802 races the down evening Newcastle Flyer beneath the Marlow Avenue, Denistone road bridge. Soon 3802 and its crew will be feeling the effect of the 1 in 40 grade to Eastwood.

G.J. Hughes

No sooner has No.31 evening Flyer cleared the section than No.31a Cessnock Express comes on the scene. Here, on Monday, 21 December 1959, 3816 hits the 1 in 40 grade between West Ryde and Denistone, passing beneath the Marlow Avenue road bridge with the down Cessnock Express.

G.J. Hughes
The need to transport school army cadets to Singleton training camp at the start of the August-September school vacation caused additional “dog box” side loading cars to be added to No. 17 Brisbane Express via Wallan-garra on Monday, 24 August 1959. On this day it has Eveleigh engine 3240 assisting Broadmeadow-based 3522 to cope with the extra loading as the express nears Eastwood station. It is likely that 3240 would have been detached at Hornsby.

I. Wallace

Dubbo engine 3235, with original low frame, was something of a stranger to Sydney as it hauled No. 17 Brisbane Express via Wallan-garra up Eastwood bank in light drizzle on Friday, 22 January 1960, just before the opening of electrification to Gosford. It was not unusual to see a P class on this train, even though it was normally a 36 roster. 3235 had been in Eveleigh Workshops and was probably working its way back to Dubbo via Werris Creek and Binnaway.

I. Wallace
A rear view of 3240 assisting 3522 on the down Brisbane Express via Walla-garra as the train approaches the Rutledge Street, Eastwood overbridge. The combination of 32 and 35 was seldom seen on the Short North in the last decade of steam motive power. Monday, 24 August 1959.

I. Wallace

will, the scene late on a summer afternoon, after a southerly change had cooled down a previously hot day. With a noticeable breeze blowing from the south it was sometimes possible to hear the muffled roar as the train passed over the steel girder bridge spanning the Parramatta River between Rhodes and Meadowbank. Then, after a short time, as the train rounded the sweeping curve between West Ryde and Denistone, the clipped sharp beat of the 38 racing into the 1 in 40 grade with the seven-car, air-conditioned HUB set was most distinctive. On some afternoons, with favourable weather conditions, the sound was quite intense. The exhaust beat slowed slightly as the 38 passed through Denistone station and then rounded the right hand curve on the 1 in 40. After emerging from the cutting just beyond Denistone station, the unmistakable sound of a 38 really attacking the grade of Eastwood bank was an assault on the senses I shall always remember. The strong, authoritative exhaust beat was maintained as the train approached Eastwood station, then there was a slight pause in the exhaust as the 38 passed beneath the Rutledge Street overbridge, after which it quickened as the grade eased to level through Eastwood station. At this point the driver did his best to gain speed for the attack on

Low-framed 3379 makes a spectacular ascent of Eastwood bank with the down 1.42pm Wyong passenger train in bright sunny conditions on Friday, 28 August 1959. This train ran only on Fridays and was nearly always hauled by a P class.

I. Wallace
On Friday, 23 October 1959, 3617 heads an end-platform set up Eastwood bank, casting a shadow over its tender with its fine smoke display. This was No.49 Newcastle passenger, which departed Sydney at 1.47pm.

I. Wallace

Below: Still sporting its original low frame, 3238 runs down the hill from Eastwood station on No.188 passenger train on Friday, 28 August 1959. This train departed Wyong each weekday at 12.40pm, stopping all stations to Hornsby and was usually a 36 roster.

I. Wallace

the 1 in 44 grade to Epping. Near Eastwood station the smoke and steam emanating from the hard-working engine often became visible through the trees.

As the Flyer approached Epping, the sound effects were compounded as, again to the south, the whole performance was repeated by the 38 on No.31a Cessnock Express, generally with 6 to 8 steel cars, taking a run at the hill. Separated by only a few minutes, the Cessnock Express followed the Flyer up the bank and then the sound dissipated as the Cessnock Express moved out of earshot somewhere beyond Epping. Sometimes dark smoke from the expresses lingered for a while above the tree line in my view then it, too, disappeared from sight. Those who can remember the sound of a 38 tackling a steep grade with a good load on an express passenger or mail train will be able to picture in their mind such an experience, which was common and taken-for-granted in the 1950s. Those who cannot, but would like to, should endeavour to hear the sound recording of 3830 climbing Morrisons Hill on the record “Night Shift” or, even bet-

As I was at school most weekdays in 1958-1960, my photography at Eastwood bank was mainly on Saturday mornings, school holidays and public holidays. The time I generally favoured on weekdays was a Friday afternoon, when additional trains were run to cater for the heavier pre-weekend traffic as people headed north. On such a Friday I generally arrived at my chosen photo spot in time to capture
the down Brisbane Express via Wallan-garra (No.17), always an interesting train. Departing Sydney at 1.35pm on Mondays and Fridays, it was generally hauled by a 36 class, but in 1959-60 could have had a 32, 35, 36 or 38 at the front. I suspect that, at times, the choice of engine at Eveleigh had more to do with availability than with loading. The train was typically composed of two “dog box” side loading cars, FS, BS, TAM sleeping car and MHO van. Additional loading was usually made up by a further FS or “dog box”. After the Brisbane Express, in quick succession came the 1.42pm Wyong passenger service and the 1.47pm Newcastle passenger, generally worked by a 32 and 36 respectively. An up train photographed at about the same time was the 12.40pm Wyong passenger, generally a 36 roster. Sometimes I stayed on for the down North West Mail (No.7) which departed Sydney Central at 3.30pm. This was nearly always hauled by a 38 but I saw it once with a 36 class when it had only six cars. This, too, was a really interesting train, as it typically had quite an assortment of cars, almost invariably including a KP postal van (with mail sorting en route), one or more sleeping cars (generally a TAM), two or more steel sitting cars (FS, BS), one or more express brake vans (usually MHO) and additional cars, generally made up of side-loading “dog box” cars. Seven to nine cars were common.

There were instances when the loading on No.7 exceeded the 375 tons specified for a single 38 on the 1 in 40 grade and assistance was required. I understand it was common in the 1940s and 1950s for one of Hornsby’s 30 class 4-6-4 side tank locomotives to run light engine down to West Ryde, wait for the arrival of the Mail, then couple to the front of the 38 and assist it to Hornsby. This must have been a fascinating sight ascending Eastwood bank.

I regret I never saw this combination. Fellow enthusiast, Gary Hughes, who lived at Denistone, did manage to record one such working on Christmas Eve 1959, when 3124 assisted 3828 on No.7 between West Ryde and Hornsby. The Working Timetable specified that a 38 class hauling Express, Mail or Through Passenger trains, assisted from Sydney to Hornsby by a 32 class or from West Ryde to Hornsby by a 30 class, might convey a maximum load of 455 tons from Sydney to Newcastle.

Through Passenger Train loads for engines working between West Ryde and Hornsby were: 190 tons for 30/30T; 270 tons for 32; 310 tons for 35/36; 375 tons for 38. Should trains be required to stop between West Ryde and Hornsby, loads over that section were not to exceed 175 tons for 30/30T, 235 tons for 32, 270 tons for 35/36 and 320 tons for 38. The maximum loads specified for single engines on down goods trains between West Ryde and Pennant Hills were as follows: 30/30T, 190 tons; 32, 265 tons; 35/36, 295 tons; 38, 360 tons; saturated 50, 300 tons; superheated 50/53/55 (coal-burning)/59, 360 tons; 55 (oil burning), 375 tons; 60, 600 tons.

Owing to the steep grades on the Meadowbank to Hornsby section, certain signals on this section were treated as tonnage signals. This was in order to avoid down trains with loads over a specified tonnage being brought to a stand at signals where it would be difficult for them to restart. Those tonnage signals were not to be passed by trains conveying loads in excess of those specified unless the tonnage signal was in the clear position. The tonnage signal for Eastwood bank was auto signal N.11-37 located 27 feet on the Hornsby side of Meadowbank down platform. The signalman at West Ryde (or Epping when West Ryde signal box was switched out) was instructed not to clear this signal for trains conveying in excess of the load specified until the indicator for the sections to Eastwood showed clear. Three further tonnage signals were provided between Eastwood station and Hornsby, each before a substantial section of 1 in 40 to 1 in 44 grade.

Following shortly after No.7 Mail was No.653 goods, which ran on Mondays to Thursdays between Darling Harbour and Honeysuckle Yards, Newcastle. This train was commonly hauled by a 38 and generally conveyed In winter, the late afternoon shadows from the trees and the cutting reach to the down line as a very clean 3813 lifts the nine-car No.7 North West Mail up Eastwood bank, passing the 13 mile-post, on Friday, 21 August 1959. It was always a pleasure to see 3813, the sole green 38 at the time. I. Wallace
Beyer-Garratt 6025 leads an up goods train down Eastwood bank, passing beneath the Rutledge Street bridge on Thursday, 17 December 1959, the driver keeping his train in check with judicious application of the brakes. I. Wallace

On Thursday, 24 December 1959, Christmas Eve, 3124 assists 3828 on a heavily-loaded No.7 down North West Mail between West Ryde and Hornsby, a sight seldom seen in the late 1950s. The train is within the shale cutting near the 13 mile-post and is about to pass beneath the Rutledge Street bridge at Eastwood. Neither engine seems overtaxed by the grade, evidenced by the safety valves lifting on both engines. G.J. Hughes
On a wet Saturday morning, 23 January 1960, the last day of steam haulage between Sydney and Gosford, 3346 assists train engine 3809 on No.23 down Northern Tablelands Express at Denistone. The express on this morning had nine cars, increasing the load to more than the 375 ton limit for a single 38 on the 1 in 40 grade and thus requiring the assistance of the P class between Sydney and Hornsby. The two engines are really speeding the express around the curve from Denistone station. G.J. Hughes

some perishable traffic. The Working Timetable specified that the engine took water at Hornsby and the train then proceeded to Hawkesbury River, where it was refuged for some time to allow No.31 Newcastle Flyer and No.31a Cessnock Express to overtake it. Throughout its journey, though, No.653 kept respectable times. It was an interesting train that I regret I photographed only on several occasions. In the late 1950s it was unusual to see a 38 on a goods train, as the big Pacifics were reserved for the express and mail trains, as well as the heavier fast passenger services.

The Saturday morning experience on Eastwood bank was quite busy, commonly with a number of goods trains squeezed in between the many passenger services. I was usually at my chosen spot in time to photograph No.23 Northern Tablelands Express, with a 38 in charge of the eight-car, air 3619 is handling the grade easily, even though its thirteen-car train is just on a full load. On Saturday morning, 1 November 1958, it hauls No.9 Werris Creek passenger up Eastwood bank, the load consisting of two trains coupled together, namely a six-car, end-platform set in front of the normal five cars and van of the Werris Creek passenger. It would appear that the leading KKG horse box and the following six cars were race traffic for Gosford and would have been detached en route.

I. Wallace
On Thursday, 26 March 1959, just before the Easter holidays, a relief North West Mail was run to assist with holiday loading. During a period in 1959 and 1960 when Broadmeadow’s “Nannies” regularly worked in and out of Sydney on the Short North, 3520 leads the six-car relief Mail on its northward journey, passing the 13 mile-post between Denistone and Eastwood with an interesting assortment of cars.

A train not frequently photographed close to Sydney due to its early morning arrival time was No. 8 up North West Mail. 3808 still has its marker lights and cab lights illuminated as it races down the grade from Epping to Eastwood on the morning of Friday, 22 January 1960. The heavy load behind the 38 would have required the assistance of a 46 class electric locomotive up Cowan bank. The down and up relief lines between Eastwood and Epping can be seen on the extreme left and right respectively.

I. Wallace
3620 ascends Eastwood bank with a minimum of fuss on Saturday, 15 November 1958 at the head of No.67 Wyong passenger train which departed Sydney at 8.43am. This train typically conveyed some loading for the racing fixtures at Gosford or Wyong as it did on this day. Note the leading RG car, which accommodated racing greyhounds in boxes on the opposite side to that shown in photo. I. Wallace

This attempt at a back-lit photograph of No. 23 down Northern Tablelands Express shows 3830 making a spirited assault on the grade near Eastwood station with the eight-car, air-conditioned RUB set. Saturday, 15 November 1958.

I. Wallace

conditioned RUB set. At 348 tons, this was one of the heaviest unassisted express passenger loads on the bank. With one additional car, assistance was required in the form of a 32 class between Sydney and Hornsby. This occurred infrequently but did take place at least twice in the last days of steam working on the Short North in January 1960. Gary Hughes was on the spot at Denistone to record 3346 assisting 3811 on Saturday, 9 January and 3346, again, assisting 3809 on Saturday, 23 January. On both occasions, the two engines had the express moving so fast through Denistone that the camera was unable to “freeze” the action. It must have been a great sight watching the two engines “hard at it” on the 1 in 40 through Denistone.

Recalling the above brings to mind a feeling I had in January 1960 as the last days of steam working between Sydney and Gosford were drawing to a close. Such was the interesting and unusual engine working in the last few weeks of steam operation between Sydney and Gosford in late 1959 - early 1960, that I cannot help but feel some benevolent railway employees involved
Beyer-Garratt class-leader 6001 labours up Eastwood bank with a down goods train beneath an overcast sky on a very cold Wednesday, 29 July 1959. 6001 is returning a long load of empty wagons to the north.

I. Wallace

At a time when the big Pacifics were not commonly seen on goods working, 3825 heads No.653 goods up Eastwood bank on Monday, 28 March 1959. This goods, which ran between Darling Harbour and Honesuckle Yards (Newcastle) on Mondays to Thursdays, followed No.7 North West Mail and generally conveyed some perishable traffic as seen by the LLV, MRC and TRC at the rear of the train. No.653 goods was scheduled to be overtaken by Nos 31 and 31a expresses at Hawkesbury River.

I. Wallace
Two Enfield stalwarts, 5037 and 5165, combine to lift a load of superphosphate up the 1 in 40 grade near Denistone station on Saturday morning, 9 January 1960. Seeing double-headed Standard Goods locomotives on this train was a treat in itself, but to see two 50 class engines with small tenders was a real bonus. This train was given a fairly fast passage to the north as it was photographed speeding through Hawkesbury River by the author later in the morning.

G.J. Hughes

Right: On a bright spring Saturday afternoon, 5207 lifts No.251 goods up the hill from Denistone on 19 November 1960. With a typical consist for this train, 5207 is emitting a plume of smoke sufficient to gladden the heart of the photographer.

I. Wallace

with engine allocation at Eveleigh and Broadmeadow were doing their best to ensure that enthusiasts were rewarded for their lineside photographic efforts. For example, double-heading seemed to occur more than usual. Also, green 3813 regularly worked the down morning Flyer to Newcastle and returned on the up midday or evening Flyer, thus giving photographers and the public a good opportunity to witness and record the sole remaining green 38 at the front of the Newcastle Flyer. Symbolically, on the day of official opening of the electrification to Gosford, Saturday, 23 January 1960, 3813 worked the “changeover” up midday Flyer between Newcastle and Gosford, and was replaced by a 46 class for the first “official” electric working between Gosford and Sydney. For some unknown reason, 3813 had its smokebox painted green right up to the last days of steam working between Sydney and Gosford and surprised many of us with a black painted smokebox when it arrived at Gosford on 23 January.

The normal Saturday morning photographic program continued with the down Werris Creek passenger service (No.9) generally hauled by a 36 with relatively light load but timetabled for fairly fast running. In 1959 and early 1960 this train was commonly hauled by a 35 or even a 38. The down trains that followed No.9 were the 8.22am Newcastle passenger (generally a 38), the 8.43am Wyong passenger (36), the 9.22am Newcastle Flyer (38) and the 9.40am Newcastle passenger (36). Up trains photographed during this time were the Glen Innes Mail (generally 38, sometimes 36 when light load), the morning Newcastle Flyer (38, though once seen with 3669), the Cessnock Express (38) and the slow, all stations stopping train which departed from Newcastle at 6.30am (usually 36, sometimes 38). Interspersed with the down and up passenger services was an occasional steam-hauled goods service and a regular down goods train hauled by double 40 class Alco diesels.

An interesting feature of the Saturday morning passenger trains to the north from Sydney was the occasional loading to race meetings at Gosford or Wyong. It was not uncommon to see a KKG horsebox or an RG racing greyhound car attached to the front of one of the down passenger trains, typically the 8.43am Wyong passenger.

The majority of goods services to and from the north were worked at times when passenger traffic was less dense, especially during the night, though it was common to see many steam-hauled goods
5252, with small tender, lifts a relatively light goods up Eastwood bank on Saturday 29 October 1960. This goods, No.251 to Hornsby, ran for some time after electrification of the line to Gosford, providing at least some steam action up Eastwood bank. The driver of 5252 is keeping a close watch on the photographer.

I. Wallace
services in daylight hours. By 1958 many of the northern goods trains were diesel-hauled, typically by the 40 class either singly or, more commonly, in pairs. Steam-hauled services were generally in the hands of the 60 class Beyer-Garratts, the 59 class oil-burners and either single or double-headed Standard Goods locomotives.

After electrification of the line to Gosford in January 1960, my photographic opportunities on Eastwood bank were confined to the afternoon goods train hauled by Standard Goods engine between Enfield and Hornsby. Most of these opportunities were on Saturday afternoons in 1960. This goods, No. 251, typically conveyed mixed loading, nearly always including some S, K or U wagons loaded with coal, bulk cement hoppers and tarpaulin-covered S wagons. The Working Timetable from 20 November 1960 specified that No. 251 was to convey traffic for Pennant Hills, Hornsby and the North Shore line as well as loading for building up trains at Hornsby.

Steam-hauled goods trains of a similar nature ran at other times, particularly in the very early morning hours in the early 1960s, well after electrification to Gosford and after the official closure of Hornsby locomotive depot. During these years it was quite common to see one or two Standard Goods engines at Hornsby in between pick-up goods trips down the North Shore line or waiting to return to Enfield. It was therefore worth a visit to the partly abandoned Hornsby depot site to check out any steam action. On one such occasion I found that copies of some official records had been discarded as rubbish. One interesting item that I was
An extremely dull afternoon on Friday, 22 January 1959 sees 5239 amble down the hill from Eastwood station with a combined pick-up goods and ballast train. It is thought that Enfield engine 5239 was the only working 50 class locomotive at the time fitted with a Wampu tender. These tenders were originally fitted to many 53 class and all 55 class locomotives.

I. Wallace

able to retrieve was a carbon copy of the Guard’s Statement of Vehicles conveyed on No.207 pick-up goods which ran from Enfield to Hornsby on 19 April 1960. This document, which was reasonably legible, is reproduced here for interest.

It shows that, on this occasion, No.207 was hauled by 5252 and was composed of fifteen S trucks and LHG van, sixteen vehicles in all, equal in length to seventeen (due to the extra length of the LHG). It shows that the guard, based at Enfield, arrived for duty at 2.10am and the driver, from Broadmeadow depot, arrived for duty at 2.17am. This was for a scheduled departure time from Enfield of 3.25am. The composition of the pick-up goods, and particularly the origin and destination of the goods loading, make interesting reading. The essential details, as far as can be deciphered, are shown in the accompanying table. The number of goods trucks conveying coal, cement, timber and other goods to Epping and Pennant Hills shows that the goods sidings and handling facilities at those localities were still very active. After Pennant Hills, one would assume that a single empty S truck was detached at Gonarro siding for return loading and that another empty S truck, destined for further north, was conveyed to Hornsby along with the LHG van. The Working Timetable from 26 October 1958 specified that No.207 pick-up goods “conveys traffic for and picks up at West Ryde, Epping and Hornsby.” The subsequent Working Timetable, from 20 November 1960, specified that No.207 “conveys traffic for and picks up at Epping, Pennant Hills, Gonarro Sidings and Hornsby.” Clearly, the train on 19 April 1960 ran to the latter instructions.

As with many other steeply graded sections of track in New South Wales, Eastwood bank had its share of accidents and incidents. These ranged from down trains stalling on the steep grade to runaway up trains. I remember one day in 1957 or 1958, returning home to Eastwood from school on a suburban electric train. After several signal checks the train arrived at Denistone station where it stopped for some time. Here, railway staff ordered all passengers to alight from the train, advising that a goods train was stalled on the steep hill between Denistone and Eastwood. From Denistone station it was
In light drizzle on Saturday, 23 January 1961, the last day of steam haulage between Sydney and Gosford, Broadmeadow engine 3529 leads a ten-car Newcastle passenger train up Eastwood bank, just passing the 13 mile post. This train, which departed Sydney at 8.22am, typically had one or two “heavy” cars at the front of eight end-platform cars.

G.J. Hughes

Below: Enfield engine 5461 assists Broadmeadow engine 5351 past the 13 mile post on Eastwood bank at the head of No.251 goods to Hornsby on Saturday, 10 December 1960. Still retaining its Wampu tender after overhaul in Eveleigh Workshops, 5351 is working its way back to Broadmeadow depot, where it continued to be allotted for many more years. This tender, tab No.1200, was originally attached to TF1200 (5487).

I. Wallace
The driver is still keeping a keen eye on the photographer as his engine, 5252, slowly lifts its small goods train to Hornsby, approaching the Rutledge Street, Eastwood overbridge on Saturday, 29 October 1960. 5252 was formerly allocated to Werris Creek depot for many years and was transferred to Enfield earlier in 1960.

I. Wallace

5607 takes No.251 goods to Hornsby through the cutting at Eastwood near the 13 mile-post. The mixed nature of the goods loading is typical of this train, with coal and cement being common. Saturday, 5 November 1960.

I. Wallace
In very dull conditions, light engine 3139 drifts down Eastwood bank on Friday, 22 January, 1960, just before the end of steam haulage between Sydney and Gosford. Note the presence of marker lamps on 3139. Just where 3139 had been and where it was going were not clear, though 3139 was an Eveleigh engine at the time. Presumably it was running back to Eveleigh from Hornsby.

I. Wallace

possible to see the brake van of the goods ahead of our train on the sweeping curve out of the station. Eager to investigate further, I and several other passengers walked along the clearing beside the down line past the stalled goods train and eventually saw a Beyer-Garratt at the front, its safety valves screaming following vain attempts at lifting the train on the grade. The engine was standing in the shale cutting near automatic signal N.13-09. It appeared that the train had been brought to a stand at this signal and was unable to restart. After a while, the suburban electric train, minus its passengers, moved slowly up to the rear of the brake van and pushed, with much wheel-spinning. This was accompanied by considerable action, including wheel-spinning, at the front of the train as the Garratt gave it everything it had. Very slowly the entire consist moved forward on the sanded rails, gaining speed as the load passed onto the level stretch of track through Eastwood station. The

Late in the afternoon of Saturday, 12 December 1959 the driver of 3621 on the up 1.56pm Newcastle passenger train waits for the author to complete his photo before resuming the journey to Sydney. A cab ride had been obtained by the author between Hawkesbury River and Eastwood where the driver kindly stopped to enable him to get off.

I. Wallace
The Thursday immediately before Easter was always a busy time for the railways in the 1950s and 1960s as many thousands of people set off for holidays or returned home. On such a Thursday, 26 March 1959, high framed 3283 takes nine cars, including 8-car LUB set 58, up the hill towards Eastwood on one of the additional passenger services to the central coast.

I. Wallace

goods train was switched into the down relief line beyond Eastwood station. This was the only time I witnessed first-hand a train stalled on the grade though I’m sure it must have happened many times over the years.

Incidents without such a happy ending occurred on several occasions in the 1930s and 1940s when up goods trains ran away down the 1 in 44 to 1 in 75 grade from Epping and through the dead-end siding near Eastwood station. These resulted in the engine and generally many goods vehicles being derailed in spectacular fashion. In June 1948, 3622 hauling an up milk train from the north ran away down the grade from Hornsby, was switched to the up relief line at Epping and went through the dead-end siding at Eastwood, ending up “in the dirt” amongst wrecked goods vehicles. Similarly, in 1940 engine 5586 ended up on its side along with much of its train down the embankment at Eastwood. I have also seen a photograph taken in 1931 of 5465 being lifted from over the embankment and back onto the tracks at Eastwood by Enfield’s 70 ton accident crane 1073. These are only three instances of derailments. I’m sure there must have been more, because I can remember as a young boy hearing conversation of train derailments at Eastwood and Epping which were blocking the line. There would also have been instances of “fast rides” down the hill. In fact, from my normal photographic positions near the 13 mile post at Eastwood, I saw several up passenger trains really speeding down the hill and I held my breath for several seconds wondering whether the train would safely negotiate the left-hand curve into Denistone station. They always did!

Epilogue
Eastwood bank in the early 1990s is quite different from how it was in the late 1950s. There has been more residential and commercial development between West Ryde and Eastwood but the overall suburban character has not changed all that much. The line between West Ryde and Eastwood has been quadrupled, providing four continuous lines between West Ryde and Epping. The familiar shale cutting near the Rutledge Street - First Avenue overbridge has been widened and the natural rock has been protected and obscured by concrete. My old photo spots have changed substantially, as have the views from them. The greatest change, of course, has been in the motive power. Now modern electric
trains run silently and, it would appear, effortlessly up the 1 in 40 grade that once sorely tested man and machine. The labouring sounds of diesel-electric locomotives on Eastwood bank give some hint of the adverse grade that is still present for down trains. The new locomotives and trains may be cleaner and more efficient but they will never have the appeal of the steam trains that I remember. The photographs that accompany this article help to capture that effort and drama. Some of the photos are slightly blurred and grainy, but I have included them because I feel they convey the essence and variety of steam working on Eastwood bank that I knew and continue to value.

The down morning Newcastle Flyer, No. 105 on Saturdays, nears Eastwood with 3812 in the lead on Saturday, 24 January 1959.

I. Wallace

This is a very old post card showing Eastwood station, looking south from the down platform. The date is unknown but would have been between 1912 when the overhead footbridge with booking and parcels offices was constructed and 1929 when the line was electrified. It shows a down suburban passenger train hauled by an S class 4-6-4 side tank locomotive arriving at Eastwood after successfully climbing Eastwood bank. Note the timber buildings on the platforms, the gas lighting standards and the station nameboard informing that Eastwood station is 223 feet above sea level.
In terms of railway building, surveyors were the first on the scene, determining political and engineering property constraints. Their task was most difficult, determining an optimum alignment through virgin, indeed often unmapped, country, constrained by the finance approved for construction and unaided by the aerial photography available to their modern counterparts. Their contribution has always been overshadowed by the visual excellence of the work of the engineer. However, without a surveyor, the engineer would not be able to commence his detail design.

The above scene shows a typical early survey party preparing to lay out the survey of the site of the 1906 Sydney Station.

The bearded surveyor, Melrose, poses with his survey party among the tombstones. His party included an articulated student, chainmen and labourers.

Surveyor Melrose was one of the three surveyors responsible for laying out the line over the Blue Mountains, including the two zig-zags, a herculean task in the most rugged terrain.

By contrast, his work forty years later was to visualise the splendid terminal to be erected on the closely developed area of the Devonshire Steet Cemetery. Shortly, the steam tram and its attendant hearse trailers would start the lengthy job of moving the relics to their new resting place in Botany Cemetery, so that site work on the new building could commence.

Nine decades later, the fruits of Surveyor Melrose's labours still stand, monument to his tenacity and skill.
**Below:** Double 40 class, 4001 and 4007, drop down into Junee with an Albury-bound interstate goods train on 3 July 1962.

**Above Right:** 3616, with its unique Giesl ejector, rolls into Parkes yard on a down goods from Orange on 5 July 1962. Normally, this loco was rostered for Forbes Mail services.

L. Oberg
The early morning chill in my home town, Goulburn, was akin to the proverbial ‘mother-in-law’s breath’. Frost lay on the ground everywhere, deep and crisp and even, as black-painted, streamlined Pacific 3801 rolled into the station at 2.08am at the head of the Griffith-bound South West Mail.

A friend and I had just received some leave so, we decided to make good use of the time for a little sight-seeing - railway sight-seeing to be precise. Armed with a ticket each, which cost £7/4/4 ($14.43), Graham Holgate and I had decided to take that mail train as far as Junee and gradually work our way across to Roto (via Griffith) and back along the Western line through Parkes, Bathurst and Lithgow, eventually to return home after a few days in Sydney. Our simple aim was to see as many railway locomotives as possible.

We totally ignored both the winter chills and the mild complaints from the only other passenger, an Anglican clergyman, in our compartment B of FS2149 and threw our windows wide open on most of the rising gradients along the route in a bid to obtain more audible stack talk from our hard-working 38.

Despite the fact that steam continued in everyday service over the deep south at that time, all trains encountered during our five hours, forty minutes’ run to Junee were diesel-drawn. The only steamers observed were those stored behind depots such as Goulburn and Harden; dinky locomotives like 2-6-0s 2420 and 2510 lay in a decrepit state at Harden, veterans of a bygone era over the nearby Boorowa branchline. Giant Mountain-type engine 5703 stood alongside, a battered remnant of its amazingly circumstantial Binalong rollover five years earlier and with it, for company, was silent sister engine 5708, which possessed two very unusual traits - a unique tender with wider coal sides than any other class members and a boiler numbered 5810A.

However, at Cootamundra, reached at the pre-sunrise time of 6.55am, we did glimpse several live engines in loco, including the town’s regular saturated-boilered 2-8-0 shunting engine, 5197; 3288 (being prepared for a jaunt out to Temora); and 3626 (under preparation to haul a goods to Goulburn). Near-new Alco branchliners 4836 and 4837 also graced the
Near-new Alco branchliner 4835, with No.416 fruit express leaving Ganmain during the late afternoon of 2 July 1962. Note 4835’s original pattern exhaust stack.

depot.

Junee was reached on time at 7.50am and moments later we were scurrying to the front of the train to grab a quick photo before our streamliner was removed. At the other end, Alco 4833 was coupling up for the on-going run to Griffith.

But we did not want to go to Griffith just yet - certainly not behind a diesel if we could absolutely avoid it. Rather, we wanted to look the Junee railway installation over first. After shooting a picture of the Mail pulling out and the chance photo of twin 40 class (blue-painted 4001 leading 4007) dropping in on a down interstate express goods, we set off to the loco depot.

To young railway enthusiasts, Junee depot in those days was a real treasure trove for there were four superheated 30T 4-6-0s in steam, with one, 3022, acting as coal stage shunter.

3821 was in steam there also, an engine which would, three months later, be retired forever. In fact, there were three 38s in the depot - an unusually large number for Junee - in addition to three 36s, one of which (3648) was undergoing heavy overhaul. Even the shed shunter, No.36 (alias 1036) was coming on the boil for a day’s programmed work.

Outside, things were much sadder, for there were no fewer than 14 once-proud steam locos lying in various forms of decay in two distinct groups about the place. Among them were four 57 class (5713, 5714, 5717 and 5725) and, of them, 5714 was the only other member of its class to go to scrap a few years later with a second-hand 58 class boiler (No.5812A). Three boilerless former oil-burning 55 class frames and wheels (5532, 5581 and 5588) also contributed to the dismal scene, as did former popular Commissioner’s train engine, 3215, which was caked in wall-to-wall rust and grime.

Hastening out of that depressing scene, Graham and I high-tailed it back to the station where superheated 2-8-0, 5172, was extremely busy in the yard on shunting duty. Those were the days when railway administrators were dedicated to their craft and ran trains rather than road vehicles.

As we neared the yard, we were rewarded with more positive steam action in the guise of 3620 rolling down the 1 in 40 with a goods train from Albury.

Nearly an hour later, after we had watched the continuous antics of said 5172 in the yard, out of loco hissed 3828 to work the up Riverina Express, which shortly afterwards rolled in from Griffith behind a 48 class branchliner. The 38 stormed away with considerable majesty at 11.24am. That was certainly worth another photo.

The hours passed and we were starting to wonder how we were going to get to Griffith. Just diesel-hauled trains seemed to come and go. After the Riverina left, 4438 rolled in on a goods from Goulburn and scurried off to loco. 4428 followed 32 minutes later on an empty wheat. 4841 and 4450 came in from Wagga 25 minutes later, again with a goods train.

Superheated 3144 made a majestic sight as she steamed out of Parkes in the post-dawn frost with the down Forbes Mail on Thursday 5 July 1962.

L. Oberg
Time continued to drag, but half an hour later an active steam train turned up again to the tune of 5109 leading a stock special from Narrandera.

There was still no sign of any transport to Griffith. The Intercapital Daylight to Sydney came and went at 1.52pm, with Alco mainliner 4411 at the helm. Then 4831 rattled out of loco and coupled up to a brace of stock vehicles and PHG brakevan No.23318. Enquiries revealed the train was No.69 empty stock for Griffith and that this would be our only hope for some time if we wanted to go that way. So we boarded the passengers' accommodation in that van but after we got mobile at 2.43pm, the constant smell from those stock wagons had to be experienced to be believed.

Relief from that smell and an opportunity to stretch our legs presented itself at Ganmain, where we crossed 4835 on No.416 fruit express bound for Sydney markets. That train was worth a photo. Then at Grong Grong, about an hour later, 4838 was waiting for us in the loop with a Sydney-bound wheat train.

The line was certainly busy in the up direction that day for, as we rattled into Narrandera at 5.51pm, the most recent branchline Alco delivery, 4845, was patiently waiting to leave for Junee with a general goods train.

Steam was busy there also, for two 32 class 4-6-0s, 3241 and 3270, were both shunting the yard and another sister engine, 3328, was simmering in loco. Former yard shunter, veteran 2-6-0 2543, was stored in the yard derelict.

In all, we spent 100 minutes at Narrandera and for a moment we were entertained by two police, one of whom was handcuffed to a prisoner to be sent out on No.10 South Mail, which duly arrived with 4833.

After that, unique railmotor No.38, ‘Creamy Kate’, came into the platform bound for Griffith, so we rode with the driver all of the way, looking in awe at the vast numbers of irrigation canals along the route - water which was producing materials to make it necessary to run the trains.

A stay in the Hotel Victoria in Griffith (bed and breakfast £1/2/0 - $2.20) had us up fairly early for a quick look at loco, where we photographed the sun rising on 3047 and 3086. In the yard, Werris Creek engine 4806 was about to leave for Temora with a goods train.

But we could not dally, for we had a train to catch, so promptly at 7.54am we boarded CPH13 (sitting
either side of the driver) for a rollicking ride over an increasingly featureless line to Roto. Absolutely no trains were encountered along that often lonely 98 mile route.

The driver enjoyed the company also, for there was just one other passenger, an aboriginal man. We told the driver we were wanting to make a connection for Parkes with the 'Silver City Comet'.

"I think it goes the other way today," said the driver and called the guard up for confirmation.

Unfortunately, when I planned our little sojourn, I organised it to leave Goulburn on a Monday but, due to a minor booking office delay in obtaining our special round trip tickets, we were forced to delay departure 24 hours. Silly me did not double check our connections.

"Hell," we said, knowing we lacked camping gear, carried no food and had little money, most of it being invested in our tickets.

We eventually rattled down the gentle right hand curve into Roto at 11.40am, to note that the hamlet consisted only of a railway station, a small shop/post office, a railway barracks of very small size and a few scattered homes, all on the down side of the track. In mute testimony to some previous community conviviality, a derelict tennis court stood on the other side of the line, which also housed the crossing loop and a siding with wagon.

Sure enough, the Comet was travelling west that day and, after being encouraged to return to Hillston with the railmotor crew for the night and return next day to connect with the up movement, the station master mentioned that the Broken Hill ore train, train W44, was running and could be expected any time from sundown.

We elected to stay, and before the station master left for the day, he kindly suggested we might like to borrow his push-pull trike to help relieve the monotony. For several hours, Graham and I took it in turns to charge express through the platform. We pumped over every siding, even the triangle. We ran out of sight of the station in all three directions and eventually parked the vehicle where we got it, just beside the little barracks. All this time, the aboriginal passenger off the railmotor was watching us without emotion. He, too, was waiting for W44 to take him to Condobolin.

As the sun set at about 5.15pm, a definite frosty chill hit Roto but, soon afterwards, we heard a distinct cracking of timber, looked around and, presto, our aboriginal companion was felling an upright in the tennis court; he soon had a blazing fire going. He told us that every time he passed that way he demolished one of the posts to build his fire. No wonder the courts were derelict!

Time continued to drag. There was no sign of W44 and, with no officer on duty, we could not get any information. At about 8.30pm, Graham and I thought we could hear an ever so faint chant of a two-stroke GM diesel engine. It only seemed to last a few seconds and then it was gone. A few minutes later we thought we could hear it again for a longer period but, after a minute or so, all was quiet for a long time. Ten more minutes ticked by and the throaty bellow of the GM returned again a long way off, but absolutely unmistakable this time on the frosty night air.

Sure enough, we then noticed the glow of an over-the-horizon headlight which eventually materialised into a blinding speck of white light as the train crested a rise four miles west of the hamlet.

At last, here was transport and a few minutes later Graham and I got our very first look at a 49 class branchliner, as 4903 came to a stand right in the platform. We were ecstatic and believed the experience was well worth the wait.

With our tennis court fire just glowing embers, we rattled out of lonely Roto in MHG11796, Graham and I riding with the guard to take full advantage of his warm, coal-fueled stove, and to enjoy conversation relating to train workings in the area.

Although he did not ask to see our tickets, he wanted to see the aborigine's, adding later how many of them attempted to ride free on the Parkes to Menindee section of the line. He told the story of how he sent one packing on a westbound goods but, as the train began rumbling over the Darling River bridge outside Menindee, he heard scrabbling in the passengers' compartment behind and, lo and behold, the same aborigine, who had somehow reboarded the train, was opening the brakevan door. As the train crossed the bridge, he yelled: "Well, I got here" and leapt over the side into the river!

That 130 mile stretch of rough 60lb rail to Parkes yielded just one other train in seven hours, and that was 4904 working a mixed that crossed us at Euabalong West right on midnight.

However, Parkes was unlike anything we had seen to date on our lusty circumnavigation of the southern portion of the state, for it yielded a treasure trove of steam activity, despite the pre-dawn hour.

I had not seen such succulent sights since diesels invaded my home town in a very big way from early 1958.

Superheated 3049 seemed to keep up a continuous display of activity as yard shunter and, if that was normal for Parkes, we wondered how on earth the locals, particularly those in the brace of

Above Right: Bathurst depot was an extremely busy place during the morning of 6 July 1962. Pictured was 3664 leaving for Orange on a goods train. Next to it was 3124 on yard shunting duty, having just replaced withdrawn 26 class engines. In the shed (from left) were 3143, 3665, an operational 2606, and 6034.

Right: The mainline west of Bathurst was a hive of activity on Friday, 7 July 1962. And movements were all steam-hauled. One of the procession was Beyer-Garratt 6041, shown arriving at Bathurst's outskirts right on noon with a predominantly wheat load.

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53 class 2-8-0s were the mainstay of western goods services, even as late as 1962, although 36s, displaced from southern and northern dieselisation, had just moved into that domain and would remain there for the following three years. This picture shows 5451 back to back with 5460 on an up goods arriving Bathurst on 6 July 1962. The unusual working can perhaps be explained, as 5460 was returning to Bathurst after working a shift as Tumulla bank engine.

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homes on the southern side of the railway, managed to get any sleep at all. Almost immediately, superheated 3144 clanked down from loco in readiness to haul the Forbes Mail out to Forbes and that train duly arrived at 7.31am with 4902 at the head. Sensing a lull after 3144 stormed out leaving a voluminous trace of steam in the frosty morning air, Graham and I set off to look at the loco depot (quite a walk westwards), where we were rewarded with the sight of no fewer than six 32 class (with 3357 undergoing heavy overhaul) and three fully operational 30Ts. That ‘sensed lull’ turned out to be a drought for, except for the rantings and ravings of 3049 in the shunting yard, we had to wait until 11.17am for our next train - but what a gem it turned out to be, when Giesl-chimneyed 3616 brought in a goods from Orange. It normally worked the Forbes Mails. But soon it was our turn to leave Parkes and, accordingly, we boarded a spare Comet set bound for Orange, which duly whistled out at 11.54am. We passed Molong 94 minutes later, where 6011 and 3611 were reposing on separate trains in the yard, one bound for Parkes and the other having worked in from Dubbo via the 'scenic route' through Yeoval. Orange yielded more treasures in the guise of 5095 shunting the rather lengthy yard. 3814, 3634, 3645, 5311, 5451, 3269 and 6034 could be glimpsed in loco while, at the station, 3646 was coupled up to No.28 up Central West Express, which was to provide us with considerably luxurious accommodation, as far as Bathurst anyway.

But, on arrival at 4.16pm, we were both so dog-tired, even wild horses could not make us cross the track to loco, which was located virtually opposite the station, despite the amount of smoke and steam that erupted from the place. Instead we located lodgings and, after a meal, I remember we were actually in bed before darkness hit.

But next morning was a totally different story as we embarked on our very first inspection of Bathurst loco. We were not disappointed. There was activity all around the place - even the two 0-6-0 19 class veterans were shunting, one in the yard and the other in the depot's coal stage area. Two 30 class tank engines, 3124 and 3143, were shunting the yard also, both relative newcomers to Bathurst, for they had been sent in to replace recently withdrawn 26 class saddletankers. As we were talking to the chargeman to gain permission to look around, our attention was directed to the impressive sight of Raglan bank engine, 3632, piloting elderly 4-6-0 3219 out of the yard, Lithgow bound. The aura of those engines roaring by the depot in the sub-zero sunshine, with
their steam hanging over the railway like tracery, will always be indelibly implanted on my mind.

Although we had considered many of the depots already seen for the first time on our trip 'treasure troves', Bathurst's operations were 'paradise', for the shed, its yards and the general shunting yards were absolutely alive with activity - all steam too. In fact, at that stage, the only recent diesels had been 49 class on transfer from the manufacturers in Sydney to Parkes and the occasional passing of a diesel-hauled NSW tour train.

But, despite all of the activity, tucked away behind the coal stage area was the obligatory, very depressing sight of nine set-aside locos, victims of dieselisation elsewhere. Diesels had replaced steam in other depots which, in turn, replaced these locos which were in need of general overhauls or heavy repairs. Among the rusting hulks were four 26 class, 5055, 3329 and three 53 class.

Meanwhile, the chargeman predicted most of the train activity that morning would be on the Bathurst-Orange leg of the main western line, so we trudged a mile or so out of town in time to photograph Garratt, 6034, chattering off to the west with a goods train. After a short while, double 53 class 2-8-0s rattled in from the west, marshalled tender to tender. Then we managed to record 5400 and its train going west, 6041 going east and finally, 3652 and 3646 running west on No.31 Central West Express.

Calling it a day, Graham and I returned to the depot to find 3614 being prepared for a Lithgow goods and the driver suggested we might wish to join him on the footplate for the trip.

"Would we what?" we agreed and right on 2.55pm, we stormed out of the yard with 3632 doing its bit at the rear of the train, at least as far as Raglan. Strangely, we only passed one train all the way to Wallerawang and that was 3654 on a down goods, seen at Rydal. Although the light was really poor, I recall firing off a photograph out front from the fireman's set because I was in such rapture.

5437 was shunting Wallerawang as we rattled in and 5343 was on the head of a goods.

It was just on dark when we arrived in Lithgow yard at 5.15pm and the town's railway installation was also a frenzy of activity, with no fewer than
A weak sun shone briefly to allow this photograph of 5812 at Chullora Shops on Monday, 9 July 1962. This, and sister engine 5807, had been in store at those workshops since mid-1957, their overhauls cancelled due to the electrification of the Blue Mountains. They were subsequently cut up where they stood during September 1963.

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three locos shunting in the various yards - 2605, 2616 and saturated 2-8-0 5201. 5238 was preparing to leave with a good train to Mudgee.

Although planning to make Sydney that night on the 6.24pm interurban electric, we also wanted to look at loco so we rode all of the way into the depot on 3614, thanked the crew profusely and bolted around the shed. But there seemed to be more locos stored in various stages of decay at Lithgow than were actually in a trafficable condition. There were three 26s, a 30T, 32, 50 and a 53 set aside out back. But in the shed, superheated class leader 3001 was being prepared for the down Mudgee Mail, while Pacific 3818 was in another road being readied for a mail to Dubbo.

But time was up for we had to catch our Sydney train and, boy, was it a long way from the depot to the station when firstly, you were in a hurry and secondly, you did not know where you were going in the dark. We just made the train and, yes, the driver let us join him in the front of his power car, CF5024.

Memories of dashing through those inspiring electrically-lit ten tunnels out of Zig Zag remain firmly implanted in my memory. But little else of the run down the mountains does, for movement on the line that evening was very disappointing. The only trains seen all of the way to Penrith were 4607 parked in a siding at Mt Victoria on a passenger set, and 4603 with 4622 working No.465 goods at Valley Heights.

At Penrith, Southern valve-gear 5610 was shunting in the yard but nothing else was seen until Flemington, when 3807 streaked by with the down Temora Mail, the cab aglow due to the open firehole door (the only way to fire a 38 successfully).

By the time we reached Sydney station at 9.22pm, both Graham and I were exhausted, for we had not eaten since breakfast. In fact, we had not experienced a decent meal since breakfast way back in Griffith. Although we did record the sightings of three 30 class tanks shunting Sydney yard and a 32 class on a train there, we were on ‘automatic pilot’ as we trudged up Pitt St looking for the People’s Palace.

The next day we did not surface until almost noon and, sufficiently refreshed, decided to hit the hollowed halls of Eveleigh depot at Redfern. What a place it still was, despite half the shed having been demolished to make way for Acdep car shed complex and coming dieselisation. Locomotives fresh out of shops lay scattered around the place everywhere awaiting their trials, all resplendent in new shiny black paintwork. They included 3001T, 3032T, 3076, 3064, 3080, 3642, 5133 and 5308.

Outside the workshops was Garratt class leader 6001, fully overhauled but not as yet painted.

All but one of those locomotives had experienced their last big overhauls.

In fact, Eveleigh on that Saturday was a real bonanza, for there were no fewer than fifteen distinct types of steam locomotives scattered in and around the place. They included braces of 32, 36 and 38 classes (including 3816 which had recently been withdrawn for scrapping but was later lucky enough to be among several given overhauls, due to uncertainties between the Superpowers in respect to the Cuban crisis, which came to a head the following October).

The next day, Graham and I decided to look at Enfield. What better place could one go to gather locomotive numbers since it was a Sunday, we reasoned?

The place was, in fact, pure bliss for there were 206 steam locos on hand and examples of every
2-6-4T 2016 was working out its last five months of service life when pictured in Enfield depot on 9 July 1962.

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imaginable class (except 38) graced the environs.

There was even the sole remaining 34 class (3402) stored over in the nearby BICC sidings, along with some veteran 4-4-0 12 class. All but two of the 13 little-worked heavy goods 4-8-2 D58 class reposed in two long lines, intermingled with just as many more elderly, basically similar D57 class engines.

And the three roundhouses were constantly resounding to the comings and goings of steam locos for the full three hours we were in the place.

We would have spent more time there too, had it not been for two burly detectives wearing suits who sprung us as we were attempting to photograph two old timers, 2007 and 1316, stored nose to nose on the scrap roads.

“You’ll get your fingers burnt poking around in here, boys,” one of them rasped, and the fact that the head chargeman at the depot had given us permission to inspect the place did not change his attitude.

“He has no right at all to allow anyone in here. You can only obtain permission from 19 York St,” he informed us, coughing on a cigarette.

Having seen all there was to see, we left and, yes, you guessed it, first thing on Monday morning we were walking into 19 York St’s public relations department, where an extremely obliging and, then, rather young looking Ian Campbell (now retired after an outstanding career in State Rail public relations), agreed to issue us with authorities to visit (again) Eveleigh and Enfield. He even added Delec and Chullora Shops to the document, but expressed his concern that we could not do all in the one day.

“Bet we can,” we chorused and high-tailed it to Eveleigh (spending 85 minutes there). An electric train ride to Lakemba and another brisk walk through the placid streets of North Belmore brought us once again in sight of mecca, but, as we skipped down the gravel road which ran along the southern boundary of Enfield depot, our two friendly investigators came tramping along in the opposite direction.

“We have permission today,” said Graham as they passed by, totally ignoring us.

“I know,” said the raspy-voiced one. “You wouldn’t be back here today if you didn’t.”

So we did Enfield depot over again. It took us a record 40 minutes and this time around there were 177 steamers in and around the precinct.

Although in those days we were virtual ‘absolute die-hard’ steam admirers, the Delec diesel and electric depot had only recently come into operation and we were eager to look over a modern facility. It was only a short step across Enfield yard via footbridge to Delec, during which time we were entertained by 5255 and 5216 shunting portions of the vast marshalling yards. We also noted various comings and goings, such as 6032 working empty LCH and CCH coal wagons towards Chullora Junction (probably heading off to Glenlee to begin a diagram of work). 6031 was also noted working a goods in the opposite direction towards Campsie,
A view from the boundary fence overlooking Enfield on Sunday 8 July 1962, showing some of the locomotives set aside for scrapping. In the foreground were 5707 (withdrawn four years earlier) rammed against veteran 2-8-0, 5194 (withdrawn in October 1959). From left to right in the background were 5721, 5811, 5722 and 2011 (just visible above 5707).

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while 5461 came in from that direction on a local trip train.

At 1.56pm we were showing our credentials to the Delec DLE, former Goulburn DLE Les Mundy, and set sail around the busy place which yielded no fewer than 23 of the forty-member 46 class Co+Co electric locomotives. Deep inside the bowels of the long shed sat brand new branchline unit, 4907, which had only just come from its manufacturer, Clyde Engineering, the previous Friday afternoon. Fitters were swarming all over the locomotive. There were even three 70 class 0-6-0 diesel-hydraulic transfer units at that depot, for those were the days prior to their taking up duty at Port Kembla. In fact, the day before we noted several 70s shunting in Enfield yard and others working coupled on local trip workings. Within a few months, all ten had been transferred to their intended home.

The Delec visit lasted an hour, but the lack of a meal and the presence of rain did not dampen our enthusiasm to keep on going and look over nearby Chullora workshops. The effort was certainly worthwhile, for the second we entered the cavernous erecting shop, our eyes were immediately riveted upon the glorious sight of a streamlined 38 class, 3804, swinging in the rafters on the end of a travelling crane. In fact, there were four 38s in the shops in various stages of undress, including sister streamliner 3803. Outside on the weighbridge, the best 38 of them all, 3827, was being turned out into traffic following a major overhaul. All it needed was paint.

Rummaging around the yard in the drizzle as only kids can, we were amazed to find several cabs bearing brass numbers for locomotives never built. Among them were cabs numbered 5814-5817 and two others, probably the two earmarked for 3622 and 3663 which were never provided with modern Belpaire boilers. Yonder was the cab off 3826, the first 38 class to be withdrawn, due to a collision with Garratt 6028 at Glenlee 16 months earlier whilst working No.4 Melbourne Express. The loco’s remains were nowhere to be seen. However, two rust-streaked 58 class goods engines could be located, victims of Blue Mountains electrification. Needing overhauls, the two were unceremoniously stored in the yard pending further instructions. The next instructions were received by Chullora to advise that Sims scrap dealers were moving in during September 1963 to cut them up.

Sadness did not cease there, for right next to the erecting shop we found a very derelict 3805 stream-
Bathurst on 6 July 1962 played host to a plethora of nondescript shunting locos, one of them being port-holed cab 1919, found shunting near the city’s wagon repair sidings. With all but one of the up-until-then regular 26 class shunting engines on the stored road, other shunting locos in the city that day included 1942, 2606, 3124 and 3143 (the latter two being new arrivals to replace some 26 class).

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liner lying in the rain without driving wheels and other critical parts. This loco, considered by drivers to be the most powerful of the five Clyde-built streamlined 38s, was a victim of the Awaba accident seven months earlier. She never ran again and was robbed for parts. Even its undamaged cab later saw use attached to 3815 which had suffered damage at Gosford.

Ian Campbell was pretty right. We did need more time at Chullora for the shops were now about to close for the day. Our 50 minutes there simply vanished. However, that did work to our advantage for we were able to catch the employees’ bus to Strathfield station, which saved quite a walk.

By now, absolutely ecstatic with the success of our trip, our remaining energies were spent sitting at the end of Sydney’s No.6 platform munching pies and chips, watching the peak of the late afternoon activity as we awaited the departure of No.19 Southern Highlands Express for home. 32 class came and went on Picton, Illawarra and Richmond trains. Several 46s did likewise on Western and Northern trains, and 3608 blasted away on a Wollongong-bound passenger.

Then 3811 turned up and coupled up to our express. Lo and behold, it was the driver who had befriended us at Eveleigh several days earlier and he offered us a ride home on his engine.

That four hour, 25 minutes’ trip to Goulburn put the icing on the cake as far as I was concerned. Words could not fittingly describe the trip - our first mainline run on a 38.

The aura attached to plunging along a darkened railway at sometimes more than a mile a minute on a pitching, bucking, bellowing bronco, without being able to see where one was going (because steam loco headlights were never really any good), was akin to a journey into the very depths of proverbial hell. Boy, we enjoyed it.

Footnote

Our trip, which involved 984 miles of train travel, netted us no fewer than 592 separate locomotive sightings. Such a trip would be impossible today for, not only have many of those depots closed, there is no operational link between Griffith and Roto any more. Nor would it be possible to board goods trains (without firstly knowing a friendly loco crew), for passenger accommodating brakevans have long since been removed.
Above: In the late 1950s, the 35 class locomotives worked most of the long-distance passenger trains in the north of the state. On a summer morning in 1959, engine 3525 brings No. 13 down Glen Innes Mail into the loop at Duri, 16 miles north of Werris Creek. The nine-car train includes a 'dog-box' express lavatory carriage leading, with the three trailing cars forming the load for the Barraba branch passenger, to be detached when the train arrives in Tamworth, a few miles further to the north. late R.R. Clarke

Left: By the 1960s, No. 9 Werris Creek day train stopped all stations, Maitland to Werris Creek, and usually consisted of three-car set SIB120 hauled by a 35 class engine, although 36 class did appear from time to time. At some remote locations, the train only stopped if passengers had informed the guard on the train, or the signalman on the platform. At other locations, Hunter River Box, Koolbury, Togar, Pangela, there were no platforms. In January 1962, the fireman on 3510 at the head of No. 9 exchanges the staff at Blandford. R.D. Love

Above Right: An early morning in January 1961 and 5212+5185 work hard to get their big train moving up the rising grade out of Werris Creek yard on their way to Newcastle. When the train arrives in Willow Tree, a rear bank engine will be needed to assist on the 1 in 40 grades over the Liverpool Range. At Muswellbrook, a crew change will take place. R.D. Love
I had more than 40 years in 'loco and I saw many changes in everyday working conditions during that time. Some working conditions deteriorated, but in most instances there were improvements, and the working conditions were that part of an engineman's work that affected him the most.

Up to the 1940s, the driver was regarded as just a bit superior to his fireman and it was necessary for the fireman to call him 'Mister'. The driver drove the locomotive. He never picked up the shovel or offered any advice, and if there was not enough steam on the gauge to carry on as he expected, he would wait till it was obtained. They were all fairly old men before they became drivers. Due to the manpower shortage during the war, younger men came into the railway service. We then had acting drivers, who were quite young and they did not object to being called by their Christian names. From there, it escalated. Both drivers and firemen called each other by their Christian names, and a greater friendship was usually the result.

At the same time, these younger drivers started to give the fireman a 'blow' (or break from firing), mainly on the steep hills and for short distances. The fireman would just sit on his seat while the driver set the engine going and drove and fired it and, if the gear had to be altered, the driver did that as well. Slowly, it got to the stage where the fireman was allowed to drive, while the driver did the firing. It was then getting to the state of 'fifty/fifty' (equal sharing of the firing and driving during the trip) and a real camaraderie then developed between engine crews. This resulted in a better arrangement all round. The railway service benefited from the output of the two enginemen working in harmony as a team, the men themselves worked together to overcome difficulties encountered whilst working the locomotives in all weathers and under all conditions. The working conditions on steam engines were very hard in most cases. On trips from Werris Creek to Armidale (105 miles/168 km) or between Broadmeadow and Werris Creek (155 miles/248 km) the coal often got out of reach in the tender and no time was allowed to shovel the coal forward. Unless a 'crossing' came up (in which case, some quick shovelling down by the fireman was performed), it was often necessary to climb up in the tender while going along, shovel coal forward, then jump back down into the cab, put it in the firebox and back up into the tender again, more 'shovelling down' and so on. No provision was made for drinking water and as the thirst became worse, one would drink the tender water out of the deck hose despite its poor condition. (Drinking out of the deck hose on the front of the tender might not sound too bad, but the water columns were fed from open-topped, elevated water tanks containing amongst other things, frogs, dead birds and other animals, dirt and of course, water).
In steam days, most enginemen carried a 'billy boiler' in their tucker box. These essential items were usually fabricated by the depot fitter or boilermaker, using copper tube bent into a coil and brazed together for strength. A threaded union was then brazed to the top section to permit connection to a steam supply.

R.D. Love

Right: The billy boiler in action. It was usually coupled to a connection on the bottom of the gauge glass in the cab or on to a special steam cock provided for the purpose. The billy boiler (shown here on SMR tank engine No.31) has been connected to the steam supply. The billy of cold water (in this case, the crew's billy was a one gallon prune tin, enough tea to supply the crew of three plus a visitor) is supported by wire and the steam supply turned on. With steam passing through the coil and exhausting from the pipe as shown, one gallon (4.5L) of cold water was brought up to the boil in less than 30 seconds. R.D. Love

With the temperature around 100°F, a roaring fire to feed and 4 or 5 tons of coal to heave, one tends to be happy to forget the livestock in the water when this is the only source of drinking water. In later years, the department supplied water bags which were hung on the tender handrails. No 'crib' allowance was available and the idea was to make up time, if possible, at a water column and boil the billy while taking water and have a quick cup of tea and a sandwich.

Tea was made using the tender water and the injector. An explanation of the operation of the locomotive injector would probably help at this point. A steam locomotive is usually fitted with two injectors, one on the fireman's side of the engine (normally this injector is in constant use) and one on the driver's side of the engine, only being used if the fireman's injector is faulty or cannot keep sufficient water up to the boiler. Flow of cold water from the tender is controlled by a manual valve (termed the 'water range'), either on the front of the tender or in a position near the fireman's seat. Steam supply from the locomotive boiler is also controlled from a hand wheel (called the 'steam range') near the fireman's seat. The same controls are duplicated on the driver's side of the engine. The injector uses the live boiler steam to propel the cold water, via the 'clack' valves (one-way valves mounted each side on the front of the boiler, near the smokebox) into the boiler itself. In normal operation, the tender water is turned on, cold water is observed to flow out of the overflow pipe mounted beneath the engine steps. The steam supply is turned with the hand wheel and, with a quick off-on movement of the tender water control, a partial vacuum is created in the injector body, mounted near the engine steps, so that the steam picks up the water and forces it along the delivery pipe to the clack valves. The velocity of the water is increased by a series of cones in the injector body and the speed of the water...
Broken whistle cords, sticking safety valves and other problems were often encountered on the road. Running out of oil in the lubricator was also a problem. With a heavy wheat train behind the drawhook and no chance to stop on the rising grades, the driver of 5442 climbs over the tender of the leading engine (5133) to borrow the 'round' oil, fill his empty lubricator and then return the oil tin to its rightful owner. R.D. Love forces the clack valves 'open' and the cold water, assisted by steam, enters the boiler.

Our much needed 'cuppa' was prepared using the injector. The tender water was turned on by opening the water range, then the steam range was turned on and, instead of shutting and opening the water range again to put water in the boiler, it was only partially closed to allow a mixture of steam and water to run out the overflow pipe behind the step. The billy was held under the steam/water mix coming out of the overflow with a sweat rag through the handle, the result being a billy of boiling water within a few seconds.

A later development consisted of a coiled copper pipe with a suitable union brazed on, which was then screwed onto the bottom of the water gauge glass in the cab, with the coil being immersed in the billy of water. Steam was allowed to pass through the coil in the billy of water and onto the floor. This would boil the billy of cold water in a few seconds. Still another method was the use of a long rod or piece of wire supporting the billy in the firebox, again boiling the water within a few seconds. If the billy was coated with engine oil before being put in the firebox, it could be wiped over with cotton waste when it cooled down again, and would not go black.

Other problems which crews had to deal with on the road were broken whistle cords, sticking whistles, sticking safety valves on both firebox and domes and the stopping of air pumps, especially when the engine had 'primed'. (Priming was the term given to the result of having an over-full boiler of water. The excess water would occupy the space in the boiler normally taken by the steam and the result was the flow of water into the steam passages via the internal steam pipe, through the valves and cylinders and out the chimney to atmosphere. This had the effect of reducing the power of the engine, washing away all lubrication from cylinders and valves as well as the air pump, and possibly blowing the ends out of the cylinders). The washing away of the lubrication from the Westinghouse air pump often caused it to stop. If this happened whilst the train was in motion, it was often necessary to climb along the footplate and give it a tap, at the same time applying oil to the piston, to get it going (hopefully). Similarly, if a safety valve was playing up, it
The 40 class diesel-electrics only found favour with enthusiasts and photographers toward the end of their relatively short career. However, most enginemen appreciated them from the start, as they represented a most welcome change from the hard slog of the steam days and always did what was asked of them. In March 1966, 4017 and 4007 roar over Thornton bank with the seven cars of No.27 North Coast Daylight Express.

R.D. Love

was also necessary to climb along and up to the valve and give it a bit of gentle persuasion. On many occasions, one man rode on the footplate keeping the pump working while the other drove and fired the locomotive.

Barracks working and conditions received major overhauls over the years. In the 1940s, there was no restriction on how long an engineman could be away from his home depot and it was not unusual to work a job to Armidale, have 10 hours off, work the shunter or jobs like No.94 up goods, change over on to No.61 down goods (at a crossing loop along the way), work back to Armidale, go into barracks, have another eight hours off and then work home to Werris Creek. This meant being away for up to three days. Another very common working was to sign on at 9.05am on Saturday morning, work No.65 down goods to Armidale and camp there until 7.30pm on Monday night to work No.238 goods home. There were no payments between the time you signed off at Armidale on Saturday night until you signed on again Monday night (48 hours in Armidale).

Eventually, enginemen were paid in full if they remained in barracks in excess of 16 hours, and a further concession was a limit to the time they were away from their home depot. If they could not work a train home within this time limit, they had to be returned home passenger by the first available train.

Even though the conditions were a little poor in those early days, the improvements previously mentioned made the job more bearable. The most memorable parts of the long career are the amusing incidents which were never in short supply.

Guard Arthur Bennett tells the story of being banked in the rear from Willow Tree to Ardglen on an up goods and hearing a knock on the brake van door whilst mobile in the section. He looked out the window and recognised the face of Driver Baker, who was the bank engine driver. As a lark, the driver had crawled along the footplate of the locomotive onto the brake van running board and to the brake van door.

Joe Taggart and myself were working No.13 Glen Innes Mail to Armidale with a 36 class engine and at Tamworth two very young enthusiasts asked if they could have a ride in the cab. Between Nemingha and Kootingal, there were two road bridges (old and new) close together. As we approached the bridges at speed, Joe yelled out, “Duck!” and they both looked and instinctively ducked their heads. Near Danglemah, cows had wandered onto the line and refused to move. Our two enthusiasts got off the engine and photographed the temporary blockage before we continued.

Two of the greatest menaces for train operation were grasshoppers and umbrella grass, which the leading bogies squeezed on the line, making traction
of the driving wheels impossible. The wind would
blow the-umbrella grass into cuttings, at times
filling them above the height of the engine. The
unwary engine driver would find himself in an un-
controlled wheel spin and next thing, he would slip
to a stand. A hessian bag or cardboard box, if avail-
able, would be tied onto the guard irons in front of
the wheels to act as a broom. The only other alter-
native would be to use the shovel and baluster brush
(the small hand brush supplied in the ‘kit’) to scrape
and sweep the rails clear.

Most of the amusing (or otherwise) incidents so
far mentioned have involved the steam engines, but
in the early and mid-1950s, the diesel-electrics were
making their presence felt on the main lines, includ-
ing the main north.

The 40 class diesel-electric was a great locomo-
tive - large roomy cab, high off the ground and able
to stretch its legs out. However, it had a gigantic
drawback: it would be going uphill and suddenly go
into an uncontrollable wheel spin, resulting in the
train stopping. A driver had to be ever-alert and at
the slightest indication of a movement in the speedo
needle or the whine from the wheels, reduce the
throttle opening to maintain adhesion. There were
times on the Liverpool Range when they have
slipped to a stand with the driver caught unawares,
suddenly finding his train going backwards. Some
drivers were able to get mobile again, whilst others
had to seek assistance, and luckily, in those days, a
bank engine was available somewhere between
Murrurundi and Willow Tree. In order to get
moving, it was necessary to open the throttle slowly
and just move off gradually and even when mobile,
only proceed at about half-throttle, so as not to
induce further wheelspin. It was better to lose a few
minutes coaxing the engine along gently rather
than a lot of time, trying to push along too hard and
have wheelspin recur.

Unlike later diesels which had automatic change
of transition, the 40 class had to be manually
changed while the driver closely observed the
speedometer. (Transition is the term given to the
arrangement of electric motor connections, motors
in series or parallel, etc., in order to obtain optimum
power and speed at the wheels). We were coming
home passenger in a carriage of No.7 North West
Mail, and when we arrived at Maitland, the driver
came back and said he was going to fail the engine
as he could not get over 25mph. He said that he had
not been on a 40 class before but had to take it when
it arrived in Broadmeadow from Sydney. I sugg-
ested to him that he should change transition
manually and he said that he had thought it was
automatic. I rode with him to Singleton to give him
some help and everything was OK. It was like trying
to do 60mph in low gear in a car.

In the 1950s, I spent most of my time on the goods
trains working out of Werris Creek, with occasional
trips on passenger trains. We worked all four direc-
tions out of the town and of course, it involved
barrack work.

Four pages from my memo book for the year of
1953 are shown and illustrate some of the usual
working which crews from Werris Creek depot car-
ried out.

The variations to this routine were the shifts on
the yard shunter and the ‘bank’ work at Murrurun-
di. This occurred in times of heavy traffic flow or
when there was a shortage of crews at Murrurundi
depot. Sometimes, Muswellbrook men were also
used as bank crews.

A perusal of my old memo books for the month of
August 1953 reveals a number of interesting shifts
working over the Range.

On 1 August, I signed on at Werris Creek at
These pages from Bruce Griffey's memo books emphasise the diversity of work drivers could be expected to perform.

On 28.5.53 train No. 108, engine 5430 was crewed by B. Griffey (driver), R. Bishop (fireman) and guard E. Studdert. Originating in Werris Creek, it went to Muswellbrook with a 25 minute delay at Willow Tree to allow for shunting, 56 minutes were spent standing in the loop and a further 16 minutes for loco servicing purposes. The train was assisted from Willow Tree by 5217 driven by Driver Riordan.

The shift total of 10hr, 10min. is added to accrued time of 28hr, 50min., a total time of 39 hours. Barrack expenses of £1 were awarded, for the day's duty.
The 60 class Beyer-Garratts came to Werris Creek in the early 1950s, mostly to work wheat trains in the Narrabri to Werris Creek section. Near-new 6007, still fitted with the original coal bunker, twin steam turbines and decked out with red lining, stands beside the roundhouse in Werris Creek in 1953. The oppressive working conditions for the crews in Ardglen tunnel saw Garratts removed from working trains through this section of the far north by 1960.

late R.R. Clarke

8.45am and travelled passenger to Murrurundi. With Murrurundi fireman Bill Hoskins as my mate, and engine 5249, we assisted three trains that day. After finishing at Murrurundi depot at 5.05pm, I returned home passenger on No.245 goods, finally signing off at Werris Creek at 9.18pm. Total shift time: 12 hrs, 33 min.

On 21 August, with Werris Creek fireman Ian Thomas, I travelled passenger to Murrurundi on No.8 North West Mail. On arrival, we took over bank engine 5354 and pushed No.95 goods, with driver Charlie Brown, load 480 tons, train engine 5466. A tender-first trip back to Murrurundi followed and we waited the arrival of No.265 goods.

Driver Neville Carroll arrived with 265 goods, train engine 5459. We then swapped the train engine for the banker, 5354 went on to the front of No.265, we went on the rear with 5459. (This was the usual way of changing over the Murrurundi bank engines.) The load of this train was 464 tons and we pushed to Ardglen Tunnel, No.13 Glen Innes Mail running through us at Pangela.

On arrival back at Murrurundi, we signed off at 7.15am for a total shift time of 10 hrs, 3 min.

We then went into barracks at Murrurundi loco for 8 hours off.

Ian Thomas and I signed back on again at 3.30pm that day (22nd) and, with bank engine 5200, ran light to Willow Tree. Soon after, No.28 goods arrived, driver Ernie Scott, engine 5478, load 670 tons, and we pushed to Ardglen and returned light to Willow Tree.

An hour or so later, the next job pulled into the yard at Willow Tree. Beyer-Garratt 6023 arrived at the head of No.674 goods, 801 tons, driver Charlie Brown. The Garratts worked a few trains in the Werris Creek area in the early to mid-1950s, but they were later banned from working loads through Ardglen Tunnel due to tight clearances and the oppressive heat in their cabs. We pushed 6023 to the tunnel and returned light to Willow Tree.

Engine 5150, with driver Carroll, came in on train No.30, for 670 tons. We went on to the front of this train and went through to Murrurundi with them, arriving there at 11.00pm.

We then returned home passenger to Werris Creek, signing off at 4.12am on the 23rd. Total shift time: 12 hrs, 42 min.

Long hours were normal in those days!

In 1956, due to the retirement of senior drivers like Jack Colls and Jack Rollo, vacancies were occurring on the rail motor roster. These drivers had been on it for years, and their retirement meant a few positions would be available.

As a point of interest, the CPH '42 footers' ran a regular service between Dubbo and Werris Creek.
and return in the 1930s and 1940s, with a Dubbo driver. Later, a Werris Creek driver, Jack Rollo, worked a ‘one-man roster’ on the Dubbo run. In the mid 1950s, a 600 class two-car diesel commenced working on the Werris creek to Binnaway run. A CPH came back to Werris Creek for a short time in the 1960s when the 600 class needed repairs.

With the retirement of these senior men, I made application for a position on the roster but did not expect to get it, as there were many drivers senior to me.

One day I worked No.419 goods to Armidale and was rostered to work No.420 home. Shortly after going to the barracks, the Roster Clerk came up and told me I was to go straight home as a passenger on No.408 goods, as I was required for diesel training. I imagined it was for further diesel-electric locomotive work but, to my surprise, I had to sign on at the station at 8.00am the next morning for 600 class rail motor training, together with drivers Herb Johnston and Stan Marney. The senior drivers in the depot had all knocked back the training because there was not enough additional money in it for them.

The roster was all day work, with no night or weekend penalty rates. The 600 class unit was to work No.23a to Moree (Burren on Tuesdays), then I would go into barracks and return the unit next day as No.22a. Other jobs on this roster included working No.19 passenger (which departed Werris Creek after connecting with No.13 Glen Innes Mail) to Narrabri and return on No.24 passenger, connecting at Werris Creek with the Northern Tablelands Expresses. The roster included working the 10.30am town shunter as the pilot driver. (The driver on this shunter was on standby and took over the 600 class if the rostered driver failed to turn up for work). The two other drivers already on the roster were Fred Taylor and Bill Boehme, making five drivers in all on the rail motors and other rostered passenger working.

The instruction in the rail motors was given by the Chief Rail Motor Fitter, Frank Gribble, who not only did the ground training, but also travelled with the drivers and gave road instruction. It was unusual that no Locomotive Inspectors were involved in this training. Apart from this, Frank Gribble drove all rail motors involved in transfer to and from Chullora Workshops and various depots right throughout the state, on the main line. He was not accompanied by a Loco Inspector to oversee safe working or road knowledge.

After the instruction, I then took up permanently on the five-man rail motor roster. However, when the second 900 class set was introduced to the Northern Tablelands Express service in 1960, the rail motor roster was drawn into the Special Class drivers’ roster, which included twenty drivers. An explanation of the roster or diagram and the working of the 900 class sets, is a story in itself and will be related in the final section of my story.

However, roster working did involve me in duties other than driving the 600 class, and while there were many interesting experiences, one event will always come to mind.

On 11 November 1964, I was involved in a head-on smash on the north-west line between Werris Creek and Burilda. Burilda is the first crossing loop after leaving Werris Creek, some 8 miles out. I signed on to work No.7 North West Mail from Werris Creek to Moree. We were to ‘camp’ in Moree, and to return home on No.402 goods that night. Together with Werris Creek observer Dave Richardson, I prepared 4811 (leading) and 4801, whistled out of loco and coupled to the train when it arrived from Broadmeadow. The guard in charge was Wally Sharpe.

We departed Werris Creek, passed through the Gap, the junction with the line to Binnaway, and headed down Potter’s Bank toward the northwest. Here, the line is perfectly straight, through Burilda and almost to Breeza, some 9 miles away. It is on a long falling grade of 1 in 75, easing to 1 in 180, to Burilda, then almost flat across the Breeza plain.

We could see a headlight coming toward us and I joked to my mate, “I hope he has a staff!” Naturally, I thought he was coming along the section between Breeza and Burilda. I dimmed my headlight and he responded and dimmed his. I turned my headlight right out so as not to blind him coming into what I thought was the loop at Burilda with its catchpoints. He left his own headlight on dim, indicating to us that he appeared to be going into the loop there, this being the normal procedure. Suddenly, his light came on full and then I could see his reflection on the track. He was just in front of us. I applied the brakes in the emergency position and hung onto the whistle cord. We braced ourselves, deciding against jumping out in the dark and hoping we could stop and reverse out of his way. We had been doing 60mph shortly before this! We didn’t stop and the trains collided.

Train No.402 had been worked by a Werris Creek crew on an all night job from Moree. The locomotive was 4860, a brand new unit, less than two weeks old and only 1200 miles on the speedo. The crew - driver, observer and guard - were all dozing, dropping in and out of slumber, and knew nothing until the crash and, being in a state of shock, kept assuring us they had the staff. Unfortunately, it was the...
On 11th November 1964, engines 4811 and 4801 at the head of No.7 North West Mail collided head-on with brand-new 4860 hauling No.402 up wheat. The collision occurred in the section between Werris Creek and Burilda, most fortunately without any injuries to crews or passengers.

Keith Withers

Breeza - Burilda staff they had and the train was well into the Burilda - Werris Creek section and outside the down landmark signal for Burilda. The tape from the speed recorder showed 4860 as doing 15mph at the time of collision, with 4811+4801 (on the Mail) doing 3mph.

Most fortunately, injuries were nil. The only personal damage was to suitcases, etc. dislodged from luggage racks on No.7 Mail. The automatic coupler on the front of 4811 had become embedded in the leading coupler on 4860. The three leading RU wheat hoppers on No.402 had gone over the embankment after squashing the fan room on 4860 and were clear of the track. The line itself was undamaged. Ironically, 4860 had vigilance control fitted, but the equipment was not cut-in and work-
Part of the four-stall roundhouse constructed in Werris Creek in 1917. The boiler house is in the centre of the photo with the large elevated coal stage on the left.

Normally, at the enquiry, the District Locomotive Engineer represents 'loco', but on this occasion, he was at the crash scene and his place was taken by a Loco Inspector. The District Superintendent or his assistant represent 'traffic'. The results of all this were sent to Sydney for the administration to make a decision on blame and punishment. All the evidence is checked, the Rules and Regulations are checked (usually they can fit you with something, even if it is not your fault at all!).

Early the next morning, the DLE, the DS and the Loco Inspector all went out to Potter’s Bank to see if my statement was correct (about the difficulty of ascertaining the exact position of the other train whilst looking against his headlight) and they had to concede that I was right.

In this case, it was rather straightforward and we heard nothing more about it. The crew on No. 402 goods were reduced in grade for three months as punishment. I resumed work on the diagram, which included steam working on the mails, mainline diesel-electric work, and some branchline diesel working, and, of course, the ever-present 900 class units.

Less than three years later, steam locomotives ceased mainline working in the north of the state, leaving a few steam shunters in some of the large yards in the area. It was the end of their long association with the Werris Creek area and of an interesting era, which I was sorry to see finish.
Our Rail Heritage
Honeysuckle in the 1870s

R.K. Booth

A first glimpse of the accompanying photograph of Honeysuckle engine depot near Newcastle gives the impression of untidiness and clutter. However, careful examination of the details and practices which have been captured reveals a pictorial record of great historical interest and value.

Honeysuckle was made the site for a locomotive and carriage depot in the Newcastle district from the outset, when the first public railway in the Hunter region was opened to Maitland in 1857. During the following twenty years the line was extended in cautious steps along the Hunter Valley, reaching the foot of the Great Dividing Range at Murrurundi in 1877, close to the time when this photograph was taken. The railway, of course, provided a vastly superior method of transport from the interior to the seaboard. The tall masts of sailing ships seen in the background of the photograph emphasise Honeysuckle’s harbourside location, which was close to the present Civic station.

The depot’s coal stage is located on the far left, where the fuelmen have paused from shovelling sizeable lumps of coal from three box wagons, then the standard method of coal conveyance in the Hunter. The square-cornered water tank stands in front of the machine shop chimney. Both machine shop buildings are of brick construction and have windows with semi-circular arch tops. The longer walls of the furthest building are strengthened with pilasters. The contract date for the machine shop was 1 January 1874.

Four wagons for the disposal of ash stand to the left of the water column. These wagons have timber frames and are only two planks high, as a concession to the manual methods of loading and emptying them. All their axle boxes have sheet metal covers to keep out ash and grit. The three-link coupling is a standard feature of the time, as are the two side chains which were a precaution against breakaway, should the drawhook be pulled out or the coupling link jump off the hook when the wagons bunched together. Note, too, the external body framing of the goods van behind the first ash truck.

The water column is an early style having a curved jib and a bulbous extension at the rear for counter-balance. This style of water column does not seem to have survived the 19th century, even though the railways in those days were meticulous in re-using redundant materials. It is possible that the jib was too low for the larger tenders being introduced or its delivery capacity was too slow. The column partly conceals a brake van, fitted with a raised lookout so that the guard could keep an eye on his train as it progressed.

Various items of permanent way have been stacked behind the water column. The fishplates have elliptical holes as an allowance against expansion and contraction of the rails. Three types of rails can be found in the stack to the right of the water column - flat bottom, bullhead, and Barlow rails. It is interesting to speculate whether the experiment with Barlow rails was conducted in the Newcastle region, or whether they were used second-hand from Sydney for perhaps workshop, industrial or temporary sidings.

The engine shed is not the original, but a standard Public Works design covering three tracks. The contract for its construction was let on 18 April 1871. Note the provision for ventilation on top of the roof and above the doorways. The shed is timber framed and clad in corrugated galvanised iron. Four engines are housed within, but classes and numbers cannot be determined.

The two signals represent very early practice on the NSW Railways. Both are standard products of the time, supplied by the British firm of Stevens & Sons. The taller signal is the ‘station semaphore’ type, having arms for both up and down directions at the same height. The post is made of iron lattice and is capped with an open orb, plus spire finial, a hallmark of Stevens. It is not known whether the fine strips on the arms had any special safeworking significance or whether they were an experiment to improve visibility. It is even possible that the arms were fabricated in this pattern from iron to reduce wind resistance. A photograph exists of a similar example at Bathurst. Note how the old orthochromatic photographic plates of the time did not clearly distinguish blue from white or red from black.

Other features worth studying are the spectacles fixed beneath the arms and the oil lamp. At first glance, the spectacle appears to have three glasses, but this impression has been caused by the superimposition of two spectacles, one on the front of the post and the other on the back of the post, operating on the one spindle. The lamp has been lowered by a windlass and pulley arrangement to extinguish the
flame during daylight. The lamp, which had front and back lenses, would be lit again and raised to a position between the spectacles just before dusk. The lamp carrier unit operated along a vertical guide fixed to the side of the post. No ladder has been provided on the post.

At the time when this photograph was taken, the main line had been laid with both up and down tracks, but since there was no interlocking between points and signals, the two arm semaphore was considered adequate for the purpose. Each arm and corresponding spectacle was operated by a quadrant lever bolted near the bottom of the post. It should be noted that in the days of the station semaphore this was the only Stop - Clear signal at the safeworking station. Drivers finding the signal at stop had to know where to bring their train to rest without causing obstruction to a conflicting move-ment and this may have been well short of the signal, as is the case here.

The shorter signal is the slotted post type. The indications of early British practice were:
- Arm horizontal - Stop.
- Arm lowered through 90° and concealed in a slot in the post - Clear.

The post is wider where the slot in the side is located. This practice was modified so that the arm could be seen for both stop and clear indications. In this case the clear indication was 60° into the lower quadrant. The front of the wooden arm is painted red without any vertical white stripe, a relic of the earliest practice. The post is angled towards the engine sidings and so the signal controls movement from these sidings onto the mainline. Only a single red spectacle has been fitted. So at night red meant 'Stop' and white (of the lamp alone) meant 'Clear'.
The station semaphore, by contrast, has both red and green glasses in its spectacles. The lamp and spectacle on the shunting signal repeat the practice of being lower than the arm, but in this case the lamp is fixed to the post and can be reached by a short ladder attached to the side of the post.

The points in the engine depot were worked by either throw-over levers or ball levers. Both of these mechanisms operated perpendicularly to the line and not parallel to it, as was later standard practice. The system shown here occupies more space at the side of the track.

The workshops to the right of the main lines were for carriage maintenance. The more distant of the buildings has a contract date of 1872 and carriage repairs and overhauls were undertaken here. Window lights have been provided in the roof, allowing daylight onto the workplace. The nearer brick building, with a circular window above the doorway arches, was the carriage painting shop and the contract for its construction was let in 1874.

The very elderly four-wheeled carriages appear to be stored out of use or perhaps kept for local excursion trains at weekends or holiday times. Their short wheelbase and completely open windows would have made a journey a feat of endurance. Each carriage has a single cylindrical ventilator on the roof for an oil lamp to illuminate the interior at night.

The large pieces of timber near the right foreground appear to be the components of a wooden buffer stop.

All bits and pieces, admittedly, but a rewarding look back to the days when the railways were young, confident and expanding.
Muswellbrook, April 1960. Engine 3510 stands on the main line in the platform, with 6019 standing on the Coal Siding. The 60 class had brought a combined goods and empty coal train into Muswellbrook and as this was the limit for 60 class working at the time, it would have cut off and returned to loco. The original Muswellbrook loco sidings (up until construction of the new depot in 1943) were located on the right of the photo adjacent to the column.

R.D. Love

Above Right: Muswellbrook Locomotive Depot on 30 July 1966. The five stall, sector roundhouse was built in 1946. Similar style structures were built in Parkes, Broadmeadow and Enfield No.3. Two outside roads are shown outside the left-hand end of the shed with one road outside the right-hand end, partially obscured. The locomotives from left to right are 5248, 5905, 3637 (under repairs) and 5903. The drop-pit road is marked by the white bar across the doorway.

R.D. Love

3523 prepares to leave Muswellbrook loco in July 1962. Behind the 35, the tender of 5102 can be seen. 5102 is standing on an outside road which was located immediately below the roadway on the nearby overbridge.

Graham Kirkby
THE STEAM LOCOMOTIVE DEPOTS IN N.S.W.

Ray Love

Locomotive Out-Depots: Muswellbrook and Merriwa

On 19 May 1869, construction of the Great Northern Railway reached the town of Musclebrook (the original spelling), thus linking this small Upper Hunter community to Maitland and Newcastle by rail. Coal mining activity in the Muswellbrook area ensured a heavy involvement in railway operations. This essay covers the establishment of a locomotive depot in the town, and the subsequent establishment of a small sub-depot at the terminus of the branchline at Merriwa.

Although Muswellbrook depot reached its peak of activity nearly fifty years after the old depot of Murrurundi reached its peak, these two depots did work 'hand-in-hand' for some years, especially from a crew viewpoint.

Locomotive Out-depot: Muswellbrook History.

On 27 July 1869, a drawing was issued for the construction of a turntable pit of 40'0" dia. (12.2m) at Musclebrook. This appeared to be the only item of locomotive servicing equipment installed in Musclebrook in time for the opening of the line into the town. Obviously, a larger locomotive servicing depot was intended for Murrurundi, some 40 miles to the north, when the line eventually reached that town. The small turntable installed at Musclebrook was probably intended for the contractor's engine used in railway construction.

On 1 September 1890, the spelling of Musclebrook was changed to the present form of Muswellbrook, and in that and the following year,
authority was obtained for expenditure on further locomotive servicing facilities near the station. These included the provision and fixing of another turntable, construction of an ashpit and extension of the loop siding adjacent to the elevated water tanks, then in existence at the Werris Creek end of the platform. The provision or otherwise of a turntable is debatable, as no evidence has been found to prove the existence of such a luxury in Muswellbrook until the construction of another depot on a different site some 50 years later.

So began, in 1891, the first Muswellbrook loco area.

During the next 52 years, a number of improvements were carried out at Muswellbrook to suit the servicing of the local locomotives in the loco area and for through trains on the main line. These changes included the addition of water columns between the main line and the loop, improved ash pits and watering arrangements in 1911 and an additional elevated water tank of 40,000 gallon capacity (182kL) in November 1912.

In the Annual Report of the Commissioners for the year 1917, it was noted that Muswellbrook had been provided with a rest house for train crews. It should be mentioned that this was the year through working of freight trains between Hamilton and Werris Creek was introduced, hence the need for the barracks at the mid-way point. In addition, the branchline to Merriwa was opened in 1917 and, as a result, additional crew amenities would have been required at Muswellbrook to suit the working on the branch.

In 1918, additions were made to the rest house and another ash pit was placed near the station to assist with loco servicing. In 1920, the 40,000 gallon water tank installed in 1912 was transferred to Cootamundra.

The Locomotive Officers' Conference (LOC) of September 1927 approved expenditure for the construction of a new crew rest house, and in January 1928, again at the LOC, approval was obtained for the installation of a bulk petrol store for rail motors.

Not exactly associated with the locomotive depot, but in 1928, a drawing was issued setting out alterations to the position and arrangement of the yard water columns the better to suit the needs of through working of trains.

With the opening of large collieries nearby in 1933 and the resultant increase in coal traffic by rail, it was obvious that the meagre locomotive facilities in existence near the station were inadequate. At the Locomotive Officers' Conference for September 1943, it was announced that new locomotive servicing facilities were being prepared on a site approximately ½ mile (1km) south of the station near the Newcastle end of the yard.

The new depot was opened in late 1943, and consisted of a 75 foot diameter manual turntable (22.9m) and a number of radiating roads, together with short over-run roads. In May 1944, a drawing was issued covering details of a low timber coal stage in the new depot. At the LOC of October 1945, a coke soaking plant was provided in the depot, and in the Annual Report of the NSWGR for the year 1945, it was announced that additions had been made to the rest house accommodation. In fact, the additions referred to were the construction of an

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**Muswellbrook 1940**

**Key to Symbols**

1. Rail Motor Fitter
2. Signal Engineer
3. Water Tank
4. Rail Motor Fuel Tank and Bowser
5. Railway Institute
6. Loco Chargeman and Sign-On Room

- Water Column
- Ash or Inspection Pit
- No.2 Down Siding
- No.1 Down Siding
- Coal Siding
- Loop
- Main Line
- Loco Road
- Rail Motor Siding

Drawing Based on Signal Diag. 1929 and on Site Information applying to Area in 1940
For fifty years, through goods trains, in both directions, changed crews in Muswellbrook. On up goods trains, either Muswellbrook or Broadmeadow men worked the 80 mile section of the main north to Broadmeadow or Port Waratah yards. On an unbearably hot November afternoon in 1965, after a crew change in Muswellbrook, 3503 and 3509 head south through St Heliers with No.380 goods.

R.D. Love

entirely new and large brick barracks adjacent to the new locomotive depot. Again, in the LOC for January 1946, approval was obtained and expenditure authorised for the 'covering over of 5 radial roads' to form the Muswellbrook roundhouse.

The Annual Report for the year 1947 quoted 'improvements to the locomotive accommodation at Muswellbrook'.

The LOC for the month of October 1949 noted 'improvements to the staff accommodation in Muswellbrook', and in March 1950, the LOC noted the 'replacement of the existing ash pit by a 50' x 4' deep (15.2m. x 1.2m.) ash pit, with drainage discharge in nearby Muscle Creek, and the laying in of an ash arrester pit'.

Further improvements were carried out in 1950, 1951, and again in 1953 and included improvements to staff accommodation, provision of a new locker room, meal room, wash room and toilets.

It is also noted that in September 1951, two sidings were provided in the depot to accommodate 'two Garratt locomotives'.

In 1953, a triangle was installed in Muswellbrook on the down (or western) side of the line at the Newcastle end of the depot area, this being noted in Weekly Notice, March 1953. This triangle was intended for the turning of 60 class Garratts then coming into frequent use on the coal trains in the area.

The depot reached its peak of development in the mid-1950s and only minimal changes were carried out over the next fifteen years.

When steam locomotives were displaced by diesel-electrics in the late 1960s, the depot then came into use as a 'home' for the occasional diesel unit in use on local coal traffic, the yard shunters and the diesels in use on the Merriwa line.

Tenders closed on 29 September 1971 for the purchase, demolition and removal of the old original barracks (provided in 1917) and the nearby outbuildings and in December 1975, the triangle installed for the turning of the 60 class engines was removed, the land returning to use as part of the golf course.

By June 1986, the area known as Muswellbrook Locomotive Depot became redundant as far as
locomotive stabling was concerned and as a result, the Muswellbrook crews moved from the roundhouse to rooms on the station, something which became prevalent in many locations throughout the state at that time.

In recent years, the roundhouse and some of the depot buildings were taken over by the local track repair gangs, a situation which still exists today.

**Description.**

In the years prior to 1946, Muswellbrook loco consisted of a locomotive storage road, capable of holding two steam engines, termed the Loco Road, and another adjacent siding, slightly elevated, called the Coal Siding. The Coal Siding was used to store coal wagons from which the locomotives standing in the Loco Road could be hand-coaled. Another short siding trailing off the Merriwa branch, called the Rail Car Siding and normally used to stable the Merriwa rail motor, was also used to stable steam engines if more than two were stabled in the depot sidings. An ash pit and a water column were located on an adjacent siding. (When the new depot was opened to the south of town, the Loco Road was renamed the Repair Siding.)

Supervision of this small depot was carried out from a one-roomed office situated between the Muswellbrook station buildings and the northern end of the platform. This office contained the loco chargeman and the sign-on room. Just beyond the northern or Werris Creek end of the platform was an ex-army hut in use as a Railways Institute, as well as a fuel tank and bowser for the branch rail motor. In addition to all this, a hut for the rail motor fitter and another hut for the local Signal Engineer were located adjacent to the rail motor siding.

In these early years, a rest house for both guards and enginemen was situated south of Muswellbrook station, between the goods shed and the overhead bridge on the up or eastern side of the line. The barracks consisted of two buildings, one containing a kitchen, a meal room and a wash room, the other containing two bedrooms, each room with 12 beds. The beds in these rooms were so close to each other as to be almost touching. Neither building had electricity or hot water, kerosene lights and coal stoves being the order of the day. A lady barracks attendant, named Chrissy, was employed on duty to wash the sheets and generally keep the barracks clean.

The sparse locomotive servicing facilities existing near the station were replaced in the mid-1940s by a new depot with associated buildings and structures.

In its final form, Muswellbrook locomotive depot consisted of a five-stall sector roundhouse, with further, uncovered, radiating roads and a few short overrun roads opposite the shed roads. A 75 foot (22.9m) diameter, manually operated turntable was fitted at the time of construction.

The new roundhouse was of the modern style of construction, with two sloped roofs, each slope being about 15°. The peak of the roof was fitted with a ventilating ridge. Construction material was corrugated asbestos-cement sheeting on a heavy timber and steel framework. The main support columns were timber. Smoke chutes were fitted above each road on the outer slope of the roof (five in total) and a row of large windows was also fitted in the outer perimeter wall. In addition, a large window was fitted in each end wall. This style of construction was also used in other roundhouses built from the mid-1940s: Parkes, Enfield No.3, and Broadmeadow No.2. This was the last style of roundhouse to be built in NSW.

Inspection pits, each 80 feet long (24.4m), were located on all the shed roads and on one of the outside roads, in addition to ash pits on one of the roads adjacent to the coal stage. A drop-pit was also installed on two roads within the shed.

A low coal stage of timber construction was built between two roads leading to the turntable, an elevated water tank of 40,000 gallon capacity (182kL) with an associated water column (9 in./230mm) was also located nearby. Dry sand for the locomotives was supplied from Broadmeadow depot and stored in a bin located near the turntable end of the coal stage.

Administration was carried out from a brick and timber building situated near the turntable and the roundhouse. This building housed a kit store, sign-on room, and offices for the District Locomotive Engineer, chargeman and roster clerk. A crew meal room and a wash room were later added to the rear of this building. Tools, etc. were kept in lockers within the shed.

The new depot was located beside Muscle Creek, a wandering waterway which eventually flows into the Hunter River, and which is also subject to the flooding to which the Hunter is prone.

A new crew barracks of brick construction was built adjacent to the high school on the side of the
The main building for amenities and administration in loco was a neat brick structure built adjacent to the turntable. Part of the elevated water tank is on the left, part of the roundhouse is on the right. Locomotives 5913, 5224 and 5906 occupy the shed roads.

R.D. Love

nearby hill, overlooking both loco and the yard. This building contained a large meal room with tables and bench-type seats, a kitchen with two coke stoves, a bathroom, toilets, etc. Two bedroom wings were included, 12 bedrooms in each wing, two beds per room, giving a sleeping capacity for 48 men. The best feature of the new barracks as far as the crews were concerned was the provision of hot water and electric lighting.

Chrissy (no one bothered to find out her other name), the attendant employed at the original barracks, was re-employed at the new barracks on day work, but because of the increase in crew numbers using the building, further barracks attendants were employed on shift work as well.

Soon after the opening of the new depot, a coal bin was built near the road overbridge, above the Weighbridge Siding, such that road trucks could discharge their load from the nearby open-cut mine directly into the bin for loading, via chutes, into rail trucks below. Unofficially, if there was a slack in rail traffic, a few engines from loco would be raced over and coaled from the chutes, to reduce the hand coaling normally used in the depot. In later years, this became an authorised practice.

A triangle was installed in 1953 for the turning of 60 class Garratts. It was actually on an extension of one of the sidings in loco, each leg of the triangle being a 10 chain (200m) radius curve. The formation of the triangle extended in a westerly direction from the main line onto a nearby golf course, the land being resumed for its construction at the time.

When viewed from the nearby roadway, Muswellbrook locomotive depot gave the impression of being neat and compact. All servicing facilities appeared to be conveniently located relative to each other, the area was kept neat and tidy and free from the usual junk associated with steam locomotive maintenance. A number of other depots gave the same impression, Cowra, Orange and Parkes being noteworthy examples.

Locomotives.

Up until the early 1940s, Singleton depot supplied and serviced the local locomotives in use in Muswellbrook. These included a few 24 and 25 class 2-6-0s, as well as 30 class engines, both tender and tank types. It is of interest to note that, for a short period in 1934, 4-4-0 engine 1702 was in use on the Merriwa line, and was based in Singleton. Around the 1945 period, two of the old 2-6-0 tender engines could be found working in the Muswellbrook area on a regular basis. Engines 2417 and 2532 (2413 was also noted) spent considerable time working in and around Muswellbrook and on the nearby branchlines. A 30 class tank engine was also in regular use on the Merriwa line. As stated, these were still Singleton engines at the time.

A variety of locomotives was serviced by Muswellbrook men by the late 1940s. A fuelman recalled, "The engines we worked on in those days were Bs (24 & 25 class), S (30), Ps (32), old Katies(D55), and later on oil-burning 59 class and the Garratts.".

By 1949, the sub-depot of Muswellbrook became responsible for its own locomotives. Accordingly, two 30 class 4-6-0 tender engines, 3127 and 3128 were transferred from Moree and Enfield respectively, firstly to Broadmeadow (the parent depot), and then to Muswellbrook. Over the next twenty years, nine different 30Ts, both saturated and superheated type, were allocated to the depot.

The 60 class Garratts began working the coal trains between Broadmeadow and the Muswellbrook area in the early 1950s, but were not allocated to the depot there. A Muswellbrook driver noted, "When Stan Croft put a Garratt over the dead end in the depot, it took about three days to get it back on.". By 1960, the occasional Standard Goods engine in the form of 50 class was allocated there.
The 75 foot (22.9m.) manually operated turntable installed in Muswellbrook in 1943. This turntable came from Kandos.

R.D. Love

Generally Muswellbrook engines were washed out by the depot fuelmen, sometimes assisted by the shed fireman.

Typical locomotive allocations for the twenty years from 1949 onward are as follows:

- 1949 - 3127 and 3128
- 1954 - 3010 and 3032
- 1957 - 3056, 3081 and 5121
- 1959 - 3081 and 5085
- 1960 - 3081, 3111 and 5085
- 1962 - 3081 and 5102
- 1963 - 3081 and 5102
- 1964 - 3022 and 5174
- 1968 - 3036

The allocation of saturated 50 class engines, 5121 and 5174, to the depot is interesting. This type of engine was usually allocated to either Port Waratah or, on occasions, to Broadmeadow (with an odd engine or two allocated to shunt the large yards such as Albury, Junee or Lithgow). When these engines were sent to Muswellbrook, they were used for shunting or local short trip working. On occasions they ventured on to the Merriwa branch working (when nothing else was available) and to Muswellbrook No.2 Colliery branch. After some months in Muswellbrook, they returned to their parent depot.

In August 1968, 3036 was transferred away from Muswellbrook to be set aside at Enfield. This was the last engine on allocation to Muswellbrook, all subsequent locomotives being supplied from Broadmeadow.

For two years, Broadmeadow-allocated engines were used on local and branch working. By 1970, 3088, 3108, 5248, 5268 and 5278 were included in Broadmeadow’s allocation of locomotives and usually one or more of this group could be found at work in the Muswellbrook area.

In March 1970, the three remaining 50 class on Broadmeadow’s allocation, 5248, 5268, and 5278, continued to work the Merriwa line in turn. At that time, each was ‘toned-up’ at Port Waratah depot in order to keep them in reasonable order and allow them to work the branch until the end of the year.

By mid-1970, 5248 transferred away to Casino depot and 5268 was withdrawn, leaving the branch and local work in the hands of the 30Ts. At that stage, the loading on the Merriwa branch was sometimes beyond the capacity of a 30 class engine and 48 class commenced limited work on the line. By July of that year, 30 class engines continued to work in the area, 3090 having joined the small group remaining at Broadmeadow. This engine also commenced working the Merriwa branch. Engine 3090 was the last steam locomotive to work the Merriwa branch, working out of Muswellbrook depot, and was displaced from the area in September 1970. It was then sent to Port Waratah depot.

Crews.

Prior to the early 1940s, local work in the Muswellbrook area, as well as the branchline work to Merriwa, was carried out by crews from both Muswellbrook and Singleton depots. To add confusion to this, the 1930 Local Appendix (North) shows the responsibility for working and locomotives at Muswellbrook and the Merriwa branch at the time as being in the care of the Murrurundi Steam Shed Inspector. By the early 1940s, there were about 5 sets of enginemen (5 drivers, 5 firemen), all under the control and supervision of Sid Musgrave, acting as Chargeman/Roster Clerk. By 1946, the coal boom had arrived in Muswellbrook, with three collieries operating in the near vicinity and with the opening of the new, larger depot to the south of the town,
many more crews were needed.

Enginemen from other depots transferred to Muswellbrook to build up the strength, so as to handle the increased work, quite often an appointment to a higher grade being involved.

For example, Ken Middleton, Bill Marr, Percy Hanshaw, Gordon Thuell and Bruce Griffey transferred from Werris Creek; Len Stephens, Jack Brusowitz, Archie Sutherland, Bill Nix and Keith Jones came from Broadmeadow; Fred Bronner from Sydney, and Neville Carrol with Cec Brown from another depot. All these men plus the existing local Muswellbrook enginemen made up the crew of the new depot. This meant that by 1950, about 57 men were employed at Muswellbrook locomotive depot, made up as follows:

- 20 drivers
- 20 firemen
- 8 cleaners
- 3 fuelmen, including Jack Smith and Leon Mills
- a storeman
- a District Locomotive Engineer (Mr Ron Jackson)
- a chargeman
- a roster clerk (Mr Reg Manning)
- a fitter (Bill Watson, known far and wide as 'fitter Bill')
- a fitter's mate (Cliff Miller)

The chargeman and the roster clerk were on day shift only and their duties on the afternoon and back shifts were carried out by the shed fireman, usually an acting driver himself.

No salaried drivers were employed at Muswellbrook and in these early days, no call boys were in use either, all calling of engine crews was carried out by the shed fireman’s mate (usually an acting fireman) as part of his shift.

Fuelmen and cleaners also carried out some ‘calling’, most of which was done by push-bike. A former cleaner recalls his ‘calling’ days, “Like most depots, all the crews that had to be called lived on a steep hill.”.

By the late 1950s, the number of men employed there had increased to more than eighty, with the addition of more drivers and firemen (about 30-35 of each), four call boys, a chargeman on each ‘afternoon’ and ‘back’ shift, as well as a roster clerk on day work.

The call boys called both the local men and the barrack crews, as many as 24 sets being called for down trains to Werris Creek on some days, not quite so many on Saturdays and Sundays. Approximately the same number were required for up trains to Broadmeadow, the busiest days being Wednesday and Sunday, ‘stock days’.

Boilermakers were not part of the depot staff in Muswellbrook during steam days. If boilermakers were required, they usually came up from Broadmeadow. Over the years, many men came on loan to Muswellbrook from depots like Broadmeadow, Taree and Werris Creek.

By the 1960s, Muswellbrook enginemen were qualified for, and normally worked, all passenger locomotives up to the 35 class as well as the Standard Goods engines, coal-burning 59 class and the 60 class. As the use of diesel-electric locomotives increased through the late 1960s and into the 1970s, the Muswellbrook men qualified to operate the new motive power.

In addition to locomotive operations, Muswellbrook drivers, acting drivers and all senior firemen were all qualified in passenger working. A few of the senior Muswellbrook drivers were also qualified in the CPH class ‘42 footers’, in normal use on the Merriwa branch.

Muswellbrook loco officially closed as far as engine crews were concerned on 19 May 1989. Of the fourteen men remaining in loco, six enginemen accepted redundancy offers, two transferred to the local per-way gang, four transferred to other locomotive depots and two retired.

Superheated 50 class 5234 on Muswellbrook turntable, in July 1962. This turntable was seldom used to its full potential, as locomotives in normal use in the area could have all been turned on a 60 foot diameter turntable. The 38 class engines which did have need of a 75 foot table were never used in the area on a regular basis.

Graham Kirkby
Working.
The area to the north of Singleton has long been a source of coal. Quite a number of mines were opened over the years (new mines are still being developed in the area) and Muswellbrook locomotive depot supplied the crews and serviced the engines working the coal traffic.

Coal mines opened in the area as follows:
- Muswellbrook No.1 (near loco) 1910
- St Heliers Colliery (renamed Muswellbrook No.2 in 1943) 1924
- Liddell Colliery 1934
- Newdell Colliery 1949
- Durham Colliery 1960

The development of these mines resulted in an increase in the work for Muswellbrook depot and the enginemen employed there.

Locomotive coal for use by the NSWGR was supplied by St Heliers mine during the 1940s and each day, a number of trips were run out to the mine (using Standard Goods engines) with empties, returning with loaded coal trucks. These trucks were made up into trains in Muswellbrook yard and despatched north to supply the loco depots. A Muswellbrook engineman of the day recorded, "A crew would sign on at 9.47am each day, whistle out of loco at 10.00am, take empties to the St Heliers colliery, load the train and return to Muswellbrook to form No.131 coal to Werris Creek. The same crew would then walk to loco, whistle out with another engine and repeat the procedure. This time, the train formed would be No.137 coal to Werris Creek. This shift was termed the colliery shunter and two guards accompanied the trains to shunt the mine. A third north train, No.135, ran irregularly, but its load generally came from the chutes opposite loco or the Muswellbrook mine nearby. The yard shunter was a separate shift.”

Muswellbrook Locomotive Depot
1968

Key to Symbols

1. Meal Room, Store, Sign-On, District Loco Engineer, Roster Clerk & Chargeman.
2. 75 Foot Dia. Manual Turntable
3. Machine Shop
4. Elevated Water Tank
5. Sand Bin (on end of Coal Stage)
6. Coal Stage
7. Coal Bin (with Chutes)
8. Crew Barracks
9. Elevated Coal Road

- Water Column
- Ash or Inspection Pit

A Main Line
B Weightbridge Siding
C No. 1 Coal Siding
D No. 2 Coal Siding
E No. 3 Coal Siding

Drawing Based on Sig. Diagram 1968, W&W Branch Station Arr. Dwg. 1056-40686, and Photographs. RDL
Shunting trips, running as No.89 and No.90, were also carried out from Muswellbrook to Aberdeen and Scone using a locally-based engine. Shunting of the sidings in these towns reduced the need for the regular main line pick-ups, No.117 down and No.94 up, to spend excessive time there.

In the 1940s, the three shunting engines previously mentioned, 2413, 2417 and 2532, were in use on local work in and around Muswellbrook. Usually, one of the engines shunted the yard, virtually around the clock, whilst the other carried out local trip work to the sidings and branches nearby.

These old B class engines also worked the Merriwa branch in the early days (up to the mid-1940s). It is of interest to note that in mid-1942, load tables and running times were issued for 32 class engines (P class) to work the branch. In later years, 32 class were only permitted on the Merriwa line with special permission from Sydney. By the late 1940s, 30 class tank engines and the occasional 50 class had taken over work on the Merriwa branch and the use of 24 and 25 class engines declined.

As the coal traffic increased in the mid-1940s period, the work of the enginemen in the depot increased in proportion. The Locomotive Officers' Conference for the year 1948 noted that all coal output from Muswellbrook open-cut colliery was being purchased by the Railway Department for locomotive use and amounted to 1800 tons per day. It was also noted that the quality of coal received from this colliery was poor and was responsible for numerous locomotive failures in traffic. The reason for this situation was put down to the method of coal extraction. All this output was railed from Muswellbrook (probably 4 or 5 trains every day) and the local crews figured prominently in the operation, as one of the main purposes of this depot was the supply of men and machines for this coal traffic. Shunting crews and engines were in use on all three shifts when the coal traffic was heavy.

In later years, the output of coal from Muswellbrook No.2 Colliery provided a lot of work for the local crews.

Locomotives of the 50, 53 and 55 class, later joined by the coal-burning 59 class, all worked the 2 mile branch from St Heliers, taking out empty wagons and bringing back loaded trains into Muswellbrook yard. At times, Muswellbrook yard was full, so the coal loads were left at St Heliers, later to be picked up by an engine working through to the south. On occasions, one of the 30Ts in use in Muswellbrook would go to the mine, bring out small loads (1 in 50 grades on the line) and make up a train in the sidings near the main line at St Heliers, there to be picked up later by a mainline engine and worked through. It was usual, however, for the 30 class engines to be used only for shunting or the Merriwa line working.

A shed fireman (actually an acting driver) and his mate (an acting fireman) were on duty on each eight-hour shift. Their normal job was to relieve the crew on each incoming engine, recoal, water and de-ash it, then stable the locomotive in the shed. They also prepared all outgoing engines for the coal traffic. On afternoon and back shift, the shed fireman had to sign all crews on and off, attend to alterations on the roster, deal with Control and the station master, and during this time, his mate had
Muswellbrook locomotive depot looking toward the south. Two coal-burning 59 class engines including 5901 stand adjacent to the coal stage, the elevated 40,000 gallon water tank nearby. The triangle for turning the Garratts curves away from the main line above the engines, and heads toward the trees on the right above the offices. SRA

Below Right: By 1970, it was rare for the resident HCX to make the trip to Merriwa on the regular goods, it being used mostly in cases of rail motor failure. An unnamed, influential enthusiast requested its presence on No.5 goods on Saturday, 24 January 1970 and it subsequently came to pass. Shunt engine 5911 withdraws the car from its hiding spot in the dock at the Newcastle end of the platform and then places it in the station ready for the trip. R.D. Love

On a coal train back to Newcastle.

In the steam days, mainline passenger trains were worked by Muswellbrook men on Saturdays and Sundays only. If a Muswellbrook crew was in barracks at Broadmeadow on Saturday and available for work, they would sign on and work No.139 passenger home. On Sundays, the regular passenger to Newcastle (No.194), was worked by the local men. With a sign-on time of 1.47pm, the crew would prepare a 32 or 35 class engine, whistle out and work to Newcastle. On arrival, they worked light engine back to Broadmeadow, signed off, went into barracks, and returned home on No.117 goods the next day. Another aspect of passenger working involved assisting heavy passenger trains over the long grades in the area. The local men would often go passenger to Singleton, take over an engine there and assist the mails to Murrurundi, returning light engine to Muswellbrook. This was usually done when there were insufficient Singleton crews available to do the work.

Muswellbrook crews also shared the mainline goods work with Werris Creek and Broadmeadow crews, working barrack jobs to either of these yards. In the earlier days (1940s and early 1950s) the Muswellbrook men worked more trains to Werris Creek than to Broadmeadow, but as the coal train traffic increased, the position reversed. 'Changeover jobs', where crews exchanged trains at a suitable meeting point and returned to their home depots were also a common occurrence on this section of the main north and Muswellbrook enginemen were part of this arrangement. Most changeovers were carried out between Muswellbrook and Werris Creek, not so many between Muswellbrook and Broadmeadow.

Apart from the working previously mentioned, Muswellbrook men (and on occasions, Werris Creek
crews, especially during heavy traffic periods) were often called on to help out on the Liverpool Range with banking work. A Locomotive Inspector recalled, "I arrived at Willow Tree on an up mail one night, riding with the rostered crew en route to Broadmeadow. The bank engine was waiting to assist us over the range from there and I always made a point of speaking to the crew on the banker to discuss loads, etc. This night, it was a Muswellbrook crew. They had been working their down goods from Muswellbrook to Werris Creek when they were directed by Control to cut off their train, turn at Willow Tree and assist us through to Murrurundi. They had already been on duty more than ten hours and they protested to Control that they were short of coal and not qualified for mail and passenger working. Control assured them a loco inspector was on the mail and everything would be fine. It seems I had to be on both engines simultaneously. I rode with the Muswellbrook crew through to Murrurundi. On arrival there, they had to turn their engine again and return to Willow Tree, pick up their train and resume the journey to Werris Creek. I estimated they had less than a ton of coal remaining and I directed them to go through to Werris Creek light engine. I informed Control of the decision."

When Murrurundi firemen were unavailable for one reason or another, a Muswellbrook fireman would travel passenger on No.7 North West Mail to Murrurundi and work on bank work with a local driver. On other occasions, when a Muswellbrook crew left Werris Creek barracks and signed on for the trip home, they would be advised that they would be required for some bank work on arrival at Willow Tree. With that job over, they would continue to work home.

Apart from main line goods trains, coal trains, and the weekend passenger working, Muswellbrook men worked all the goods traffic on the Merriwa branch.

In the early days, military trains ran from Singleton to the army establishment at Myambat on the branch and returned to Muswellbrook. These were also worked by Muswellbrook men. According to a Muswellbrook driver, the engines on these trains were turned on the turntable at Denman.

By the 1960s, the regular Merriwa goods (actually a 'goods with passenger accommodation') worked a return trip from Muswellbrook to Merriwa, running two or three days per week. In addition, wheat, wool and stock specials ran frequently in season and all of these trains were worked by Muswellbrook crews, sometimes involving a stay in the small barracks in Merriwa. During stock season, two stock specials followed each other out on the branch, one early Friday evening, the other a little later. Both returned to Muswellbrook during Saturday, the crews going into barracks in Merriwa before the return trip.

The 48 class diesel-electrics began to encroach on the branch in early 1970, pairs of these units working special wheat trains direct to Port Waratah using RU hoppers. All this time, steam remained on the goods and rail motor CPH16 continued to work the passenger. 3090 worked the last regular steam-hauled goods on the branch in September 1970, this being the last rural branchline in New South Wales to be regularly worked by a steam locomotive, the work being carried out by Muswellbrook men.

General Notes.

As previously stated, the original locomotive servicing area known as Muswellbrook depot was established in 1891, and realistically consisted of minimal servicing facilities, a situation which existed for about 52 years. The change in location and the subsequent construction of the roundhouse meant general improvements for all concerned with running of locomotives in the area and the operation
The regular goods to Merriwa stands in Muswellbrook station ready for the fifty-mile trip on the branch. Engine 5268 is at the head of CW, BCW, CW, S, bogie VR open wagon complete with tractor, S, brake van, then HCX bringing up the rear. 24 January 1970.

R.D. Love

of coal trains. In addition, the through running of both goods and passenger trains and the operation of traffic on the rural Merriwa branch was improved with the new depot.

Muswellbrook was a sub-depot of Broadmeadow and officially no cab-side shed allocation plates were ever issued. Research has indicated that it was intended to bestow the number 42 on Muswellbrook, but verification has proved difficult. Being a sub-depot of Broadmeadow meant all locomotives in use at Muswellbrook were actually on the allotment of the parent depot, and all timekeeping, overall supervision and responsibility was carried out by Broadmeadow.

Turntables were frequently moved during the steam days, usually to suit the increases in traffic and the consequent use of larger locomotives in specific areas. Muswellbrook featured in this operation during the enlargement of the depot. In 1943, the 75 foot (22.9m) diameter manual turntable installed at Kandos on the Mudgee line was removed and installed at Muswellbrook. This particular turntable, a ‘Newcastle’ type, Way and Works Branch No.1615, had been installed in Kandos in 1928. When the Kandos turntable was installed at Muswellbrook, it was replaced at Kandos by the 60 foot (18.3m) diameter turntable removed from Gulgong, ‘Sellers’ Cone Roller Race type, No.1634. The 75 foot turntable installed in Muswellbrook then formed the nucleus of the Muswellbrook locomotive depot for the next 46 years.

In 1945, a structure known as a coke soaking plant was installed in Muswellbrook depot. A coke soaking plant was a small shed, open at the front and divided into two sections. The lighting-up of locomotives was performed, in those far-off days, by using what can be termed ‘soaked coke’, and the coke soaking plant was where the lighting-up material was prepared. One section of the divided shed contained the dry ingredients and the other side contained a steel tank where the soaking took place. The dry ingredients were a mixture of coke and wood chips which were brought to the depot and unloaded into the shed. These were later shovelled into the steel tank which contained a quantity of diesel oil and allowed to soak. When required for use, the firelighter, one of the depot hands employed for the purpose of lighting and maintaining the fires in locomotives, would obtain his supply of mixed soaked coke and wood chips, proceed to the locomotive, shovel the mixture onto the cab floor and, with kerosene-soaked waste, would light the fire in the firebox. In later years, kerosene-soaked wood chips and shavings (without the coke) became the main lighting-up material.

In 1947, Muswellbrook driver Charlie Brown, who was the local Safe Working Instructor for the Railways Institute arranged for an ex-army hut to be purchased and transported from the military camp at Greta and installed off the northern end of Muswellbrook platform. This was converted into use as a Railways Institute hall, and all appropriate safe-working and instruction classes were held there for the next 35 years. In 1948, the hall was officially opened by Commissioner Hartigan and he presented Muswellbrook railway staff with their certificates at the time of the opening. New firemen were trained in the hall for mainline firing duty, spending two weeks local instruction, then "...sign on 7pm to work No.95 goods to Werris Creek." A Muswellbrook driver remembers, “The driver had to do a lot of firing to show them, because if it was left up to the (new) fireman, we would stick up in no time.” Shovelling-down of the tenders of through mainline engines was introduced at Muswellbrook station on both up and down trains to keep the coal within reach during the long slog. “Before the shovelling down at Muswellbrook was introduced, crews going north or south had to shovel down themselves as well as do some going along. It all depended who the driver was. If he was an old chap, the fireman would have to get up in the tender,
Denman station was opened in 1915. In this photo titled 'Denman, during the First World War' the neat arrangement is apparent, being less than two years old. Courtesy of Stan Nash Collection.

shovel coal forward, get down, put on a fire and back up in the tender, shovel more forward, back down, more firing and so on. This happened on most trains going north or south. If the driver was younger chap, the driver would put a fire on whilst the fireman shovelled forward.” The Institute hall was demolished in the early 1980s.

In 1973, the then Public Transport Commission of NSW (PTC) decided to redevelop part of the Enfield area, especially the large property housing the former steam locomotive depot. At the time, Enfield was home to the NSW Rail Transport Museum, the intention being to have the No.1 Roundhouse as the centrepiece of the exhibits and locomotive collection. Redevelopment plans came as something of a shock to the RTM, when it was realised the size of the task involved in relocating the collection housed at Enfield to another site. A number of alternative locations were suggested by the PTC to the RTM, one being Thirlmere, another being Muswellbrook locomotive depot. Inspection of the depot by the management of the RTM in October 1973 revealed (amongst other problems) an alarming incidence of flooding of the nearby waterways, the result of which saw occasional inundation of the depot area. This would have been disastrous for the display of restored exhibits and so the offer by the PTC to the Museum was rejected. It is interesting to note that in 1991 the former No.1 Roundhouse site at Enfield still has not been developed, 18 years after the ‘urgent’ removal of the Museum.

A degree of fame came to Muswellbrook depot in recent times, many years after steam locomotives had left the area. Rail tours of the enthusiast variety visited the upper Hunter on many occasions, and on quite a number of times, the tour engine turned in Muswellbrook loco. On 30 April 1989, one of the world’s most famous locomotives, in the shape of 4472 Flying Scotsman, came to Muswellbrook and was turned on the 75 foot turntable in the depot. It could quite easily be the last time a steam locomotive will be turned there.

**Locomotive Out-depot: Merriwa.**

Merriwa is a small rural community located on the Merriwa River, some 50 miles (80km) west of Muswellbrook.

A branchline was constructed from Muswellbrook to Merriwa in the 1915-1917 period, being officially opened on 29 October 1917. It might be pointed out that a full and thorough history of the Merriwa branch was presented by R.G. Preston in the ARHS Bulletin of October 1967. All aspects of line construction, operation, safe working, etc. are covered in the article and it is not intended to repeat them here, rather to concentrate on the historical aspects of the locomotive depot on the branch.

It may seem strange to include Merriwa in an lengthy essay dealing with locomotive depots of the region, but in fact, Merriwa was a locomotive depot, fitting in with the guidelines used by both the relevant unions and the NSWGR administration. Merriwa employed enginemen, and that automatically deemed it to be a depot in the strict sense of the term. In addition, a locomotive servicing installation was built in the town, all adding to the interest.

**History.**

On 22 November 1913, the Director-General of Public Works, Mr J. Davis, issued a drawing illustrating the ‘Station Arrangements at Denman’, the then terminus of the branch from Muswellbrook. Included in the arrangements was the provision of a locomotive depot at the outer or western end of Denman station, on the up side of the line. On the drawing, the layout of the depot included a 50 foot dia. (15.2m) turntable on what could be termed a turntable road, a single-road engine shed with an ash pit outside the shed, and a low timber coal stage of 150 tons (153t) capacity
Denman was site of the original depot on the branch, later re-erected in Merriwa. In more recent times, however, the regular goods (No.5) crossed the regular passenger (No.4) in Denman. On 3 May 1968, CPH28 heads for Muswellbrook while 3088 has a rest during its journey to Merriwa.

J.S. Glastonbury

located between the shed road and a separate adjacent dead-end road. Modifications were later made to this coal stage, resulting in a slight reduction in coal capacity.

An elevated 20,000 gallon (91kL) water tank was installed adjacent to the station building, being used to supply two water columns, one each end of the platform, plus a column in loco.

The locomotive shed was a single-road type, 120’0” long by 27’4” wide (36.6m x 8.3m), the detail drawing being signed in June 1913, as was the drawing for the coal stage.

This small depot remained for only 2½ short years, whilst Denman remained as terminus for the line.

In September 1915, a preliminary drawing titled ‘Station Arrangements - Merriwa’ (the planned terminus of the line) was prepared by the Department of Public Works and showed the proposed arrangements for the new loco at Merriwa. This included a 20,000 gallon elevated water tank (91kL), a low timber coal stage of 75 tons capacity, a small crew rest house, a 60’ diameter turntable (18.3m) and a single-road engine shed.

The provision or otherwise of an engine shed in Merriwa and its location appeared to be the subject of some debate in these early years; some drawings issued in the 1915-1916 period, indicate no engine shed provided, another shows the engine shed to be located on the town or south side of the line (same...
At rare times, the ever reliable CPH railmotor could not make the trip for one reason or another. In that case, it was replaced by an equally reliable 30T and HCX car. On Saturday, 1 August 1970, 3090 and car comprise No.4 passenger to Muswellbrook from Merriwa to meet with the mainline trains, and are shown crossing the Halls Creek bridge outside Sandy Hollow.

Peter Attenborough.

side of the yard as the station building). In any case, by March 1916, the problems were sorted out, and Mr Davis signed a drawing showing the location of the 10hp Tangye water pump, the piping and supply arrangement plus all the water system at the platform and at loco. The small weir, pump, suction jetty etc. are shown as installed on Merriwa River, referred to on some maps as Merriwa Creek or Smiths Rivulet. The drawing sets out the final and approved layout of the entire Merriwa yard and loco.

The final loco arrangement included a 20,000 gallon, elevated water tank, a small rest house, a single-road engine shed, an ash pit, a turntable and a low timber coal stage. The elevated tank fed water services at the station, in loco (barracks and pit supply) and the water column in loco. Following signing of the drawings, specifications were prepared for establishment of the loco, and accordingly, Mr L. Guiggin was awarded the contract to carry out the work. Included in the contract was the removal of the engine shed from Denman and subsequent re-erection of the structure in Merriwa, as well as the construction of a new rest house, as per the final Block Plan of November 1916. The work was finished during 1917.

The Weekly Notice for October 1917 noted that the turntable previously located at Denman had been transferred to Merriwa.

In May 1934, a drawing was issued over the signature of CME Harold Young showing the existing water services, pipelines, and water columns, etc. and the loco arrangements as shown on this drawing were exactly as installed in 1917.

The depot remained virtually unchanged for the
Superheated 3090, shown crossing the Wybong Creek bridge near Myambat, should have no trouble maintaining the rail motor timetable.

P. Attenborough

next forty-odd years and only minimal improvements were carried out.

In February 1970, local council water mains were connected to the elevated 20,000 gallon water tank and to the enginemen's barracks. Obviously, the original pipeline, pumps and water supply arrangements were old and in need of replacement.

With the demise of steam operations on the branch in the early 1970s, most of the servicing facilities fell into disuse.

On 21 March 1973, tenders closed for 'the purchase, demolition and removal of the galvanised iron loco shed' in Merriwa, and on 12 September 1985, the small barracks was demolished by a contractor.

This brought to an end the steam locomotive servicing depot in the town, 70 years after it was opened.

Description.

In its final form, Merriwa loco consisted of a single road locomotive shed, a low timber coal stage of 75 tons coal capacity, a 60 foot diameter, manual turntable and a small barracks.

A 40 foot ash pit was located on the turntable road between the engine shed and the coal stage, with an elevated standard cast-iron water tank nearby. A single, eight inch water column was located in loco.

These locomotive facilities were all situated on three loco roads at the western extremity of the yard. The terminal buffer stop for the branch was adjacent to loco.

The engine shed removed from Denman was, as previously described, 120'0" x 27'4". It was fitted with two swing doors at one end, with timber buffer stops as part of the rear wall at the other. Four smoke chutes were mounted lengthwise on the peak of the roof, these being the outlets for the full-length smoke trough mounted in the roof above the engine road. Six windows were fitted along each side wall of the shed, and an inspection pit was provided within the shed itself. Two timber work benches were also provided under the windows along the side walls. Wall and roof cladding at the time of

After the rail motor had departed Denman for Muswellbrook, No.5 goods carried out shunting, took water and left for Merriwa. Muswellbrook driver Albert Wheeler controls the water column whilst fireman Chris Mills directs the flow on 5268 on 24 January 1970.

R.D. Love
construction appeared to be corrugated iron sheeting. This style of locomotive shed was what could be described a standard Public Works Department design. Similar locomotive sheds, with minor variation in detail, were provided at Glenreagh, Mungindi and Wauchope, plus a number of other locations.

The coal stage was a low timber type, 75'0" long by 13'2" wide, with a coal capacity of seventy-five tons (76.4t). A small barracks for enginemen was located near the front doorway of the engine shed. The barracks had two bedrooms, with three beds in each room. A small kitchen and washroom were attached to the barracks. In later years, a crew rest-van was situated in the far end of the loco shed to assist with crew accommodation. A toilet in the form of an earth closet was also located near the front of the engine shed, within easy night-time walking distance of the barracks.

A manually operated, standard steel turntable of 60' diameter was located on a separate road beside the engine shed on the town side of the depot. According to documentation, this turntable was removed from Denman and reinstalled in Merriwa in time for the opening of the line into the town. However, early plans of Denman show only a 50 foot diameter turntable as being provided there. It is

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**Merriwa**

**1917**

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**Key to Symbols**

1. Signal Box (Frame A)  A Main Line
2. Coal Stage  B Crossing Loop
3. Elevated Water Tank  C Goods Siding
4. Turntable (60' Dia.)  ● Water Column
5. Goods Shed  ––– Ash or Inspection Pit
6. Locomotive Shed  8. Earth Closet
7. Barracks

Note: Drawing Based on Merriwa Block Plan (1916) and Signal Diagram (1917).
**Left:** The locomotive shed at Merriwa was built in 1917 and 56 years later, in 1973, was looking a little weather worn. Like 'grandfather's axe', a lot of things had been replaced over the years but it retained the original design features.

*R.A. Gallagher*

**Right:** The original layout had been retained over the previous 50 years. The small barracks is to the left, the single road shed with rain water tank collecting roof water and the conveniently placed 'earth closet' to the right.

*R.A. Gallagher*

*Front view of the single road shed. The coal stage can be seen on the left, the photographer is standing in front of the small barracks building. The rail motor was kept overnight in the shed during the last years of passenger services on the branch.*

*R.A. Gallagher*

*The timber coal stage of 75 tons capacity, the ash pit and the water column were all located beside the engine shed in Merriwa. August 1973.*

*R.A. Gallagher*
possible that Denman had received a 60 foot turntable from the outset, or the original 50 foot turntable was replaced in Denman shortly after coming into service. In any case, the 60 foot turntable then in use in the town was transferred to Merriwa in 1917, and it remained in use for the life of the small depot. Officially, it was a 'Newcastle' cone roller-race type, Way & Works No.2385. The turntable in use in Denman in those far-off days poses another small problem. Reliable local sources indicate that around the time of World War 2, military trains were running regularly from Singleton to Myamtba military base and the locomotive was turned on a turntable in Denman. It is of course possible that a turntable was installed specially for this purpose, but it had certainly been removed by the late 1940s.

Crews, Locomotives And Working.

In the early years of the branch, the locomotive crews which worked to Merriwa were in fact Singleton enginemen. This working ceased in the early 1940s and local crews from Muswellbrook then took over. Rail motors of the CPH type, commonly referred to as '42 footers' by railwaymen all over the state, commenced working the passenger services on the branch as early as 1925. These versatile units continued working the service for about 45 years, only being replaced on occasions by a steam-hauled passenger train in the event of rail motor failure. The rail motor was based in Merriwa, but was serviced by the rail motor fitter in Muswellbrook. The rail motor driver was also based in Merriwa, being a resident of the town, his presence there making what was, in effect, a one-man locomotive depot. In addition, the guard on the rail motor was based in Merriwa, also a resident of the town, as were the station master, assistant SM and a station assistant.

By the early 1940s, a rail motor driver, Sam Bodel, was stationed in Merriwa, with Muswellbrook driver Hector Lyness taking over the duty whenever sickness or holidays prevented the Merriwa man from working the motor. The appointed Merriwa guard at this time was Harry Thompson. Two other local identities were associated with the depot in the early days: Ollie White looked after the water supply and Jack 'Nobby' Clark assisted with the coaling of the engines in Merriwa loco and cleaned out the ash pits.

With the death of Sam Bodel, driver Martin Gill was appointed to Merriwa, retiring in 1957. Muswellbrook driver Gordon Thuell was then appointed to Merriwa as the rail motor driver and, as in earlier years, both the Merriwa driver and guard 'lived in the town'. The term 'lived in the town' was the official version: in actual fact Driver Martin Gill built a small humpy in the back of the engine shed in which he lived instead of obtaining board and lodgings in the town. At night, he would have the stabled CPH in the shed for company. When Martin retired, Gordon Thuell used the humpy.

In the event of sickness or holidays, Muswellbrook men went out by call truck to Merriwa, camped in the small barracks and worked the motor the following day. Each man would stay a week on this working before being replaced by another Muswellbrook man. With the retirement of Gordon Thuell from Merriwa, the one-man depot ceased to exist. For a time after Gordon left the job, Muswellbrook enginemen worked the rail motor service in turn, each working for a week at a time. Three or four senior Muswellbrook drivers were qualified for this work. Later, Muswellbrook crews worked the motor out to Merriwa on Monday, Wednesday and Friday, returning the following day. Not long after this the barracks were closed and the engine crews were accommodated in the local hotel.

From time to time, a steam-hauled service replaced the old CPH rail motor when it failed or was out of service for repairs. The usual composition for this train was a 30 class tender engine (or a 50 class) plus an HCX composite side-loading carriage. In this event, the 30 class and car would leave Muswellbrook about 2.30am, with a Muswellbrook crew plus a Muswellbrook guard. On arrival in Merriwa, the engine would be turned and serviced and then would rejoin the car in the platform. The Muswellbrook driver and guard would then be relieved by the Merriwa driver and guard. On the return trip to the main line, the Muswellbrook fireman with the Merriwa driver and guard would work the train with the Muswellbrook driver and guard going home passenger. On arrival in Muswellbrook, the fireman would sign off, finished for the day, but the Merriwa driver and guard would book off for 3 hours. Later that afternoon, the Merriwa men would sign back on again and, with a fresh Muswellbrook fireman, would work back to Merriwa. After putting the engine to bed, the local men returned home, the Muswellbrook fireman going into barracks near the engine shed. The same operation took place the following day.

Through the 1950s and 1960s and until the demise of steam operations on the branchline in September 1970, regular goods or 'goods with passenger accommodation' trains serviced the line almost every day. In addition, wheat, stock and wool trains ran in season. Most of these trains were hauled by 50 class engines (53 and 55 class were not permitted) or, if loading was light, by a 30 class engine. On occasions, the saturated 50 class shunt engine from Muswellbrook would take the trip, and 32 class (on very rare occasions) and, in times of heavy loading, double 30 class were used. All these trains were worked by Muswellbrook crews and often they were required to camp in the small barracks in Merriwa. Sometimes, when Muswellbrook crews stayed in the barracks in Merriwa, the station master called the men, especially if required for an early morning stock train out of town. At other times, the crews were expected to get themselves 'mobile' without the benefit of a call. Of course, the regular rail motor still carried out the passenger service and it can be seen that the Merriwa branch could be quite active at certain times of the year.

By the late 1960s, the regular goods (or 'goods
In January 1970, 5268 is turned on the 60' turntable beside the shed after working in on No.5 goods.

R.K. Booth

The proximity of the turntable, coal stage and engine shed can be seen from this photo. 5268 worked No.6 goods back to Muswellbrook later that afternoon.

R.D. Love
with passenger accommodation') would work out from Muswellbrook in the morning, shunting sidings as required as well as doing out-ofs at the larger centres of Denman and Sandy Hollow. At Denman, it was usual for the down goods to cross the up rail motor, which was on its way to Muswellbrook to meet the main line passenger and daylight express trains. The goods then continued on its way toward the terminus, shunting as required. On occasions, it was necessary to shunt off or pick up a vehicle from the ammunition siding at Myambat, requiring a trip across the nearby roadway. On arrival at Merriwa, shunting was completed and the engine was then taken to the loco area. It was turned, watered and the fire cleaned and it was made ready for the return trip. The crew had time for a small break in the barracks, and in the meantime, the rail motor had arrived back from Muswellbrook. With the departure of the goods from Merriwa, the rail motor was stabled in the engine shed for the night. This was the general scene on the branch for the last years of steam operation with the regular goods engine using the loco facilities in Merriwa on a daily basis, the rail motor using the shed at night.

The passenger service on the branch came to an end when the rail motor was withdrawn on 9 July 1973.

Shunting completed, the engine was turned and the fire cleaned. The engine was then brought up to the column and the control valve set to a trickle, whilst the crew enjoyed a well-earned rest in the nearby barracks.

R.D. Love

Sandy Hollow - A New Depot, Temporarily.

With the general planned reduction in the number of locomotive depots in the state during the 1980s, it is felt that a reference should be made to the establishment of a new depot during that period.

The Merriwa branch saw the demise of the one-man depot at Merriwa some years earlier but the setting up of a new depot (albeit a diesel depot and a temporary one as well) is worthy of mention.

In 1981, after many decades of planning and stalled construction, plans were finalised for the construction of a branch line to the coal mine at Ulan, some 144km to the west of Muswellbrook. The line was to junction with the existing Muswellbrook-Merriwa branch at Sandy Hollow, continuing on to the balloon loop at the mine. (The section of line between Ulan and Gulgong on the Mudgee line was also later completed as part of this plan). Construction of the line was expected to take 12 months and, while involving heavy earthworks and tunnels (a large amount of which had already been completed in the 1930-50 period), ballast trains, rail trains and concrete sleeper trains were required, all working simultaneously along sections of the line.

In mid-1981, applications were called for train crews interested in being transferred to a new temporary locomotive depot being set up at Sandy Hollow in order to work the construction trains.

Quite a few applications were received, for although the job involved living on site at Sandy Hollow, the chance to earn good money as a result of long and unusual hours appealed to a lot of men. The appointments were taken in seniority order and the initial group of men were to come from Werris Creek depot.

In October 1981, the 8 selected enginemen and 4 guards reported in Muswellbrook to one of the newly appointed traffic officers for the project. There were a number of traffic officers in charge of the rail operations on the job, all being railway employees (like the train crews) appointed to work on that specific task.

The original locomotive crews from Werris Creek were drivers Jule McDonald, Keith Withers, Ron Gaughan and Roger Winter, firemen Bill Lewis, Norm Bender, Harry Banfield and Peter Morris.
Late afternoon and CPH 16 returns to Merriwa from Muswellbrook, having made the connection with the daily mainline passenger trains there. 5268 prepares to leave for Muswellbrook on No.6 goods, after which the rail motor will be put to bed in the shed.

David Allerton

The usual steam locos on the branch in the last years were 30 class and 50 class engines. 3090 is turned on Merriwa’s turntable in July 1970.

J.S. Glastonbury
Above: In an attractive setting, 3090 prepares for departure from Merriwa on No.6 goods. The load of wooden-sided S, two loaded S, K, and the MHG van should pose no problems for the engine on the 50 mile trip back to Muswellbrook on 4 July 1970.

J.S. Glastonbury

Left: Sandy Hollow 'depot' in 1981. Australian National branchline unit 847 and two NSWPTC 47 class stand on the shed road, the diesel fuel tank is on the right.

H.J. Wright

Left: Sandy Hollow locomotive shed with branchline unit 4707 occupying the shed road. The locomotive sand bin is to the right of the shed doorway. 30 December, 1981.

H.J. Wright
Apart from shunting the small yards of Denman and Sandy Hollow en route to Merriwa, on rare occasions the regular goods also shunted the Ammunition Siding at Myambat. If the Military Police had been around, this photo would probably have been confiscated, but 5268 takes time out to shunt a solitary LV van across the road into the siding, making sure it has plenty to drink by taking its attached bogie 'gin' with it on 7 February 1970.

Guards Alan Saunders, Peter Stoddart, Garry Anshaw and Tom McCrombie completed the train crews. Four crew sets were made up consisting of a driver, fireman and guard, all equipped with radios and they then commenced work on the project, the construction of a new lengthy branchline and the reconstruction of part of an existing section of the line, that from Muswellbrook to Sandy Hollow.

The work involved a rail-laying train (the laying of rail off flat wagons) and ballast trains, both the initial layer of ballast and the final ballasting operations.

The railway side of the operation was under the control of the traffic officers, these men coming from the ranks of station master or assistant SM.

The job involved working 12 days straight with 2 days off, but reliability was essential and as a consequence, discipline was strict. Any major mistakes or problems by a member of the crew resulted in immediate replacement by the next person on the waiting list. Some men had domestic problems or could not take the long periods away from home and so a replacement arrived. Over the construction period of slightly more than 12 months, enginemen from other depots came and went, Armidale, Broadmeadow, Valley Heights, Broken Hill, Nyngan, Parkes, Sydney and Junee all being represented at some time or other.

The engine crews (and many other workers) were housed in a camp made up of a group of demountable cabins set up at Sandy Hollow, some 400 metres from the town. One of these buildings was the sign-on room for engine crews and from there, the crew would be transported by 4wd road vehicle out to the work site or the nearby loco shed to pick up their locomotive.

The locomotive depot consisted of a large galvanised steel shed with a single dead-end road. An inspection pit and scaffolding aided in the servicing of the locomotives in the shed. Later, this road was extended out the end of the shed to suit locomotive maintenance better. The shed was located a short distance west of Sandy Hollow station on the town, or northern, side of the line. Six branch-line type locomotives were allocated to Sandy Hollow depot, four 47 class and two 830 class (being on loan to NSW from South Australia), numbers 847 and 849.

At one stage of the line construction, these engines were captive as the Merriwa line had been cut between Denman and Muswellbrook. The engine crews fueled their own engines, but fitters from Broadmeadow depot came up to Sandy Hollow to carry out any needed repairs.

On Monday, 13 September 1982, nearly 12 months after rail construction began, the first coal train, hauled by mainline engines 8041 and 8015, worked to Ulan and return. Empty coal train U301 was worked into the mine by Jule McDonald and his
The water supply failed in Merriwa in early 1970, and the regular goods had to carry its own water out and back on the trip. 5268 climbs the 1 in 50 grade out of Merriwa with No.6 goods trailing bogie water gin, 6 RU wheat hoppers, a bogie sheep van and a brakevan.

David Allerton.

mate, being relieved by driver Keith Withers and his mate, who then loaded the train and worked it out. Some months of ballasting and clean-up work followed the opening of the mine and 2 or 3 sets of these crewmen were retained for these jobs. Whilst the last of the work was being tidied up, Muswellbrook crews commenced working the regular Ulan coal trains, a job they continued to carry out until the demise of Muswellbrook as a depot. At the completion of the project, Sandy Hollow depot was closed, the enginemen returning to normal jobs in their own depots.

Today, it is difficult to find any evidence of this small temporary depot.

Muswellbrook and Merriwa Depots

Epilogue.

Both Muswellbrook and Merriwa have closed from a locomotive and crew viewpoint. In Muswellbrook, some of the engine servicing structures are still in existence, the area now being used to house local track repair gangs. Generally speaking, all trains work through Muswellbrook without the crew changes, which applied in the old days. Most don’t even stop. Even the large coal trains en route to and from Ulan are worked by Broadmeadow men, a crew change taking place out near the mine with all crews on this working making use of the call truck and the barracks at Mudgee.

Of course, the demise of Merriwa as a depot followed the withdrawal of the passenger service provided by the rail motor and its local engineman. The locomotive servicing area had almost become redundant when the steam locomotives left the area in late 1970. At the present day, there is still some evidence of the locomotive servicing area in Merriwa. The turntable is still in existence (although permanently secured, to prevent movement), as are the water column, part of the ash pit and the ruins of the barracks. The engine shed and coal stage have been removed but it is not difficult to work out their former locations.

In Denman, the original location of the depot for the branch, the only evidence of its one-time importance is the large elevated cast-iron water tank near the former station master’s residence and part of the concrete foundations of the turntable in the long grass at the western end of the yards.

Werris Creek continues to be the major locomotive depot in the north-west of the state, all others except Narrabri West having followed the way of Muswellbrook and Merriwa.
5268 on No.6 goods crosses Halls Creek bridge on the branch with the return trip to Muswellbrook on 24 January 1970.

In late afternoon light, 5268 heads CW, BCW, CW, S, S, bogie VR open, brake van, plus HCX back to Muswellbrook. The Merriwa branch was the last rural branch to be worked regularly by a steam locomotive in NSW.

R.D. Love
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R.D. Love
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Recommended Reading and References.

- R.G. Preston, “Standards in Steam: 30 class”, N.S.W.R.T.M.

Bruce Griffey
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R.K. Booth
HONEYSUCKLE IN THE 1870s

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- SRA Archives: Records and Drawings.

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The publishers of Byways of Steam welcome additional information expanding or correcting details in the various essays.
BYWAYS
OF
STEAM
4

On the Railways of New South Wales

Eveleigh Press
Front Cover: Synonymous with the South Coast railway for almost all its existence in the steam age was the 32 class 4-6-0, first seen in 1892 and bowing out of regular Illawarra service in the mid 1960s. The P class worked all manner of trains: express, suburban, mixed and goods, combining a reasonable turn of speed with a wide range of availability. One of the principal traffics from beyond the industrial conurbation of Wollongong-Port Kembla was milk from the rich pastures of the Illawarra for the thirsty metropolis. Milk trains were accorded priority, and the main train, No. 120 fast milk, was prescribed “to convey milk from Nowra, Berry, Gerringong, Kiama, Albion Park and Dapto. Train is timed at a maximum speed of fifty miles per hour and conveys only bogie vehicles of MLV, MLK, and BMT type and a suitable bogie brake van.” Here we see the train on a sunny winter’s day, 29 June 1964, climbing the 1 in 44 out of Shellharbour, with 3306 in charge of a good load of MLK and BMT vehicles, trailed by a passenger brake van.

Brian Coker

Back Cover, Above: Passenger services on the Illawarra rarely were accorded celebrity status, and were typified for decades by a 32 class and a set of American suburban cars, commonly referred to as a LUB set. Only the South Coast Daylight Express merited the latest stock, and was allocated a green and cream CUB set in 1935, a green and cream SEB set later, an air-conditioned HUB set in 1949 (later stolen for the Central West Express) and the unique Budd railcars from 1960. The CUB tourist sets infiltrated other workings as they were superseded in top grade work, and 3322 is seen working one on No. 96 passenger towards the tunnel at Lilyvale, ready to assault the long and sinuous climb hence to Waterfall, on 2 February 1964.

Brian Coker

Back Cover, Below: The last operating branch off the South Maitland Railway’s main line was that to Neath loading sidings. Here, although Neath Colliery had ceased working during the Second World War, coal trucked from nearby Aberdare North Colliery was loaded for forwarding to the Newcastle area. SMR’s trusty Beyer, Peacock 2-8-2 tank No. 20 has eased a long load of archetypal “non-air” hoppers down from the loading sidings to the level crossing at Cessnock Road, Neath, and after waiting for the road from Neath’s signalman, is gaining the main line, which is protected by Neath’s lovely McKenzie and Holland, lower-quadrant home signal. The fireman in this 1977 scene is watching carefully to ensure that his load makes it safely across the road crossing before resuming his attention to the fire, which will need to be in good shape for Denman Hill, a mile or so down the road at Abermain.

Ray Love
From the period after the First World War, new steam engine types on the broad gauge, and some on the narrow gauge, too, were designed to be readily convertible to standard gauge. In the event, no engines ever were so converted, but twenty 2-8-2s constructed by Clyde Engineering for the United Nations Relief and Rehabilitation Agency in 1949 came closest. Essentially South Australian Railways' Webb-era 700 class, they were ordered as standard-gauge units for the Chinese Railways. Changed political circumstances during their construction left the Australian government with twenty locomotives for sale. Claimed to be too wide for the NSWGR, the obvious purchaser, they finally found homes on the standard-gauge Trans Australian Railway and the broad-gauge South Australian Railways. Gauge conversion was effected by turning the asymmetrically-bossed wheels "inside out" and making simple changes to the brake rigging; no frame or cylinder alterations were involved. By a cruel twist of fate, the first of the Commonwealth Railways' L class were delivered from Sydney to Port Augusta on the m.v. 'Belbety', seen here at Darling Harbour, which was bringing CR's three new Budd railcars from Philadelphia and while the Clyde-built GM class diesels were in production. Consequently, L80-L89 scarcely turned a wheel, and rusted away by Spencer Gulf for more than a decade before being scrapped.
Even with a relatively light load, Enfield engine 5139 is working hard ascending the grade between Cheltenham and Beecroft at the head of No. 251 pick-up goods to Hornsby on Saturday, 1 October 1960.

I. Wallace
Introduction

One of the joys of any substantial railway system is the individuality which certain sections display. In Victoria, the superb engineering of the Bendigo line springs to mind; in South Australia, the Peterborough Division had a life of its own.

In New South Wales, one area in particular maintained an individual character throughout the steam era. Sometimes known as “the Cinderella line”, the Illawarra route, from the Georges River to the Shoalhaven, combined breathtaking scenery, a variety of traffic types, numerous ancillary industrial undertakings, urban and rural landscapes and a wide range of railway types, from heavy main line to country branch, all within a space of eighty miles.

In its northern half, it embodied the NSWGR’s constant search at the end of the last century and the beginning of this for more efficient alignments to replace the abrupt contours of Whitton-era construction. The bold engineering of the Waterfall to Coalcliff section is a testament to the skills of the surveyors and builders, who carved a workable gradient out of deeply indented coastal tracts, so that plodding Standard Goods engines could lift adequate loads of coal from sea level up to the Waterfall plateau. As a largely contour alignment, after three-quarters of a century it enhances the scene in a way no modern high-speed survey, cutting through rather than clinging to the natural features, will ever be able to do.

For passenger and enthusiast alike, the symbol of the South Coast line was a P class at the head of eight or ten American suburban cars, in later times commonly known as LUB sets. Memories of slamming windows shut to maintain the last elements of fresh air as the heaving P plunged into the tunnels, and of hair-raising exploits running down from Waterfall to Sutherland, five-foot driving wheels spinning at impossible speeds, stand out in the mind. While other lines were granted constantly improved rolling stock and accelerated timings, there was really no improvement on “the Coast” until electrification; even the introduction of diesels made no impact, as the 48 class was underpowered for the task it had to perform. The only incursion into the closed world of the P class and American cars was the “South Coast Daylight Express”, firstly with a CUB set in green and cream, then a SEB set, graduating to an air-conditioned HUB set after the war and, finally, to its unique self-propelled set of Budd railcars.

By and large, however, the Illawarra railway was self-contained, with its loco depot at Thirroul, and much of its traffic internal. In such circumstances, individuality in operating practices can thrive, despite the proximity of ‘head office’. Hence, the intricacies of the wharf shunters at Port Kembla, the several private engines which were permitted to meander down the government line, the unique operating practices on the spectacular ‘mountain’ line to Moss Vale, and the vagaries of milk traffic all contributed to a ‘Coast culture’, friendly and relaxed, separated from the too-close scrutiny of officialdom by the formidable Illawarra escarpment, a physical as well as an psychological barrier.

Ian Dunn
The Illawarra is the name given to the narrow strip of coastal lowland commencing at Scarborough and widening southwards to Kiama and Nowra. The Pacific Ocean marks the eastern boundary, while the westward extent terminates abruptly beneath a towering sandstone-capped escarpment. The steep topography is shown well in this photograph of 3651 heading southwards near Wombarra with a special passenger train.

R.K. Booth

Above Right: The predominant engines handling passenger services on the Illawarra line in steam days were the 32 class 4-6-0s, which were universally called by their pre-1924 classification as the P class. 3324 takes No.96 fast passenger out of Thirroul on 5 February 1960 with Austinmer, Sutherland and Hurstville the only stops before Sydney.

R.K. Booth
Thirroul probably seems a strange place today for the location of a locomotive depot and major marshalling yards serving the Illawarra district. However, in 1917, when these facilities became fully operational, the steelworks and associated industry had yet to be established at Port Kembla. Instead, most of the railway freight in the form of coal and coke came from collieries located between Scarborough and Wollongong. These commodities were transported for the local industrial and domestic market in Sydney or for export through Darling Harbour.

The opening of the yards and loco depot at Thirroul was a part of the line duplication works from Waterfall to Wollongong and the associated improvement of grades. Prior to 1917 Waterfall had the locomotive depot serving the Illawarra region. There was also a sub-depot at South Clifton (later Scarborough) where one or two engines, plus crews, were stationed mainly for Bombo blue metal working. Thus, at the time of its establishment, Thirroul was central to the majority of sources of freight conveyed by the Railways in the district.

The purpose of this article is to review the early railway history in the Illawarra and to deal with the history of Thirroul depot and its associated steam train working. It will make only occasional reference to Eveleigh and Enfield working which Thirroul overlapped.

By the time of the opening of the first section of the Illawarra line to Hurstville on 15 October 1884, the principal main lines of the state’s railway system had reached Albury, Byrock and Glen Innes. The Illawarra region, hemmed in by the high plateau escarpment just to the west of the coastline, had its passenger and freight transport needs served by coastal steamer. Small ports had been constructed at Wollongong and Kiama to provide safe anchorage for boats.

A number of collieries already had built their own private railways to nearby jetties for coal shipment before construction of the Illawarra railway had commenced. These berths were open to the sea and unusable when the swell and gale sprang up from...
the south-east. These private lines were:
- North Illawarra Coal Company's line running to a jetty at Hicks Point near Austinmer.
- Bulli Coal Company's line running to a jetty at Bulli Point.
- Bellambi Coal Company's line near Woonona running to a jetty at Bellambi Point.
- South Bulli Company's line near Bellambi running to a jetty at Bellambi Point.
- Mt Pleasant Coal and Iron Company's 3'8\(\frac{1}{2}\)" line near North Wollongong running to Wollongong Harbour.
- Osborne Wallsend Coal Company's line near Mt Keira running to Wollongong Harbour.
- Mt Kembla Coal & Oil Company's line near Unanderra running to a jetty at Red Point (later Port Kembla).

Agitation for a railway from Sydney to the Illawarra can be traced back to the 1870s with the object of obtaining a faster and more reliable method of transport for the district's coal, blue metal and dairy products.

Sir Henry Parkes, who had been the Member for Kiama between 1864 and 1870, showed interest in such a railway and, in his capacity as Colonial Secretary and Premier, ordered a survey to be made in 1873. In November of that year, Surveyor R. Stephens reported to John Whitton, Engineer-in-Chief for Railways, that his preliminary investigations had found a practical route between Sydney and Bulli. The Georges River would be crossed at Tom Ugly's Point, followed by a crossing of the present Sutherland-Cronulla peninsula into the valley of the Hacking River. This valley would be followed to Otford. Thereafter, tunnels through Bald Hill and near Clifton would bring the line to the Illawarra proper.

Detailed surveying in 1874 located the proposed route at the Sydney end more precisely and from the outset it was the transport of coal which was seen as the principal motive for the line's construction. This route commenced beside Iron Cove, Rozelle and headed in a southerly direction. The line passed beneath the first arch of the Lewisham viaduct, beyond which a trailing connection with the main line at Petersham would give access to Sydney. After crossing the Cooks River and Wolli Creek, the route headed for Rocky Point at Sans Souci where the Georges River would be crossed. The route proceeded to the Illawarra via the Hacking River valley to Otford and Clifton as before. The Rozelle terminus facilitated the transfer of coal into boats and lighters.

A completely different route from Liverpool to Wollongong was surveyed at the same time. This proposal kept to the top of the escarpment to Bulli where a descent to Wollongong would commence. Having to drop the line 1087 feet in just over 6\(\frac{3}{4}\) miles meant an average grade of 1 in 28 or a series of zig zags, neither of which was deemed satisfactory. Such a route would not have pleased the coal interests.

These first surveys put the initial terminus of the line at Wollongong. The citizens of Kiama agitated for the line to be extended to their district and a survey to that effect was completed in 1876, although the line of railway was first located some distance west of the township of Kiama itself.

However, all this activity was to no avail since, in 1876, Parliament did not approve the construction of the line. In 1880, a further survey yielding the present route to Waterfall and a direct descent to Otford was made. This route, known as the Bottle Forest route, avoided the tortuous Hacking River valley with its numerous creek crossings, but it did require a steep descent using six tunnels from Waterfall to Otford. Whitton had also investigated the possibility of leaving the plateau top near Stanwell Park and using the natural indentation in the coastline there to commence the descent of the line to the Illawarra. The slippery terrain discounted this idea.

In 1881, Parliament approved the line from Sydney to Kiama, a sum of £1,020,000 being provided for its construction. The contract for the first section to Waterfall was let to Messrs C. & E. Millar on 12 September 1882. The letting of contracts for further sections of the line was complicated by the dispute which arose over the location of the line between Como and Otford. Protagonists for the Hacking River route, in particular the coal mining interests, were responsible for construction work of the line being halted at Como until a comparative assessment of the difficulties and costs of the two routes could be made. This required a hurried re-surveying of the Hacking River route involving no fewer than six surveyors, an indication of the urgency the government placed on the matter.

The Engineer-in-Chief, John Whitton, produced a very detailed analysis which clearly showed the Bottle Forest route was preferable and cheaper to build. On 10 October 1883, the Minister for Works decided to adhere to the original plans. The contractors refused to continue with the work and a new contract for the Como-Coalcliff section was let to Messrs Rowe & Smith on 22 July 1884. Millars sought and received financial compensation for the broken contract.

In the meantime, the contract for the Coalcliff to near Albion Park section had already been let on 30 October 1881 to Messrs Proudfoot & Logan. The construction of the last short section from near Albion Park to North Kiama (Bombo) was contracted to Monie & Co. on 27 January 1886, by which time trains were now running to Sutherland. (There is some confusion over the spelling of this last contractor's name. Some references have it as Mooney & Co.)

The Bottle Forest-Hacking River dispute, and the difficulty in constructing the line with its seven tunnels between Waterfall and Coalcliff, meant that the Clifton to Wollongong section was sufficiently ready for opening in 1887. The local populace was anxious to make use of the new railway as soon as possible to avoid having to travel on the local roads churned up more than ever by the railway contractor's vehicles. The Government, therefore,
arranged for the 0-6-0 tender engine Bogan plus two carriages to be shipped to Wollongong for temporary use on the isolated line. The newly installed steam crane at Wollongong Harbour was put to good use unloading the dismantled engine. The engine was assembled at the waterside for transfer via the Mt Keira Colliery’s private coal line to the new Government railway. Apparently, nobody at the time realised that the coal staiths were too low for Bogan to pass under, so the engine had to be partially dismantled again to pass the obstacle. This delay meant that the engine wasn’t available for the already announced opening day, 21 June 1887. Instead, Proudfoot and Logan, contractors for the Clifton-Wollongong section, provided their construction engine Gladstone as a substitute for the occasion. Contractors’ wagons, hastily adapted, provided passenger accommodation for the opening ceremony.

The original timetable for the isolated section of the Illawarra line is set out below and shows the first stations and crossing loops.

Robbinsville was changed to Thirroul on 1 November 1891, although a dual nameboard was retained for a while to avoid confusion. Curiously, many written references use the spelling Robinsville, but the accompanying photograph shows Robbinsville on the station nameboard. The original station buildings along the line were constructed of timber excepting those at Wollongong which were made of brick. Of interest is Austinmer as a watering station. Records indicate that in 1894 the

<table>
<thead>
<tr>
<th>First Timetable in the Illawarra</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WOLLONGONG</strong> &amp; <strong>Corrimal</strong> &amp; <strong>Bulli</strong> &amp; <strong>Robbinsville</strong> &amp; <strong>Austinmer W</strong></td>
</tr>
<tr>
<td><strong>CLIFTON</strong> &amp; <strong>am</strong></td>
</tr>
<tr>
<td>WOLLONGONG &amp; am</td>
</tr>
<tr>
<td>Corrimal &amp; u</td>
</tr>
<tr>
<td>Bulli &amp; t</td>
</tr>
<tr>
<td>Robbinsville &amp; u</td>
</tr>
<tr>
<td>Austinmer W &amp; u &amp; a &amp; a &amp; a &amp; a</td>
</tr>
<tr>
<td>CLIFTON &amp; t</td>
</tr>
</tbody>
</table>

- **D** - Daily, Sundays excepted
- **M** - Mondays, Wednesdays and Saturdays only
- **t** - staff and ticket station, crossing loop
- **u** - unattended platform
- **W** - loco watering station
- **a** - stops when required

The Illawarra area was at last linked with Sydney by rail on 3 October 1888 when the Waterfall-Coalcliff section was opened. This was very difficult to construct because of the rugged country and numerous tunnels. Grades here were steep using 1 in 40s against both down and up trains.
Robbinsville was the original station name for Thirroul. When the name was changed in November 1891, the station was provided temporarily with a dual nameboard. The original nameboard had a baked enamel surface with white letters on a dark blue background. Incidentally, Thirroul is an aboriginal word meaning a valley or hollow.

Substantial buildings constructed of timber were built at South Clifton and Bulli when the line was opened in 1887. The photograph shows the buildings at South Clifton. These lasted until 1915 when the station location was moved north to make way for regrading and duplication of the line. However, the original building at Bulli still remains. It is hard to imagine that the simple facilities shown here were the staging point for coal and blue metal trains. The sandstone blocks which have tumbled from the escarpment in aeons past indicate the unstable nature of the countryside.
<table>
<thead>
<tr>
<th>Colliery/Cokeworks</th>
<th>Junction</th>
<th>Connection Opened</th>
<th>Connection Closed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illawarra Coke Sidings</td>
<td>Coalcliff</td>
<td>12/6/1914</td>
<td></td>
<td>Up side of line. Beehive oven adjacent to main line.</td>
</tr>
<tr>
<td>South Clifton Colliery</td>
<td>South Clifton (Scarborough)</td>
<td>1891</td>
<td>1985</td>
<td>Colliery and cokeworks on up side of line. Replaced by New South Clifton Colliery but sidings retained for storage. Finally removed 1985.</td>
</tr>
<tr>
<td>New South Clifton Colliery (later Tunnel Colliery)</td>
<td>South Clifton (Scarborough)</td>
<td>1908</td>
<td>1985</td>
<td>Short branch line heading southwards from Scarborough yards.</td>
</tr>
<tr>
<td>North Bulli Colliery</td>
<td>Coledale</td>
<td>19/4/1902</td>
<td>1926</td>
<td>Colliery and coke ovens on up side. Closed in 1926 after a large fire destroyed workings and surface buildings.</td>
</tr>
<tr>
<td>Excelsior Coke Siding</td>
<td>Coledale</td>
<td>1932</td>
<td>1936</td>
<td>On site of North Bulli coke ovens.</td>
</tr>
<tr>
<td>North Illawarra Colliery</td>
<td>North of Austinmer</td>
<td>1891</td>
<td>1912</td>
<td>Trailing connection on down side of line. Colliery line passed under the Illawarra line on its route from the screens to a jetty on Hicks Point.</td>
</tr>
<tr>
<td>Kirton’s Siding for Excelsior Colliery</td>
<td>Austinmer-Thirroul</td>
<td>1909</td>
<td>1963</td>
<td>For Excelsior Colliery. Originally connected to a loop siding on up side of single track. Connected directly to Thirroul yards when opened in 1917. Coal supplied to Thirroul loco.</td>
</tr>
<tr>
<td>Bulli Colliery</td>
<td>Bulli Coal Siding, Bulli</td>
<td>1890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model Colliery</td>
<td>Woonona</td>
<td>13/5/1898</td>
<td>1940</td>
<td>Triangular connection down side with Bellambi Coal Company’s line from Model Colliery to jetty on Bellambi Point. This line crossed the Illawarra line on the level. Coal haulage ceased in 1903 but line retained to shunt Pendlebury’s Brickworks.</td>
</tr>
<tr>
<td>South Bulli Colliery</td>
<td>Bellambi</td>
<td>17/1/1902</td>
<td>1970s</td>
<td>Triangular connection on up side with South Bulli’s private line to a jetty at Bellambi Point. This line crossed the Illawarra line on the level.</td>
</tr>
<tr>
<td>Corrimal Colliery</td>
<td>Corrimal</td>
<td>11/5/1912</td>
<td></td>
<td>Originally Southern Coal Co., later Corrimal Coal &amp; Coke. Company’s engines hauled trains via Illawarra line to Port Kembla wharf or to Bulli wharf which could take larger vessels.</td>
</tr>
</tbody>
</table>
## Colliery and Cokeworks Sidings Connected to the Illawarra Line

### Mount Pleasant Colliery to Mt Kembla Colliery

<table>
<thead>
<tr>
<th>Colliery/Cokeworks</th>
<th>Junction</th>
<th>Connection Opened</th>
<th>Connection Closed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt Pleasant Colliery</td>
<td>North Wollongong</td>
<td>30/10/1890</td>
<td>1938</td>
<td>Siding on up side.</td>
</tr>
<tr>
<td>Federal Coke Co.</td>
<td>North Wollongong</td>
<td>24/9/1901</td>
<td>1970s</td>
<td>Siding extended to connect with the private Mt Keira Colliery line so that coal could be taken via the Illawarra line to Cringila in 1940.</td>
</tr>
<tr>
<td>Southern Coal Co.</td>
<td>Mt Kembla (1000 yards north of Unanderra)</td>
<td>1889</td>
<td>1917</td>
<td>Colliery line from mine at Mt Kembla to wharf at Red Point, later Port Kembla. Crossed Illawarra line on the level. Mine was a failure and coal from the company's other mine at Corrimal was hauled to Port Kembla via this line, a triangular connection with the Illawarra line being laid down for the purpose. Junction controlled by Mt Kembla signal box. The abandoned level crossing of the two lines removed some time after 1904.</td>
</tr>
<tr>
<td>Mt Kembla Colliery</td>
<td>Mt Kembla (1000 yards north of Unanderra)</td>
<td>1887</td>
<td>1949</td>
<td>Colliery line from mine near Mt Kembla to wharf at Red Point, later Port Kembla, predates the Illawarra line by 6 years. Triangular connection with Illawarra line on up side. Crossing and connections controlled by Mt Kembla signal box opened on 27/9/1888. Level crossing of lines replaced by an overhead bridge for the colliery line in 1949.</td>
</tr>
</tbody>
</table>

Extension of the line further southwards was intended to reach Nowra and ultimately Jervis Bay. However, rails never did extend into the town proper because of the cost of bridging the Shoalhaven River. The extension to Jervis Bay did not progress beyond the proposal stage since there was little likelihood of the line paying for itself.

The contract to build the line from North Kiama to Bomaderry on the northern bank of the Shoalhaven River was let to Pritchard and Co. and its 21⅔ miles included five tunnels and two iron bridges, one across Terralong Street in Kiama and one over the (old) South Coast road at Gerringong. There were numerous wooden trestles across water courses. The line was opened on 2 June 1893 and the terminus was given the dual name of Nowra-Bomaderry. Crossing loops were provided at Kiama and Berry which were safeworking stations using ordinary train staff and ticket. The crossing loop at Kiama was arranged around an island platform. Stations with sidings were opened at Omega, Gerringong, Toolijooa and Jaspers Brush, with the extension to (Bomaderry)-Nowra.

A 50' turntable and a single road engine shed of 108' length were provided at Nowra from the beginning. A 60' turntable was substituted in 1914 for bogie tendered P class engines. A rest house (barracks) was erected in 1928 at Nowra for train crews. In 1897 the turntable and engine shed at North Kiama were re-erected at Kiama.

Once the Illawarra line was opened throughout traffic grew rapidly, especially that originating north of Wollongong. Passengers were served by through and mixed trains. The latter conveyed perishable traffic such as milk, cream and fish. Farm produce and livestock originated from Wollongong and further south. Early engines used on passenger and mixed trains were the principal 4-4-0 types of the C, D and H classes (later 12, 15/16 and 17 classes respectively). Goods loading originating south of Kiama cannot have reached expectations since the safeworking and crossing facilities at Berry were dispensed with in 1895 and not reinstated until 1912.

Much of the heavy freight up until the 1920s was in the form of blue metal, coal and coke. The basalt quarries at Bombo were the principal source of the blue metal traffic. The coal and coke originated from the Wollongong-Scarborough-Helensburgh area where numerous mines were working the Bulli seam of the Illawarra coal measures. The accompanying table lists the various collieries and cokeworks which had sidings or connecting lines off the Illawarra line.

Whereas the early passenger and mixed trains were mostly through workings from Sydney, the coal, coke and blue metal trains of the time originated as local trips. Initially, A and B class engines (later 19 class 0-6-0 and 24/25 class 2-6-0 classes) were used, although there would have been a fair amount of tender-first working on local trips.

This prompted the investigation of building 20 tank engine equivalents of the recently delivered B55 class 2-6-0s (later 24 class, having as many interchangeable parts as possible. The Glasgow locomotive manufacturers, Dubs & Co., who built the B55s, quoted £2600 for side tank engines having 1500 gallons of water and 2 tons of coal capacity, or
It was intended originally that the Illawarra line should reach Nowra, but the cost of bridging the Shoalhaven River caused the Government to baulk. Instead, Bomaderry on the northern bank of the Shoalhaven was made the terminus and was provided with a dual nameboard of Nowra-Bomaderry. The original station building shown here was similar to those built at Gerringong and Berry for the opening of the line in 1893, and suggests that the Bomaderry terminus was to be only temporary. Such turned out not to be the case and a more substantial brick building was only provided to replace the original when it was burnt down.

£2630 for a saddle tank engine with 1600 gallons of water and 3 tons of coal capacity. Since the greater capacities were advisable, the purchase of the saddle tank engines was approved on 24 November 1890. The 20 engines were delivered in 1892 and had a 2-6-2 wheel arrangement. They were classified as the I class, becoming the 26 class after 1924.

Some of the I class were placed immediately on Illawarra working. A Weekly Notice of May 1892 mentions one of the class was stationed at Waterfall instead of Hurstville for bank engine working and for special trips to Metropolitan Colliery, South Clifton and Bulli as traffic demanded. The same notice warns fettlers that the engine would be performing such duties between 4.45am and 9.00pm. The engine returned to Hurstville on Saturdays on completion of work and travelled back to Waterfall on Mondays light attached to a down goods. Hurstville had an engine shed built in 1891 for suburban services.

Waterfall became the engine depot for the local working of coal and blue metal trains about this time but the actual opening date cannot be ascertained. An engine shed was built at Waterfall in 1899.

The I class were involved in highly unusual working on the Illawarra early in their careers. When large consignments of blue metal or coal for shipping purposes were being conveyed to Darling Harbour, the following arrangements were introduced in 1894. Double-headed trains, worked by two I class engines, were to be made up at South Clifton as follows:

- Metal trains consisting of 42 loaded hoppers and 3 19-ton caboose brakevans marshalled - 2 engines, 14 loaded hoppers, brakevan, 14 loaded hoppers, brakevan, 14 loaded hoppers, brakevan (561 tons).
- Coal trains consisting of 30 loaded hoppers and 3 19-ton caboose brakevans marshalled - 2 engines, 10 loaded hoppers, brakevan, 10 loaded hoppers, brakevan, 10 loaded hoppers, brakevan (517 tons).

Each train, on leaving South Clifton, had a Head Guard, Assistant Guard and a Brakesman. The Assistant Guard took the leading brakevan, the Brakesman manned the second brakevan, while the Head Guard, who was in charge of the train, rode...
The 26 class 2-6-2 saddle tank engines were specially built to work short-haul mineral trains. Some of the class were placed immediately on Illawarra coal and blue metal trains when introduced into service in 1892. They disappeared from the Illawarra when Thirroul replaced their former depot at Waterfall in 1917. However, the 26s were to return in force in 1949, but were confined to shunting duties in the Port Kembla industrial network. By then most at Port Kembla had acquired an electric headlight plus a steam turbo-generator to provide the necessary current. 2609 fortunately escaped the disfigurement of automatic couplings and needed an S truck as a match wagon for coupling to non-buffered trucks.

R.K. Booth

The last brakevan.

On arrival at mileage 32m.22ch. (Stanwell Park, then simply a single line and not a safeworking station), the train was divided at the rear of the first brakevan. The two engines took the first portion up the 1 in 40 grade through the Otford tunnel to Otford where it was stowed in the goods siding. These two engines returned to Stanwell Park and brought the second portion of the train to Otford. The two engines then returned to Stanwell Park again and collected the last portion of the train and brought it to Otford. The Head Guard was responsible for the vehicles detached and left standing on the main line at Stanwell Park. He placed detonators on the rails and displayed a red flag 300 yards on the north or Otford side of the train to prevent the risk of the returning engines running into the train. The Assistant Guard and Brakesman went forward with each portion of the train to Otford, returning on the two engines on successive trips back to Stanwell Park. Eight minutes running time was allowed from Stanwell Park to Otford while the returning light engines were allowed five minutes.

At Otford, two portions were marshalled together for the journey to Waterfall with one brakevan in the middle of the train and one brakevan at the rear. The assisting engine now pushed in the rear from Otford to Waterfall, 30 minutes running time being allowed.

At Waterfall, the train loading was built up to full capacity for the two engines which were now placed at the front. The train still had two caboose brakevans, one in the centre of the train. A stop was made at mileage 19m.40ch. (top of Loftus bank) to pin down the brakes, which were again tightened at a second stop at mileage 15m.40ch. (near Sutherland) before the descent to Como bank.

The front engine was shunted onto the back of the train at Como to give push-up assistance to Hurstville where two separate trains were made up, each to be hauled by a single engine to Eveleigh or Darling Harbour. This complicated working was permitted only during daylight hours. The third portion of the original train left at Otford was brought forward by a special trip using another engine later.

Special precautions had to be taken with the electric tablet for the South Clifton-Otford section...
to ensure that the tablet was not placed in the instrument at Otford until all portions of the train had reached Otford complete. A special label with a padlock was handed to the Head Guard by the officer-in-charge at South Clifton. The Head Guard fixed the label on the tablet which he handed to the driver of the second engine, but he kept the key to the padlock in his own possession until the whole train had been taken to Otford. Then the station officer at Otford requested the tablet from the engine crew and the key from the Head Guard so that the tablet would be free to be placed in the instrument there. The station officer at Otford returned the label plus padlock to South Clifton by special parcel.

Should the lifting of the three portion train arrangements from Stanwell Park to Otford delay other conditional traffic, then it was permitted to despatch a two portion train from South Clifton and make only one return trip to Stanwell Park. Each portion had the same composition as before. One loaded four-wheel, blue metal hopper weighed 12 tons and one loaded four-wheel, coal hopper weighed 16 tons.

It is not known for how long this method of working continued before Stanwell Park became a safeworking station and crossing loop in 1901, but it was not the only place on the NSW Railways where loads were divided mid-section because of the presence of locally heavy grades. Of interest is the speed at which traffic was growing on a line which had been opened for seven years, and the half-loads only being taken up in the 1 in 40 grade through the 5085 foot Otford tunnel because of the suffocating heat and fumes.

To give some idea of how the goods and mineral traffic on the Illawarra line was growing at the turn of the century, the table opposite lists the trains which were set down to run on Tuesday, 18 March 1901, the preceding Monday being a public holiday.

South Clifton was a second small depot for I class saddle tanks and one was certainly stationed here by 1901. This engine assisted in banking trains to Waterfall, shunted local collieries and worked Bombo blue metal trains. A single track engine shed was built at South Clifton in 1903. The facilities were complete with an ash pit, water column and tank. In the same year a second I class was stationed here to handle additional quantities of blue metal from Bombo. Extra staff in the form of two sets of men (driver and fireman), two head guards and one assistant guard were stationed at South Clifton also.

The 1 in 44 Shellharbour bank and the 1 in 50 grades approaching South Clifton meant that double trips had to be made between Shellharbour and Albion Park and between Bulli and South Clifton to bring forward a full load of 36 wagons. After that, the engine went to Coledale to lift loaded wagons and convey them to South Clifton. Thereafter, the engine was utilised to run a goods as a double engine train to Waterfall.

Referring to the staging of some of the load at Shellharbour and again at Bulli, a siding was installed at Shellharbour (then not a safeworking station) in 1889, while Bulli had a special staging siding built in addition to its crossing loop and goods siding.

Prior to South Clifton and Waterfall running the Bombo blue metal trains, an engine was stationed for a period at Kiama to run shuttles between Bombo and Wollongong where loading to Sydney was worked forward by another train.

When South Clifton station was renamed Scarborough on 1 October 1903, the depot there assumed the new name also. Besides Bombo blue metal working and bank engine duties to Waterfall,

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3.30am</td>
<td>Sydney</td>
<td>Kiama</td>
</tr>
<tr>
<td>5</td>
<td>3.20am</td>
<td>Darling Harbour</td>
<td>South Clifton</td>
</tr>
<tr>
<td>13</td>
<td>6.10am</td>
<td>Darling Harbour</td>
<td>Metropolitan Colliery</td>
</tr>
<tr>
<td>19</td>
<td>7.00am</td>
<td>Darling Harbour</td>
<td>Waterfall</td>
</tr>
<tr>
<td>17</td>
<td>8.25am</td>
<td>Waterfall</td>
<td>Bombo</td>
</tr>
<tr>
<td>31</td>
<td>9.15am</td>
<td>Darling Harbour</td>
<td>Waterfall</td>
</tr>
<tr>
<td>33</td>
<td>10.20am</td>
<td>Eveleigh</td>
<td>Waterfall</td>
</tr>
<tr>
<td>47</td>
<td>3.50pm</td>
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</tr>
<tr>
<td>53</td>
<td>6.20pm</td>
<td>Waterfall</td>
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</tr>
<tr>
<td>63</td>
<td>9.40pm</td>
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<td>Bulli</td>
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<tr>
<td>57</td>
<td>10.30pm</td>
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<td>Dapto</td>
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<td>203</td>
<td>6.55pm</td>
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<td>Bulli</td>
</tr>
<tr>
<td>35</td>
<td>2.13pm</td>
<td>Waterfall</td>
<td>Metropolitan Colliery</td>
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<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2.05am</td>
<td>Bulli</td>
<td>Darling Harbour</td>
</tr>
<tr>
<td>28</td>
<td>8.30am</td>
<td>Kiama</td>
<td>Darling Harbour</td>
</tr>
<tr>
<td>32</td>
<td>11.20am</td>
<td>Waterfall</td>
<td>Eveleigh</td>
</tr>
<tr>
<td>18</td>
<td>8.10am</td>
<td>South Clifton</td>
<td>Eveleigh</td>
</tr>
<tr>
<td>16</td>
<td>9.48am</td>
<td>Metropolitan Colliery</td>
<td>Eveleigh</td>
</tr>
<tr>
<td>36</td>
<td>12.50pm</td>
<td>Waterfall</td>
<td>Darling Harbour</td>
</tr>
<tr>
<td>48</td>
<td>4.29pm</td>
<td>Metropolitan Colliery</td>
<td>Waterfall</td>
</tr>
<tr>
<td>66</td>
<td>6.30pm</td>
<td>Dapto</td>
<td>Darling Harbour</td>
</tr>
<tr>
<td>64</td>
<td>8.35pm</td>
<td>South Clifton</td>
<td>Waterfall</td>
</tr>
<tr>
<td>102</td>
<td>1.00pm</td>
<td>Bombo</td>
<td>Waterfall</td>
</tr>
<tr>
<td>204</td>
<td>11.11pm</td>
<td>Bulli</td>
<td>Eveleigh</td>
</tr>
<tr>
<td>34</td>
<td>1.15pm</td>
<td>Metropolitan Colliery</td>
<td>Waterfall</td>
</tr>
<tr>
<td>38</td>
<td>3.00pm</td>
<td>Waterfall</td>
<td>Eveleigh</td>
</tr>
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</table>
SCARBOROUGH
Before Duplication in 1915

a Scarborough engine and crew were called upon to handle extra trains. In 1906 the Scarborough engine was used to haul a special train conveying returned exhibits from the Dapto show working to as far as Nowra. In the same year, the Scarborough engine was required for special working associated with the Illawarra District Public School Sports. A Scarborough engine ran an empty car train from Wollongong to Albion Park and returned, working all stations to Wollongong, picking up competitors and spectators. On the same day, the return of a special train returning sports patrons for stations Para Meadow to Waterfall at the conclusion of the carnival required assistance of the Scarborough bank engine from Bulli to Waterfall. Of particular interest was the instruction that this engine be

BULLI COAL SIDING BOX

BULLI
Before 1918

Bulli's Signals - shaded black
Bull Coal Siding Signals - open

RKB
fitted with a bogie tender, meaning that Scarborough now had at least one T class (50 class). When the Scarborough bank engine was taken off its normal duties, Waterfall provided a replacement engine and crew.

The rapid growth in traffic is reflected in the improvements in the method of safeworking. When the line was completed in the 1887-1888 period, ordinary train staff and ticket was used. Electric tablet was substituted in the early 1890s. This, in turn, was replaced by electric staff in the 1907-1912 period when tablet instruments were required for additional crossing stations on the main southern line, then working on the electric tablet system.

Crossing loops in addition to those first provided at South Clifton, Bulli, Wollongong, Dapto, North Kiama (closed 1893), Kiama and Berry were opened at Coledale (1906), Thirroul (1912), Corrimal (1904), Albion Park (1891) and Shellharbour (1913). Bombo (formerly North Kiama) did not regain its crossing facilities until 1923 when the present quarry arrangements were opened. A crossing loop was provided at Unanderra in 1924.

Two small duplications of the line were made between Woonona and Bellambi in 1913 (when Bellambi was provided with its island platform) and between Mt Pleasant signal box and Mt Keira signal box in 1913 as well. The purpose of these was to allow shunting of various colliery connections to occur without delaying other traffic. Woonona, Bellambi, Mt Pleasant and Mt Keira used electric staff for the single line sections adjoining them.

Returning to the numerous private colliery line crossings, the Railways protected these from the outset and carried any costs where the colliery line had prior occupation of the site. An employee operating semaphore signals provided protection at first but the installation of catchpoints, plus the interlocking of these and all signals, was carried out in 1889. These private colliery crossings are detailed in the table below.

The Illawarra line was opened as a double track to Hurstville in 1884 but extended only as a single line further south. Increasing mineral traffic hastened the line’s duplication to Waterfall by 1891. Not only did the 1 in 44 Como bank and the 1 in 40 Loftus bank slow the progress of down trains, but also up trains spent time pinning down brakes at Loftus and releasing them again at Como. The 1 in 60 ruling grade against up trains between Como and Hurstville was improved to 1 in 80 by a deviation at Oatley and regrading near Penshurst in 1905. This, coupled with a new well-laid-out marshalling yard at Waterfall, divided the up goods working into two distinct divisions. Waterfall and Scarborough engines were still employed bringing small trains up the 1 in 40s to Waterfall. Here wagons were reassembled into 540 ton loads for movement to Sydney destinations using the modern T class (later 50 class) engines, a number of which were now allocated to Waterfall.

Loads for trains leaving Scarborough for Waterfall were more restricted than would have been caused solely by the steepness of the 1 in 40 grades. The Otford tunnel became notorious very early for the suffocating heat endured by enginemen and loads were halved so that the engine didn’t have to work so hard. Less known was a similar problem in the Helensburgh No.4 tunnel south of Helensburgh, where curious wind currents contrived to make the

<table>
<thead>
<tr>
<th>Private Line</th>
<th>Angle of Crossing</th>
<th>Signal Box</th>
<th>Crossing Opened</th>
<th>Crossing Closed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Colliery (Woonona)</td>
<td>?</td>
<td>Woonona Crossing</td>
<td>1889</td>
<td>8/10/1940</td>
<td>First signal box 1889; new signal box 1913.</td>
</tr>
<tr>
<td>South Bulli (Bellambi)</td>
<td>81°51'</td>
<td>Bellambi</td>
<td>21/6/1887</td>
<td>21/5/1957</td>
<td>First signal box on up side 4/10/1888. Removed to Bellambi platform on down side of single line 8/11/1897. New signal box at end of island platform 1913. Line pre-dates Illawarra line.</td>
</tr>
<tr>
<td>Mt Pleasant</td>
<td>81°16'</td>
<td>Mt Pleasant</td>
<td>21/6/1887</td>
<td>1938</td>
<td>Private line had 3'8½&quot; gauge. Interlocked 26/9/1888. New signal box 1913. Line pre-dates Illawarra line.</td>
</tr>
<tr>
<td>Mt Keira</td>
<td>89°6'</td>
<td>Mt Keira</td>
<td>21/6/1887</td>
<td>1940</td>
<td>Interlocked 2/10/1888. Line pre-dates the Illawarra line.</td>
</tr>
<tr>
<td>Mt Kembla (north of Unanderra)</td>
<td>59°33'</td>
<td>Mt Kembla</td>
<td>9/11/1887</td>
<td>23/10/1949</td>
<td>Signal box opened 27/9/1888. Line pre-dates Illawarra line.</td>
</tr>
<tr>
<td>Illawarra Harbour &amp; Land Corp.</td>
<td>?</td>
<td>Lake Illawarra Crossing</td>
<td>23/12/1895</td>
<td>17/7/1902</td>
<td>No record of trains ever working over this ill-fated line.</td>
</tr>
</tbody>
</table>
atmosphere unbearable. Several drivers had been scalded in this tunnel. Consequently, loads had to be reduced by as much as 30% to avoid excessive steaming through the tunnel. Some idea of the loading problems associated with the working of up goods trains can be gained from the accompanying load table issued in 1906. In those days, loads were given in the number of waggons of general goods (equal to 9 tons) rather than total tonnage.

An attempt was made to improve the atmosphere inside the Otford tunnel in 1908 when a forced-air ventilating system was installed. Double-heading and push-up work was only permitted if the fan was working but loads were still less than those normally allowed for a 1 in 40 grade. However, in 1909 the first step to duplicate the line from Waterfall to Wollongong and to eliminate the worst of the tunnels was put in motion. The Parliamentary Committee on Public Works recommended the construction of a deviated double track line between Waterfall and Otford. The project, which improved the steepest grade to 1 in 80, was completed in 1915.

At the same time, the line between Scarborough and Thirroul was duplicated. Opportunity was taken to improve the step-like 1 in 50 grades between Coledale and Scarborough to a uniform 1 in 80. Before detailing the development of Thirroul and the final duplication of the line to Wollongong needs to be dealt with. Considerable economies were achieved with the 1915 Waterfall-Otford deviation. The difficult working was now restricted to the two mile section between Stanwell Park and Otford via the Otford tunnel. Traffic simply outgrew the capacity of the line. Goods traffic in particular was experiencing lengthy delays, especially when southerly winds competed with the ventilation fan. A 20% load reduction to goods trains was then instituted. Goods trains shunted a part of their load into sidings at Stanwell Park and made two trips to Otford before proceeding with the complete train further north.

Some statistics taken from the 1915 Parliamentary Standing Committee on Public Works report, recommending a deviation of the Illawarra line between Otford and Clifton, bear the point out. 

"During August 1913, 69,942 tons were hauled on the down journey, and 179,831 tons on the up journey between Waterfall and Scarborough, and required 330 down and 384 up trains to deal with it. In addition, there were 29 light engines from Waterfall to Scarborough, owing to the preponderance of traffic on the up journey, and also 323 trips between Stanwell Park and Otford consequent on the steep rising grade and long interven-
5373 waits in Scarborough's up refuge siding with an empty coal train for Coalcliff Colliery. The train occupies the approximate position of the original South Clifton yards and engine shed. R.K. Booth

Above Right: The Otford tunnel soon became notorious for the appalling conditions endured by enginemen and for the discomfort to passengers. Soon after its opening in 1887, loads which could be taken through the tunnel were reduced substantially so that engines did not have to steam so hard. In 1908 an attempt was made to improve the atmosphere inside the tunnel by the construction of a forced ventilation plant which, under ideal conditions, provided a 15 knot breeze along the tunnel walls. The ventilation plant was located at the Otford end of the tunnel and this photograph shows the fluming which directed the air from the fan to the tunnel entrance. Double-heading of goods trains was then permitted, provided a southerly wind did not blow since this tended to compete with the fan. SRA.

Below Right: The original single line from Waterfall to Otford made a fairly direct descent using 1 in 40 and 1 in 50 grades. The section included six tunnels. This scene shows the original Metropolitan Colliery Junction and the southern portal of Helensburgh No.4 tunnel south of Helendburgh. This tunnel, too, gained notoriety when enginemen were scalded while working through it with a heavy goods train. As a consequence, goods train loads also had to be reduced for this tunnel. Note the 1880s style signal box and the tubular point rodding. The catchpoint indicator is a McKenzie & Holland revolving lamp type, with discs attached to the lampcase. This section of line was abandoned when the Helensburgh deviation was opened in 1915. SRA

being divided and taken in two portions.”

The proposed deviation graded at 1 in 80 at the most would have required only 261 goods trains on the down and 291 on the up. 30 light engine movements would have been necessary to balance down and up trains. Of course, local bank engines would be no longer required.

The deviation between Otford and Coalcliff was sufficiently ready on 3 October 1920 for up goods trains only to commence running and to avoid the delays and horrors of the Otford tunnel as soon as possible. Both up and down tracks were brought into use for all traffic a week later on 10 October 1920. The deviation included three tunnels but, having double tracks laid on easy grades, there were no problems from heat and fumes. The deviation required the construction of a spectacular curved brick viaduct having eight 50 foot arches and standing 112 feet above the bed of Stanwell Creek, the largest brick viaduct in the country.

Duplication of the line southwards from Bulli Coal Siding to Wollongong was delayed by World War I, but it was finally completed in 1923. The single line Clifton tunnel, however, has remained. The easy grades have meant that train occupancy times are short and delays minimal. This tunnel, on
The improvements made to the Illawarra line in the 1915-1920 period included some versatile track arrangements for shunting coal trains and Scarborough, shown here, was a notable example. The empty coal train with 5490 in charge is proceeding north to Metropolitan Colliery, after having collected the single line staff for the section to Coalcliff. The first vehicle of the train is a water tank for replenishing fettlers' lineside storages. The yards in the right background served South Clifton Colliery and South Clifton Tunnel Colliery. January 1963.

Above Right: The left hand platform serving the present down line was the first built at Thirroul. When duplication of the line was opened, the additional track became the up line and a standard brick station building of the period was provided on the new platform. The waiting passengers watch 3230 arrive from Nowra with No.96 Fast Passenger to Sydney on 4 January 1964.

P.C. Booth

Below Right: 5434 accelerates a local passenger train out of Austinmer on a Port Kembla run. The tracks beside the two main lines are the shunting necks for Thirroul yards. Thirroul North signal box's up starting signal with a lower shunt-ahead arm can be discerned above the second carriage. 5 January 1965.

R.K. Booth

The signal box at Bulli Coal Siding was now opened only when required, in which case the signalman obtained an electric release from Bulli. The Woonona Colliery Crossing signal box was closed in 1940 when the crossing was removed. Mt Keira signal box was moved to a new site at Gipps Street level crossing in 1951 when the road crossing was protected with boom gates. Track block was then introduced between Mt Keira and Wollongong. The original yards at Wollongong were remodelled and enlarged in 1923 with the opening of the double track from the north.

The inadequate loco facilities at Waterfall and
Scarborough motivated the planning of a well-appointed depot at Thirroul. Work commenced in 1915 when cottages located on the site of the proposed depot were resumed and removed for re-erection elsewhere. In 1916 Parliament authorised expenditure for the clearing of the site and the building of the engine shed plus ancillary works, including a 75' turntable, loco sidings, ash pits, drop pits inside the shed, an elevated coal bunker with trestle approach, a 40,000 gallon water tank, and a crew rest house (barracks). Also authorised was the provision of a hot water boiler wash-out plant costing £4450, but for unknown reasons it never materialised, resulting in the Chief Commissioner rescinding the order in 1921. Again in 1916, drawings were issued for the arrangements of machinery in the depot.

Thirroul depot was opened on 28 February 1917, although there had been insufficient time to complete all works including the roundhouse and the elevated coal stage. The opening of Thirroul marshalling yards that year and improvements to the line further north meant that it was now advantageous to work engines out of Thirroul, rather than from Scarborough or Waterfall. At first, only three roads were available. In the depot numbering system, Thirroul took over Waterfall's old number of 21, which was displayed as a small elliptical cabside plate cast in either iron or brass.

The late Joe Dargan was one of the first engine-men to sign on at Thirroul. The first loco serviced was a T class driven by Don Walker, whose fireman was 'Scotty' Snedden. Joe Dargan started at Waterfall, transferred thence to Scarborough, Thirroul and finally finished at Wollongong.

1917 saw the installation of a 10 hp oil engine plus shafting to drive workshop machinery at Thirroul. Furthermore, authority was given to construct a trolley road from the turntable to the machine shop. A hand-pushed, flat-topped trolley was used to transfer stores between the loco depot and the traffic yard. Successive additions to the loco facilities were:

- Offices and buildings for the depot staff (approved 1918).
- Gangway on the elevated coal bunker (approved 1918).
- Coal spraying and fire fighting services on the coal stage (installed 1920).
- Jacking strips beside the servicing pits in the depot - these were concrete pads designed to bear the heavy weight of an engine when being lifted by jacks (installed 1925).
- 100,000 gallon reservoir (provided 1927).
- 90' electrically operated turntable replacing the original 75' one to turn 57 class engines. This turntable was one of four specially manufactured to turn the 57s. The others were located at Goulburn, Lithgow and No.1 roundhouse, Enfield.
- Overhead sanding service for filling the sandboxes of engines (1929). This was needed especially for the 57 class engines.
- Length of certain pits in the roundhouse increased in 1930, again for the 57s.
- Drawings issued for the provision of air reservoirs to be mounted on the turntable to permit the use of stored air to move the turntable if there was a loss of electricity supply (1932).
- Erection of an additional 75 ton sand storage bin (1943).
- Provision of tool store which had been a bicycle shed formerly at Kingsgrove.

By the 1950s, when Thirroul was at its maximum development, the depot consisted of an 18 road sector roundhouse constructed around an electrically operated 90' turntable. Eight additional uncovered storage roads radiated off the turntable on the northern or Sydney side. Access to and egress from the roundhouse was by means of the engine arrival road.

Right: This view taken from Thirroul South signal box shows the up and down yards on either side of the two main lines. The photograph appears to have been taken not long after the opening of the yards in 1917, since the loco coal stage has yet to be built.

SRA
TO NOWRA —

NOTE: This diagram is based on the drawing of the depot at its maximum development in the steam era. Various tracks and buildings have been added as per photographs and observations.

THIRROUL LOCOMOTIVE DEPOT
1938

Key to Symbols

1. 90' dia. electric turntable
2. Roster Clerk, Chargeman, D.L.E.
3. Temp. Dwellings for Men on Loan
4. Barracks, 6 Bedrooms
5. Shower Room
6. Meal Room
7. Fitters, Boilermaker and Store, etc.
8. Elevated Coal Bunker
9. Water Tanks (on hill behind Coal Bunker)
10. Overhead Sand Bin and Chute

- Ash Pit
- Water Column
5354 hurries a southbound local passenger train past Thirroul North signal box on 4 January 1964. Thirroul North box controlled the northern entrance to Thirroul yards. The buildings on the left are a part of Kirton’s Excelsior Colliery. 

**Above Right:** The loads which could be conveyed to Sydney from the Illawarra were severely restricted by those which could be taken through the Otford tunnel. As the work on the Stanwell Park deviation neared completion, the up line was opened first so that goods trains could avoid the old tunnel. The first goods train to pass over the deviation was hauled by a saturated T class (50 class) on 3 August 1920. Driver McQueen, fireman C. Paynter and guard E. Frose, all of Thirroul depot, crewed the train, which is shown crossing the Stanwell Park viaduct. Note the short-lived practice of using fish-tailed arms on upper quadrant distant signals. 

**Below Right:** The Illawarra line was opened as a double track to Hurstville but only as a single track beyond. By 1923 duplication of the line had reached Wollongong. However, the section between Coalcliff and Scarborough remained a single line because of the Clifton tunnel which was too expensive to replace. 3140 heads a Coalcliff local train comprising LUB set 58 onto the single line section at Scarborough in January 1963.

and engine departure roads respectively.

The roundhouse building had a sawtooth profile with corrugated fibro cladding on a steel and timber framework. An early photograph shows the outer walls of the shed to be clad originally with weather boards. Minor repairs were made to the roundhouse in 1928 and it was possibly then that fibro replaced the weather boards. Alternatively, the fibro cladding may have been added in 1940 when it is definitely known that the shed was re-roofed with corrugated fibro sheet. Each road inside the shed was provided with a smokechute attached to a chimney in the roof and the chimneys were located towards the outer perimeter wall of the shed. Thus, engines usually faced the outer wall when stabled inside the shed.

A separate timber building having a gabled roof and a verandah contained the offices of the District Locomotive Engineer, Chargeman and Roster Clerk. This building was located between the roundhouse and the engine departure road and served as a sign-on room also.

The crew barracks, consisting of six bedrooms plus a shower/washroom, were located south of the main shed. Access between the barracks and the loco shed was provided by a small bridge crossing an open stormwater drain running between the two buildings. The barracks were used by train crews working into Thirroul from other depots. Other buildings in the depot precincts were:

- Oil store
- Tool and equipment stores
- Sheds for fitters and boilermakers
- Machine shop.

These functional buildings, clad in corrugated galvanised iron, were located between the roundhouse and the coal stage and were sited on either side of the engine arrival road.
The elevated coal stage was a good vantage point to see the depot arrangements at Thirroul. In the left foreground can be seen the engine arrival road with the ash disposal arrangements. A water hose to quench the ashes lies in the pit while rakes, pricker and fire lifting shovels are scattered about. Ash was taken away in wooden D trucks shunted into the depressed ash road. The various buildings house the tradesmen and stores. A 50 class has just taken water on the loco departure road, while another awaits its turn on the turntable.

**Above Right:** This photograph taken on 4 April 1919 shows the roundhouse at Thirroul two years after the depot opened. A TF class (later 53 class) engine stands on the 75’ turntable first installed at Thirroul. The engine has a cast iron smokebox door which was secured by lugs rather than a centre dart. The District Locomotive Engineer’s office is on the left and the breakdown train, which includes a former Mountain radial car, is stowed just in front. The square container standing on short piers stored the oil-soaked wood shavings used for lighting up engines. The wooden bodied wagons in the foreground are for the conveyance of ash.

**Below Right:** When the 57 class commenced working to Thirroul in 1929 an electrically driven 90’ turntable had to be installed and this is shown to advantage here. Note the air reservoirs attached to the side of the turntable enabling operation should the electricity supply fail. The tender engines which can be discerned in the shadows are all Standard Goods types, while two 30 class tank engines are stabled partly outside the shed.

Engine servicing facilities consisted of an elevated coal bunker 114 feet long and constructed of hardwood. Coal was supplied to the bin from coal hopper wagons such as LCHs propelled to the top of the bunker by the yard shunting engine. The steeply inclined coal bunker road connected with the up yard almost opposite Thirroul North box. Much of this road were on an embankment but the last 220 feet were on a wooden trestle. Engines were recoaled by gravity-fed chutes on the engine arrival road. South Coast coal was used quite understandably, Kirton’s Excelsior Colliery nearby being a main source. Coal from Metropolitan Colliery near Helensburgh was also supplied to Thirroul loco.
Thirroul depot's machine shop and buildings to house the fitters, boilermakers and stores were located between the roundhouse and the elevated coal bunker. The track in the foreground was used to stable the accident van and is connected to the road by which engines left the depot to take up their trains.

The Sydney-bound milk train, then running as a mixed train including two Ashbury cars, passes Thirroul South signal box double-headed by T and P class (50 and 32 class) engines, both in saturated form. The P class still has its headcode disc in front of the chimney, so the T class probably has been attached here for banking duties between Stanwell Park and Otford on the original line. This would date the photo between 1917 and 1920. The saw-tooth profile of Thirroul's engine shed and the smoke chimneys are shown well. Note the original weatherboard cladding on the walls of the shed.
The open tracks radiating from the turntable at Thirroul were put in subsequent to the opening of the depot in 1917, mostly during the 1940s and 1950s. In 1949, the Public Works Department’s engines shunting the Port Kembla industrial network came under the wing of the District Locomotive Engineer at Thirroul, where some repairs were now made. Two such engines are shown in the foreground - 2601 and a 20 class. Note the two wooden D wagons used for loco ash and the hand trolley used to transfer stores between the traffic yard and the machine shop.

The first experiment with traffic control on the NSW Railways was commenced in 1918 in the Illawarra and Thirroul was made the centre for such operations. Control was housed in the two storey timber building erected on the southern end of Thirroul station. The telegraph office is on the left and this was the first unit concrete building on the NSW Railways. It wasn’t until 1933 that Sydney Control Office was opened, having surveillance to Goulburn, Newcastle, Lithgow and Nowra.
The Public Works Department opened a branch line to serve its new coal loading wharf at Port Kembla in 1915. In those days the line terminated in a large balloon loop where the coal was discharged. The branch line was handed over to the NSW Railways in 1916, but the PWD continued to use its own engines to shunt coal hoppers around the balloon loop. When the NSW Railways took over the shunting at Port Kembla in 1949, it transferred some of its own engines to work the balloon loop. 2613 was one of several of this class of 2-6-2 saddle tanks sent to Port Kembla for such duties.

R.K. Booth

South Coast coal has a higher rank than other NSW coals, meaning that it has a higher fixed carbon percentage and a lower volatile (gas) percentage. It is slower to burn but, once well alight, it is an excellent heat source producing little smoke.

Three water supply columns having 8" diameter jibs were located in loco - two beside the arrival road and one beside the departure road. Two large water tanks on the hill to the west of the coal stage supplied these columns and other services in the depot.

The Railways were anxious to maximise the efficiency of traffic movement on the newly upgraded line in the Illawarra and introduced an innovation to achieve this - Train Control, or simply 'Control'. Special offices were built on Thirroul station to house Control. The supply of engines, the movement of loaded and empty vehicles, the requirements of rollingstock by stations and the surveillance of train movements all came under the supervision of Control.

Thirroul Control was introduced on 9 December 1918 and was responsible for traffic between Loftus and Nowra. At first, all safeworking stations reported the arrival of trains but this soon overburdened Control. The system was modified so that only Waterfall, Wollongong and Kiama reported the arrival of trains and other stations only reported if there was a delay exceeding three minutes. The working of each train was compiled on a card. From this information the working was analysed and returns were compiled for the working of each engine. Under the previous system, the management of traffic was left to each station master who became a law unto himself, sometimes resulting in local decisions which had adverse effects further along the line.

The well-planned yard and loco facilities at Thirroul were to become provident for the Railways, since further developments were to occur after they were installed. A branchline from Wollongong to Port Kembla had been already opened in 1916 to serve new coal loading facilities recently constructed by the Public Works Department. Later, this branch served a host of other large industries set up one by one, including the steelworks. In 1932, the Unanderra-Moss Vale line was opened, providing more work for Thirroul depot and its men.
Office staff file past 3140 which has brought them to Port Kembla. The engine run-round siding is on the right. Note the white painted clearance lamp beside the engine.  

R.K. Booth

5223 waits at Port Kembla station with an afternoon workers’ train in 1960. This train picked up most of its passengers at Cringila and Lysaghts for all stations to Scarborough.  

R.K. Booth
When the line to Port Kembla was duplicated in 1941, the junction was moved from Wollongong signal box to Coniston, where a signal box was erected using second-hand components from the old Woodville Junction box near Newcastle. 3229 passes Coniston box with No. 120 fast milk for Darling Harbour. R.K. Booth

The Port Kembla branch in double track days had an unusual junction arrangement with the Illawarra line at Coniston. The down Illawarra line and the up branch line shared a short common section of track thereby avoiding a diamond crossing. 3255 takes the Port Kembla branch with a ten-car train on 4 July 1964. The Illawarra lines are on the left. R.K. Booth
The 12½ mile climb between Unanderra and Summit Tank passes a mixture of tall eucalypts and rainforest which usually cast shadows over much of the line. A tour special run in the afternoon provided an opportunity to photograph one of the few illuminated locations and on this occasion 3136 produced an impressive exhaust resulting in this pleasing composition near Dombarton.

R.K. Booth
The first shipping facilities at what was later to become Port Kembla were established in 1884 when the Mount Kembla Coal Company opened a coal-loading jetty supplied by its mine on the slopes adjoining Mount Kembla. The name Port Kembla wasn't adopted until just over a decade later. The jetty location was first called Red Point, which is the name given to a prominent nearby headland, so called by Captain Cook in 1770. The mine and jetty were connected by the company's own 7 mile railway. In 1888, the Southern Coal Company took out a lease adjoining the Mount Kembla Coal Company's workings and it constructed a railway to serve its own jetty alongside that of the Mount Kembla Coal Company at Red Point. Both coal lines ran parallel between Unanderra and the jetties. The Southern Coal Company's mine was a failure because of a washout in the coal seam, but later the company put its line to good use when transporting coal for shipment from a new mine developed near Corrimal in 1891. The company was granted running rights to use its own engine and wagons on the Illawarra line from Corrimal to the junction with its line near Mount Kembla signal box.

These private coal loading jetties were too exposed to the swell and rough seas which developed during bad weather. There was considerable agitation for the Public Works Department (PWD) to improve the port so that deep sea ships could be used in the coal trade, and so there could be some measure of protection from rough seas. The activities of the PWD were to have important implications for the NSW Railways and Thirroul depot in particular.

The PWD took over control of the two private coal loading jetties at Port Kembla, plus nearby portions of the two coal railways, although the private companies still ran their own engines and trains to the jetties. The Harbours and Rivers Branch of the Public Works Department commenced building an eastern breakwater in 1900 and a northern breakwater in 1908. The PWD brought its own locomotives to Port Kembla for the transport of stone from nearby quarries to the breakwaters. The first quarry, half a mile south of the eastern breakwater, lasted until 1906 when a second quarry at nearby Reids Hill was opened. This quarry was exhausted in 1928, when a third quarry at Gillans Hill, three miles from Port Kembla, was opened.

A locomotive shed and workshops were built at Reids Hill quarry in 1901 in connection with the breakwater construction and maintenance. These facilities were used later for PWD engines shunting exclusively the industrial network of lines in the vicinity of the wharves. The first industry to be
5189 takes the Port Kembla branch at Coniston with a train from Thirroul in 1958. The leading truck is a wooden D wagon with a load of ashes from Thirroul loco. A mixture of S and K wagons leads five LCH coal hoppers and a brakevan, comprising a typical goods train of the period. R.K. Booth

located at Port Kembla was the Electrolyte Refining & Smelting Co. in 1908, followed by Metal Manufacturers in 1917 and Australian Fertilizers in 1920.

Improved facilities for coal handling at Port Kembla were brought into use in 1915 and these included a new coal loading wharf working on the conveyor belt system. A part of the scheme was the construction of a single track branch railway to Port Kembla, leaving the Illawarra line at Mount Drummond (later Coniston) and skirting the western edge of Tom Thumb Lagoon to where Cringila station now stands. The line then followed the original Southern Coal Company’s line to Port Kembla North. Indeed, the new railway was intended to supersede the Southern Coal Company’s line which the PWD had resumed in 1912 but was now in a poor state of repair. The new line terminated at Port Kembla North with a large balloon loop having coal discharging facilities and storage sidings. The PWD handed over the line to the NSW Railways on 31 July 1916, but used its own engines to shunt wagons in the balloon loop.

The Port Kembla line, when opened, left the Illawarra line at Mt Drummond Junction (near the present Coniston). It was a single ordinary train staff section from there to Port Kembla. Mt Drummond was made an intermediate staff station in 1919 to overcome the need of transferring the main line electric staff to and from Wollongong by hand when running trains on the branch.

The branch line to Port Kembla was intended to be a coal line only, but local agitation urged that a passenger service be provided. New housing was being developed at Mt Drummond and rail transport for people living there and for those working in the industries established at Port Kembla was being sought. A short extension for this purpose was opened between Port Kembla North and Port Kembla on 5 January 1920. For the first year, passenger services were operated from Wollongong to Port Kembla by PWD engines hauling two American suburban cars. PWD engines Nos. 28 and 29 were fitted with Westinghouse brakes to run the trains. These passenger trains started from the down dock platform at Wollongong. There was only one intermediate stop, at Haig’s Platform at the Springhill Road crossing. Electric staff was now introduced on the branch, the sections being Mt Drummond-Port Kembla North-Port Kembla.

When the Illawarra line was duplicated southwards to Wollongong in 1923, a new signal box was opened at the southern end of Wollongong yards. Opportunity was then taken to extend the Port Kembla branch northwards to this point for the junction. The main line and branch then ran side-
by-side for about 400 yards before separating. A passenger platform at Mt Drummond was opened on the branch line only in 1924. Mt Drummond was re-named Coniston the next year.

1926 was a significant year in the development of the Port Kembla branch line. Hoskins Iron and Steel Limited commenced to transfer their iron works from Lithgow to Port Kembla and, in doing so, formed into a new company called Australian Iron and Steel Limited. A platform was opened at Cringila in 1926 for workmen building the new steelworks. Other associated industries followed over the next twelve years. Allans Creek signal box was opened in 1937 to serve exchange sidings with Australian Iron and Steel, and Lysaghts.

All the additional traffic on the branch led to its duplication to Port Kembla North in 1941. The junction of the Port Kembla branch was now moved back to Coniston, where a signal box constructed of parts reclaimed from the old Woodville Junction signal box near Newcastle was erected. The double track was extended to Wollongong at the same time. Cringila was provided with an island platform for the double track. Automatic signalling using upper quadrant semaphores was introduced between Coniston-Allans Creek and Allans Creek-Port Kembla North. The single line from Port Kembla North-Port Kembla operated under electric staff at first, but single line track block was substituted later.

One of the stipulations laid down by Hoskins when moving their iron works from Lithgow to Port Kembla was the building of a line from Port Kembla to Moss Vale. The Government was prepared to do this subject to the company spending over three years the sum of £750,000 on the construction of an iron works at Port Kembla. This arrangement was later ratified by Parliament in 1927. During the next year both projects were commenced.

A cross-country line from Port Kembla to Moss Vale would give shorter access to the main southern line and so save in freight costs for raling steel in that direction. Limestone, an essential ingredient for removing silica impurities from iron ore in its conversion to iron, could be railed directly from a very pure and substantial outcrop near Marulan.

Locating a suitable route up the steep Illawarra
The stations at Burrawang and Calwalla were constructed of pre-cast concrete slabs which require virtually no maintenance except for an occasional coat of paint. 3136 has no passengers to pick up as it passes Burrawang on Saturday, 13 February 1965.

R.K. Booth

escarpment was very difficult. The country west of the escarpment is heavily dissected by streams tributary to the upper Nepean River system. Staking of a route commenced in 1925 and was completed two years later. Construction of the line commenced in 1927, the Department of Railways building the line itself. The line was opened for traffic on 20 August 1932.

The junction for the single line to Moss Vale was at Unanderra where exchange sidings connected with the private network of the steelworks. The junction of the Moss Vale line was initially located 300 yards south of Unanderra. This saved building two culverts across streams. Upon divergence from the Illawarra line, the line swung south-west and commenced immediately a 12½ mile climb inclined almost entirely at 1 in 30. The line in this section consists of a continuous series of 10 chain radius reverse curves. The grades have been compensated for this sharp curvature, so that the effective grade confronting trains does not exceed 1 in 30.

At first, it seems strange that such a steep grade had been chosen, particularly since the Railways had made expensive deviations to improve gradients elsewhere on the system. However, the precipitous nature of the country really meant that there was no reasonable alternative.

Rock falls and slipping ground are a feature of this area and have given trouble throughout the line’s existence. In anticipation of this, two rock-fall shelters were built to protect the line close to the 61½ mile post and 400 yards beyond. The first shelter is 330 feet long and has a rectangular section. Its reinforced concrete roof is supported by similarly made piers. Twenty open-side bays are on the ocean side and a curtain wall lines the inland side. Originally a short tunnel was planned for this site, but it was opened out during construction of the line. The second shelter was much shorter at 72 feet long. The short Illawarra Range No.1 tunnel is located between these two rock shelters.

As the line, still climbing at 1 in 30, passes through a convenient notch in the escarpment, the coastal panorama disappears, but the country now falls away steeply to the west. The headwater streams of the Avon River have cut their tracts into the plateau. The gradient eases to 1 in 120 temporarily while passing through the 2060 foot Illawarra
No.3 DOWN SIDING
No.2 DOWN SIDING
No.1 DOWN SIDING

DOWN MAIN

UP MAIN

No.1 UP SIDING
No.2 UP SIDING
No.3 UP SIDING
No.4 UP SIDING
No.5 UP SIDING
WEIGHBRIDGE ROAD

LOCIO ROAD

ENGINE DEPARTURE ROAD

ASH ROAD

ENGINE ARRIVAL ROAD

18 ROAD ROUNDHOUSE WITH 90° TURNTABLE

FRAME B

THIRROUL
1938
Range No.2 tunnel. Both Illawarra Range tunnels have the wider dimensions of the City Railway type and are built with vertical sides.

About half a mile beyond the tunnel, a tall curved viaduct having a steel decking on concrete piers is encountered suddenly, since there is no approach embankment. The summit of the climb from Unanderra is reached at the 66m.50ch. point, the line having gained 1755 feet in altitude over a distance of 12 1/2 miles.

Summit Tank is a very appropriate name given to the location of a water tank at the top of the gruelling 1 in 30 climb. An ash pit was provided here for firemen to clean their fires. Water for the tank was supplied from a concrete dam across the Avon River about 4 1/2 miles westwards. Water delivery to the tank gravitated from the dam by a fibrolite pipe laid beside the line.

The ruling grade beyond Summit Tank was now improved to 1 in 60 against down trains but continuous reverse curvature using 10 chain radius curves was still used. The 1 in 60s were compensated for curvature.

The first station on the line was Mount Murray, where the forested sandstone country is left for cleared fields on shale and basalt. The gain in altitude is appreciated at Ocean View where Lake Illawarra and the Pacific Ocean beyond can be seen on a clear day. A short platform serving a cluster of local farms was opened at Ocean View in 1936.

The line passes its highest point of 2471 feet at Ranelagh, where a small platform was opened in 1932. The platform was renamed St Anthonys in 1948. The line then follows undulating country on easy grades across the plateau to Moss Vale. The only major settlement passed is Robertson which was opened with the line in 1932 and had the earlier distinction of possessing the line’s only crossing loop. Small platforms with siding accommodation were provided at Burrawang and Calwalla.

There were two safeworking sections at the opening of the Unanderra-Moss Vale line in 1932: Unanderra-Robertson and Robertson-Moss Vale. The first-named section was worked under the divisible electric staff system. A train from Unanderra had to reach Summit Tank and phone in its whereabouts before a second train could follow. Similarly, a second train could not leave Summit Tank until the first train had reached Robertson.

A loop was opened at Summit Tank in 1937 to improve crossings on the line. The watering facilities at Summit Tank were increased in 1952 with the installation of a second tank at the Moss Vale end of the crossing loop. This tank had a jib attached and was mounted on a steel stand. The original tank supplied the water column at the Unanderra end of the loop. A turntable for turning bank engines was provided in 1953 and had the unique location of being very close to the plateau escarpment. The opening of Summit Tank as a safeworking post
The one class of engine which symbolised steam operation on the Illawarra was the P class. A nicely cleaned example, 3266, was captured at rest in Wollongong loco on 4 July 1964. This was the final form of the P class having the boiler mounted on higher frames to provide greater air space over the ash pan. R.K. Booth

Above Left: Dombarton was opened as a crossing loop in 1943 to divide the lengthy Unanderra and Summit Tank section, for which ascending goods trains were allowed 75 minutes. The main line curves to the right on a 1 in 30 grade while No.1 refuge siding levels out straight ahead. Vegetation obscures Nos. 2 and 3 refuge sidings, but a platform oil lamp and the top of a signal mark the position on the right. SRA
Above Right: 5601 pauses in its duties as Wollongong’s shunting engine until 3207 leaves the platform with a Kiama train and clears the section ahead. 1 February 1960. R.K. Booth

Below Right: A 32 class and a set of suburban cars seemed inseparable from the Illawarra line in steam days as this was the most common mode of rail passenger transport. The decrepit workman’s van on the left is a former Improved Redfern car, which was a common passenger vehicle on the Illawarra line around the turn of the century. This scene was taken at Scarborough in January 1963 and shows 3390 with a Sydney-bound passenger train. R.K. Booth

Below: The yards at Wollongong were remodelled and enlarged in association with the line duplication to this point in 1923. 3140 makes a spirited start with the Moss Vale passenger as it heads southwards through the yard. Some of Wollongong’s loco watering facilities can be seen on the left, while a 32 class waits in loco beyond the right of the last carriage. R.K. Booth
dispensed with the need to use divisible electric staff.

In 1941 it was proposed to open a crossing loop at Mount Murray. A plan for the signal box to work the interlocking was prepared but the whole idea lapsed.

The long unbroken climb from Unanderra to Summit Tank was causing delays to traffic during the World War II years, making a crossing loop in this section essential. The continuous 1 in 30 climb made a conventional loop impractical for trains starting on the heavy grade, so a novel zig zag arrangement straddling the main line was opened on the side of the range in 1943 and called Dombarton.

When crossing trains, it was usual to arrange train running such that an ascending or ‘down’ train arrived first and was refueled to allow the descending or ‘up’ train, with hand brakes applied, to pass straight through. The ascending train, upon arrival in the No.1 refuge siding, reversed on the level under the main line to the No.3 refuge siding. The slope of No.3 refuge siding was inclined at 1 in 150 in a way to give an ascending train a short downhill start before regaining the main line. In all, the crossing arrangements at Dombarton were very well thought out.

The range of working of Thirroul crews extended to Sydney and most of the metropolitan yards, to Port Kembla, Nowra, Moss Vale and Goulburn. By the 1950s, more than 80 enginemen were employed at Thirroul depot, including 30 drivers, 40 firemen (some of whom were acting drivers), and about 15 cleaners. In addition, two fuelmen, a fitter and mate, a number of call boys and a chargeman were employed on each of the three shifts per day. The depot was the responsibility of the District Locomotive Engineer (DLE) whose office staff included the roster clerks. Altogether, in excess of 100 men were employed at Thirroul.

Wollongong was an out-depot (or sub-depot) of Thirroul. Although no engines were allocated there, local staff in steam days consisted of 11 drivers, 11 firemen and two fuelmen. Crew rostering at Wollongong was carried out by the Station Master in conjunction with the Thirroul roster clerk. Overall supervision of Wollongong loco was exercised by the DLE at Thirroul who made regular checks as a part of his personal supervision. Wollongong crews were mostly involved in passenger working but they did man the Wollongong yard shunter shifting goods wagons and car sets.

The first loco facilities at Wollongong consisted of a single turntable road leading to a 50’ turntable on the western side of the main line. A 60’ turntable was substituted in 1896 to handle the longer bogie-tended engines being introduced. The original turntable was then sent for re-use at Moss Vale. (Hard to explain was the position of the original engine shed on the down side of the mainline.) When duplication of the line was extended to Wollongong in 1923, the yards were remodelled and extensively enlarged, sweeping aside the old loco facilities.

The engine facilities at Wollongong in double line days were minimal but functional and without a shed. The depot was located on the up or western side of the line, close to the south end of the up platform. A 60’ manually-operated turntable was provided and had five radiating roads. Engines were hand coaled from a low wooden stage located on an appropriately named ‘coal stage siding’. An ash pit plus a 9” water column were located near the coal stage. Facilities for the men were positioned near the coal stage and these consisted of wash, shower and locker rooms. There were also a crew barracks in steam days. Four bedrooms plus a separated kitchen were provided. The barracks were first sited on the bank west of the carriage shed but were subsequently replaced by newer accommodation not far from the turntable. The Wollongong barracks were used regularly by Eveleigh and Goulburn crews, both enginemen and guards.

A shunting crew was stationed at Nowra in steam days making this place a small sub-depot of Thirroul also. However, no engines were allocated to Nowra.

Steam passenger working on the South Coast fitted into three categories:

• Trains to and from Sydney working to Wollongong, Port Kembla, Kiama and Nowra. Many of these trains worked all stations outside the Sydney metropolitan area but some were express and semi-fasts. The latter were designated as ‘Fast Passenger’ in the working timetables.

• Local trains serving stations bounded by Coalcliff, Wollongong, Port Kembla and Kiama.

• Cross-country trains between Wollongong and Moss Vale.

The Sydney passenger trains were worked by crews from Eveleigh, Thirroul and Wollongong. Of the proportion manned by South Coast men, Wollongong had the greater share. As an example of Sydney passenger work taken by Thirroul crews, there was one regular return trip to Sydney on Sunday mornings. Also, on a Saturday afternoon, No.120 fast milk train was taken to Sydney by a Thirroul crew who, after going to barracks, returned

Above Right: Coalcliff was the usual northern limit for Wollongong suburban services. Southbound local trains in steam days departed from the up platform at Coalcliff and ran wrong road until the junction with the single line, as 3136 is doing here. The 30 class tanks allocated to Thirroul in the later steam days had their coal bunker extended in varying styles. 20 December 1963. R.K. Booth

Right: It was mostly an uphill climb from Thirroul to Waterfall, with the only notable eases being at Coalcliff and Otford. All up goods trains took water at Waterfall as is shown here with 5475 on No.120 fast milk. This train was usually a task for a 32 class, but when milk production peaked late in the year the loading was excessive and a Standard Goods engine was used instead. R.K. Booth
The running of tender engines on the local trains to Scarborough and Coalcliff required some tender-first working in the absence of a turntable at either of these termini. This example shows 3326 arriving at Wombarra with a ten-car train from Port Kembla on 19 December 1963. 

Above Right: Increasing freight traffic necessitated the duplication of the Illawarra line to Wollongong by 1923. The growth of industry in the Port Kembla area during the next 15 years saw an increasing number of local workmen's trains being run and the capacity of the line was easily capable of handling the additional traffic. 3238 heads northwards from Austinmer with the ten-car K42 local train to Coalcliff on 5 February 1960. 

Right: The ten-car workmen's trains operating in the Illawarra comprised a standard eight-car set, plus two additional cars. The latter could be the independent type such as the HFL and FL shown here. 5434 leaves Bulli with a ten-car train from Port Kembla on 5 January 1965.

on a Sunday morning down passenger. 
Most of the Sydney passenger trains were hauled by 32 class engines during the steam days this century. Some were worked by 36 and 38 classes in the final days of steam working. The 35 class had been used on Wollongong trains in the 1930s but it is not known whether Thirroul or Wollongong men of the time were called upon to man these engines. Latterly, Wollongong men were qualified for 30, 32 and 36 class engines.

A good proportion of local passenger work to Port Kembla was worked by Thirroul crews. Further south, one Thirroul crew arrangement was to take an early workers' passenger train to Kiama and to swap over with the crew of a blue metal train from Bombo.

The passenger service to Moss Vale was regularly worked by a Thirroul crew. Wollongong men filled in at times of crew shortages. When the service was a daily return from Wollongong to Moss Vale and back, the run could be done in one shift. On Fridays, an additional passenger train left Wollongong for Moss Vale in the evening, returning on Saturday morning. The Thirroul crew would go to barracks at Moss Vale. One timetable in the early 1960s, incidentally, had two passenger trains crossing at Dombarton on Friday evenings - the up Wollongong passenger going through the reversing procedure to allow the Moss Vale passenger a straight run up the grade while the engine's fire was good and hot.

The local passenger services were hauled by 30 and 32 class engines supplemented by Standard Goods engines of the 50, 53 and 55 classes. The use of tender engines meant a considerable amount of tender-first running was involved since there was
The soft afternoon sunshine of May 1963 produces a pleasing contrast for 3077 and its local suburban train moving along at a good pace between Thirroul and Bulli.

Above Right: The 30 class 4-6-4 suburban tank engines put in 35 years' service on the Wollongong local trains. 3076 heads an eight-car suburban set on an up local passenger train between Bulli and Thirroul.

Right: The majority of stations on the double line between Scarborough and Wollongong were the wayside type, of which Bulli is an example. Goods engine 5441 arrives at Bulli's up platform, which was added in 1923 for the line duplication. The leading carriage of the ten-car train is a CCA composite, used previously on the Camden and Yass branch lines. Brokers Nose on the right and Mount Keira in the distance form the backdrop.

no turntable at Coalcliff, Scarborough or Port Kembla. Timetables could still be met nonetheless, since closely spaced stations precluded any high speeds. The small driving wheel diameter of the Standard Goods engines on the passenger trains produced a rapid exhaust beat which deceived the listener into believing the train was running fast. The number of Standard Goods engines on local passenger services increased towards the end of steam when the number of 30 class tank engines declined. 30 class tanks working to Coalcliff took water at Scarborough.

Carriages used on the local services were the American suburban type, or simply 'suburbans' as the railwaymen called them. A variation of this type of car in the form of BOB sets was also used. Train sizes varied from two or three to eight and ten cars. Ten-car trains were made up of two sets - an eight car set and a two car set. FL and HFL cars were later introduced to build up sets. Unlike the Sydney metropolitan area, a regular frequency timetable was not operated. Instead, trains were run to suit the shift changes at Port Kembla, especially the steelworks, and to suit office workers and school students.

As a quirk of rostering, one could witness a 30 class hauling ten cars and, on another occasion, a 50 class hauling two cars - the reverse of their respective capacities. Some engines, however, were diagrammed to work both local goods and passenger trains on the one day, as will be seen later. The ten-car trains were limited to the Port Kembla-Scarborough-Coalcliff services. A 30 class on a ten-car up train would be replaced by a 32 class or a 50 class at Thirroul for the rest of the journey to Coalcliff.

Kiama services were less frequent and served a smaller population. So, two-, three-, four- and six-car trains sufficed. 32 class and 50 class engines were mainly used, these tender engines being turned at Kiama.

As places such as Dapto and Albion Park grew, so did the teenage population requiring high school education. Until Dapto High School was built, secondary students were transported by train to Wollongong High School, not far from North Wollongong station. In the morning, a 30 class plus four cars worked a school special from Shellharbour. If the number of carriages perchance exceeded this number, then the water in the boiler would approach 'low tide', as one driver put it, at the top of
3093 had just shut off steam on a southbound all-stations run approaching Woonona on 5 January 1965. The coal bunker of 3093 has been extended using a railing to increase its capacity. The signal, Bulli’s up distant, and the arch bridge beyond were both casualties of the electrification of the line in the mid-1980s.

R.K. Booth

Above Right: One of the oddities to be seen in the Wollongong area was a 30 class hauling ten cars and a goods engine hauling two cars - the opposite of their respective capacities. However, some goods engines were diagrammed to work both freight and passenger services on the one day, explaining the use of 5441 with two cars leaving North Wollongong. Another scene which has disappeared is the use of pensioned-off rollingstock as workmen’s vans. Stowed in the siding here is the unique former BAM 1 and a four wheel HG brakevan.

14 January 1964.

R.K. Booth

Right: The two-carriage load leaves 3224 with steam to spare as it crosses the wooden trestle approaching Bombo. This train, No.188, was the last passenger service for the morning from Kiama to Wollongong in steam days. The wooden trestle viaducts served the railways well, most lasting ninety years or more. 27 June 1964.

R.K. Booth

Shellharbour bank.

A regular train returned the students home after lessons. At first, the train ran empty from Wollongong to Mount Pleasant signal box where the engine, usually a 50 class, ran around its train before heading back to North Wollongong. Later, the timetable was adjusted so this train, No.459, started from Thirroul and ran empty cars to North Wollongong. No.459 also picked up day-shift workers from the Port Kembla area at Coniston where, on occasions, No.459 and K12 would happen to line up exactly, allowing the more daring to simply step across the verandahs of the suburban car sets instead of changing platforms by the overhead bridge! Once No.459 reached Kiama, its cars were stabled. The Thirroul crew then turned the engine and proceeded to work No.262 pick-up goods to Thirroul, leaving Kiama at 5.40pm.

The main depot for the car sets used on the local services was at Wollongong where there were extensive sidings plus a two-road carriage shed. Car sets were also stored on the back platform road and siding at Thirroul station, and on No.5 up siding in Thirroul yards. One set could usually be seen at Scarborough during off-peak times. Kiama’s sidings usually had several car sets stabled overnight.

The working timetable numbering of the Coalcliff-Wollongong-Port Kembla local steam trains either used a ‘K’ prefix or a 400 series number, as exemplified in a preceding paragraph. The use of the dual system is a mystery. K stands for Kembla and the local railwaymen referred to trains for Port Kembla as ‘Katies’. Perhaps originally local services to and from Port Kembla were given the K prefix, but the Coalcliff-Scarborough-Thirroul trains not proceeding beyond Wollongong were designated in the 400 series. Maybe subsequent timetable changes extending some services and curtailing others caused the system to intermix.

Another interesting passenger service run by Thirroul men with a 30 class and three cars was No.14 passenger, 4.28am from Thirroul to Sutherland, arriving there about 6.00am and connecting with an electric service to Sydney. The return work-
Cloudy weather seems to make the escarpment brood over the narrow settlement along the upper Illawarra. However, the cleaned boiler cladding of 3252 reflects some brightness coming from the north-east. This view taken in May 1963 shows the southern end of Thirroul station. The two-storey building above the first and second carriages housed the original Train Control centre used on the NSW Railways. The concrete slab building on the right of the train contained Thirroul’s Frame B, which controlled the points at the southern end of the station.

R.K. Booth

ing, No.15, reversed the connecting arrangements, leaving Sutherland at 6.43am for Port Kembla, stopping at all stations except Lilyvale. At Thirroul, the engine uncoupled and shunted another six cars onto the train to handle the heavy patronage for Wollongong and Port Kembla. The train ran bunker first to Sutherland and chimney first to Port Kembla, taking water at Waterfall.

As an indication of diagram working of Thirroul engines on local passenger trains, the arrangements shown adjacent were used in the early 1960s.

So it can be seen that engines and car sets were intertwined on the passenger working. The crew rostering was intermixed in a similar fashion involving men from Thirroul, Wollongong and Eveleigh. However, while Thirroul and Wollongong crews would relieve Eveleigh crews, the latter did not work any local services in return.

One of the best remembered Illawarra steam passenger workings was the Wollongong-Moss Vale train. It left Wollongong just after 11 o’clock, connecting off No.45 passenger, 8.30am from Sydney. It arrived at Moss Vale just ahead of No.13 Goulburn/Cootamundra day train which, in turn, had a connection for Queanbeyan at Goulburn. In the opposite direction, the train left Moss Vale at 4.12pm, following the departure of the Sydney-

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Wollongong has always been a busy railway centre, handling both through and local passenger services. 3045 has just arrived from Kiama and will shunt its two-car train back into the up yards where the passenger carriages were stabled.

R.K. Booth

In their heyday, the NSW Railways were universal carriers and provided sidings to serve local communities. The competition of road transport and the expansion of suburban housing in the Illawarra saw little need for local good sidings such as this one at Fairy Meadow. Note how the connection with the main line was protected with a catchpoint and a mechanical point indicator. A nicely cleaned 3320 leaves Fairy Meadow with a workers' train from Port Kembla on 11 July 1964.

R.K. Booth
bound No.34 Cootamundra/Goulburn day train which had connecting services from Canberra and Crookwell.

The regular engine was a 30 class tank, which was normally associated with suburban running. Sometimes a 32 class or even a 50 class goods engine would be substituted, even though the load was two suburban cars, just 50 tons. A trip behind a 30 class for such a long run, and the magnificent scenery as the train climbed the 1 in 30 grade to Summit Tank, made the journey something really special. An hour was allowed for the 12½ miles continuous climb from Unanderra to Summit Tank, a task which was easily accomplished since the load was less weight than the engine. Indeed, the crew could pick up 15 minutes on the climb and have ample time, after taking water, to brew a cup of tea and to exchange news with the signalmen and fettlers working at this completely isolated outpost. Occasionally, if a passenger was a friend of the driver, a brief guided tour through the trees to the nearby lookout with its breathtaking drop to Lake Illawarra and beyond, would be sneaked in.

The journey would continue at a faster pace through the pristine bushland of the Avon River catchment, the line continually swinging this way and that through an endless succession of small cuttings. Near Mount Murray, a shriek from the engine's single-tone whistle to exchange greetings with folk at a nearby farmhouse reminded the more discerning that the engine was not one normally associated with such rural journeys in NSW. Sometimes a stop would be made here to drop parcels or to take an order to Moss Vale. After stopping to set down passengers at Robertson, a brisk run would be made to Moss Vale.

The 30 class was turned at Moss Vale for the return run to Wollongong. A memorable sight sometimes afforded on the descent of the Illawarra Range was the evening view of the rising full moon glistening off the Pacific Ocean.

During the final steam years, the timetable was, in effect, reversed so that the morning train connected off the Sydney-bound Spirit of Progress at

Above Right: A unique steam run down the South Coast was No.15 early morning passenger from Sutherland to Port Kembla worked by a Thirroul 30 class and crew. 3076, dwarfed by the Illawarra escarpment, heads No.15 along the single line section approaching Scarborough on 5 January 1965.

R.K. Booth

Right: Robertson is the only settlement of note along the Unanderra-Moss Vale line and was provided with a crossing loop and goods sidings from the outset. 3225 is the motive power for the Moss Vale passenger train, shown here stopped at Robertson on 14 April 1960 for passengers and parcels.

R.K. Booth
Even 50 class goods engines could be seen on the Moss Vale passenger at times, as was the case here with 5219 awaiting departure from Moss Vale on 31 December 1960.

R.K. Booth

The Wollongong to Moss Vale passenger was usually entrusted to a 30 class tank engine, a type more associated with suburban duties than lengthy rural journeys. The train usually consisted of two suburban carriages, but in the final days of steam the carriage composition was changed to FL + HCX. The whole ensemble had a distinctly vintage air about it, even by the standards of 1965 when this photo was taken.

R.K. Booth
Moss Vale. Such a timetable was more suited to the passenger needs of people living in Wollongong. The final carriage composition was an FL second class corridor car and an HCX composite ‘dogbox’ non-corridor car which had the only first class accommodation. What the 1st class passengers thought upon leaving the air-conditioned luxury of the Spirit of Progress and having to clamber on board a dogbox car behind a dirty old steam engine can be imagined.

The Moss Vale passenger was the last steam hauled service on the Illawarra when it was replaced by a rail motor on 20 February 1967. Thirroul depot had been closed in 1965 and latterly engines were sent from Enfield depot to Wollongong for running the service.

As already mentioned, Thirroul men on goods trains knew the road to Enfield (and indeed most of the Sydney area goods yards), Port Kembla, Nowra, Moss Vale and Goulburn. Trips to Enfield and Goulburn meant a stay-over in barracks at the end of a shift. Change-overs with Enfield crews off down goods trains also occurred at places such as Helensburgh and Waterfall so that crews could return to their respective depots at the end of the shift. Steam goods trains working on the South Coast fell into a number of categories:
- Trains conveying perishable traffic, including meat for Wollongong and milk from stations further south - Eveleigh and Thirroul crews.
- Trains to and from Enfield and other Sydney goods yards - Enfield and Thirroul crews.
- Local trip working bounded by Waterfall, Port Kembla and Unanderra West - Thirroul crews.
- Blue metal trains from Bombo and goods trains to Kiama and Nowra - Thirroul crews.
- Goods trains to Moss Vale, Medway and Goulburn via the Unanderra-Moss Vale line - Thirroul shared this work with Goulburn crews.
- No.9 mixed train, nicknamed the ‘paper train’ because it conveyed the morning Sydney newspapers to South Coast destinations, carried meat for Wollongong and empty milk tanks to Dapto, Albion Park, Kiama, Gerringong, Berry and Nowra. The 32 class engine off this train returned to Darling Harbour with No.120 fast milk picking up full tanks from the stations mentioned previously. Other up perishable traffic, plus any stock, was taken by No.28 through goods which left Nowra at 4.15pm and worked sidings from there to Unanderra. If it was within its load, No.28 picked up empty vans and wagons which had brought in meat and kegs of beer, among other things. This train worked through after Thirroul, although it did stop at Hurstville for ‘out-of’ traffic and called at Sydenham to pick up ‘out-ofs’ for Darling Harbour (from stations on the Bankstown line landed at Sydenham by parcel van).

Heavy goods trains from Thirroul to Enfield were marshalled from loads brought in by local trips from quarries, collieries, cokeworks and from industrial sidings in the Port Kembla area. The through loads...
which could be taken north from Thirroul were:

### Engine Loads, Thirroul - Enfield

<table>
<thead>
<tr>
<th>Class</th>
<th>Load - Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>495</td>
</tr>
<tr>
<td>36</td>
<td>545</td>
</tr>
<tr>
<td>50</td>
<td>640</td>
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<tr>
<td>50+50</td>
<td>1150</td>
</tr>
<tr>
<td>57</td>
<td>1000</td>
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(50 means any one of superheated 50, 53 or 55 class engines.)

Up goods trains had a hard slog to Waterfall, since the grade commenced upon leaving Thirroul yards and the only notable eases were in the vicinity of Coalcliff and Otford. A stop was made at Waterfall to take water. An engine really in trouble and using a lot of water might top up at Otford. Generally goods trains from Enfield conveyed mostly empty vehicles or wagons loaded with scrap iron for the steelworks. These trains terminated in the down yard at Thirroul where the engines went to loco.

Local trip working was handled by Standard Goods engines supplied by Thirroul and Enfield. As the number of Standard Goods engines allocated to Thirroul diminished, so the number of Enfield engines increased. However, these Enfield engines worked out of Thirroul depot on these trips.

Local goods working centering on Thirroul changed over the years as mines closed, amalgamated, or sent their coal by road. So the number of coal trains decreased. On the other hand, steel products from Port Kembla formed the essential part of up goods trains heading north from Thirroul in the final steam days. Thus, trips from Port Kembla to Thirroul carrying steel products became commonplace.

The following workings give some idea of the local coal train movements in the concluding decade of steam. Some engines owned by the collieries for working their own private railways were permitted to haul locally the company's hoppers along the Illawarra line. This working is not detailed here, but the engines were manned by either the company's crews or by Thirroul crews. A speed limit of 20 mph was imposed and the private engines did not haul NSW Railway wagons except for the brakevan, which could be of the CHG, SHG or LHG type.

Coal train working from Metropolitan Colliery near Helensburgh passed to Thirroul when it superseded Waterfall in 1917. A train (No.56) of empty hoppers and open trucks was worked from Thirroul to Waterfall, where any empty wagons from Eveleigh were added. The train then ran tender-first down to Metropolitan Colliery. After a load of full hoppers was ready, the train climbed back to Waterfall where the load was weighed and then sorted into wagons to be taken north or to be returned to Thirroul. Metropolitan Colliery in steam days was an important supplier of coal to the railways. It also sold its coal to various establishments with coal-fired boilers. The engine turned at Waterfall before taking its train (No.57) back to Thirroul. If there were no wagons to be collected from or returned to Waterfall, then the train worked directly to and from Metropolitan Colliery.

Basically, Coalcliff Colliery sold its coal for the export market, railing it through Port Kembla. The steelworks did purchase some coal from here also. Some unauthorised train working did occur occasionally at Coalcliff. If the engine on a loaded coal train for Port Kembla was known to be a dull steamer, the 30 class off a waiting local passenger train would be called upon to push the train to the mouth of the Clifton tunnel. Strictly a bank engine key should be used for such working but this safeworking device was not available at Coalcliff. This initiative was not in accord with proper safeworking procedures, but it did keep the trains running without causing delays.

Bulli Colliery shipped coal via its own wharf at Bulli Point or through the former Southern Coal Company's wharf at Port Kembla when the Bulli wharf was out of action due to storm damage. Other companies also railed their coal to be shipped from the Bulli jetty. AIS purchased the Bulli Colliery in 1936 to supply its coke ovens near Cringila. Either its own engine or one hired from the Railways pushed loaded hoppers to the exchange sidings near Bulli Coal Siding signal box, from where a Standard Goods engine took the train to Cringila. AIS later built its own special high-capacity bogie coal hoppers for this work. In the early 1960s, NSW engine 1915 was hired to Bulli Colliery for working its short line and lasted on this work until 1965, when Thirroul depot closed.

South Bulli Colliery near Bellambi had its own fleet of four wheel non-air hoppers with the company's initials, SB, painted on the sides. South Bulli supplied coal to the Mount Pleasant colkeworks near North Wollongong. Train loads of coal in company hoppers were sent to Port Kembla for shipment also. The 1964 working timetable does list one train departing Bellambi for the Inner Harbour at Port Kembla, with the weighing to be done at Wollongong. This traffic would have been carried in UT wagons necessary for the tippler at Inner Harbour.

**Right:** Double-headed goods trains were run when the loading from Thirroul to Enfield was heavy. A single Standard Goods engine could take 640 tons northwards from Thirroul, but the load for a pair of Standard Goods engines was 1150 tons as a concession to the sharp curvature. 5438 + 5619 take a full load out of Waterfall on No.60 goods in August 1960.

R.K. Booth

**Below Right:** The 57s made their very first revenue run to Thirroul in 1929 and were frequent visitors there until their demise in 1961. 1000 tons loads could be taken northwards to Enfield, reducing the need to use smaller engines double-heading. The sandstone capped escarpment forms a rugged backdrop for 5714 heading northwards near Coledale on 5 February 1960.

R.K. Booth
5612 hauls an unusual load consisting of a solitary S truck plus four brakevans (PHG, MHG, MHG, LHG) near Thirroul. This train was a local trip working from Port Kembla. A number of the overbridges, built when the line was duplicated in the 1915-1923 period, had a reinforced concrete arch with brick abutments and walls.

Locos on local goods trains between Thirroul and Port Kembla usually worked chimney-first on the down and tender-first on the up. 5035 has an assortment of four-wheel wagons in tow as it approaches Thirroul on 5 February 1960. Even by this date, 50 class engines still fitted with original style tenders were becoming a rarity.
5435 was one of several of the 53 class engines to be fitted with specially balanced driving wheels and had an X painted on its buffer beam to indicate that it was so equipped. However, no special use was made of this feature on the Illawarra. 5435 rounds the curve near Bulli Coal Siding signal box in May 1963 with a short load from Bombo, comprising a BBW ballast wagon, six S trucks and a PHG brakevan.

R.K. Booth

Loading from the industrial area around Port Kembla, especially the steelworks, provided most of the freight tonnage in the latter days of steam. Loads such as this being hauled by 5366 were remarshalled at Thirroul yards before movement north. This scene was taken near Bulli Coal Siding in May 1963.

R.K. Booth
The output of coal after the miners’ summer holidays took a while to build up and not much loading was expected judging by this train’s composition of two S, three LCH and one CCH wagon in front of the LHG brake van. The running of trains to Metropolitan Colliery was a regular Thirroul working and 5414 had been allotted the task on 20 January 1965 when photographed north of Wombarra. The landslip behind the train shows some of the unstable terrain encountered along the Illawarra line.

R.K. Booth

Corrimal Colliery supplied its own cokeworks next to Corrimal station and its coke was sold to the local market requiring transport by rail. Coal was also sent by rail to Port Kembla for shipment. The Mount Pleasant, Federal and Coalcliff cokeworks supplied coke to the domestic market, the export market and, when required, to the AIS steelworks. This generated traffic over the Illawarra line.

There was one colliery connection off the Unanderra-Moss Vale line. It was opened as the Port Kembla Coal Company’s siding, 2 miles before reaching Dombarton. The siding was later known as Unanderra West and it trailed down trains. An engine with a load of empty LCH hoppers worked tender-first to Dombarton where it ran around its train. It then dropped downhill to the siding points, which were unlocked with the staff key. The loaded train was propelled back up the main line until clear of the points before it could return to Unanderra and leave its load in the AIS exchange sidings. An engine fitted with a light on the tender was preferred on this work.

Even though the Illawarra line was well supplied with facilities for engines to take water, there was nothing provided at Port Kembla. The Port Kembla North yard shunter would have to be worked to Wollongong from time to time throughout the day to get water. Opportunity was taken on such journeys to carry any freight which needed transferring.

The Illawarra escarpment is capped by the prominent and resistant Hawkesbury Sandstone. As the altitude of the escarpment rises southwards, so does the coastal plain, designated as the Illawarra, widen. Between Albion Park and Gerringong, a number of basalt lava flows has stiffened the strata resulting in hillier country. The Illawarra railway first encounters this changed topography at Shellharbour tunnel, which pierces one of the hard lava flows. The famous blowhole at Kiama has been naturally excavated from another of these flows. Besides providing the fertile soils for the dairy industry, the basalt has been an excellent source of blue metal for road surfacing, concrete and importantly, railway ballast. As well as being used on Illawarra line tracks, blue metal from Bombo is still railed to Sydney for further distribution within the
5490 regains the double line at Scarborough in January 1963 with No.57 coal train conveying loading from Metropolitan Colliery. The station nameboard with cast iron letters and the ornamental electric lamp brackets are becoming quite a rarity nowadays.

R.K. Booth

Coalcliff Colliery sold most of its coal to the export trade and railed it to Port Kembla for shipment. 5173, one of a trio of 50 class engines allotted to Thirroul at the time, coasts down the grade near Austinmer with a loaded coal train from Coalcliff on 15 January 1964.

R.K. Booth
Right: Coke was an important commodity carried by the railways earlier this century. One of the last cokeworks to survive on the Illawarra is that at Coalcliff. The 1920s era semaphore signals frame the works as another load of coke is quenched.  
   R.K. Booth

Left: The movement of privately-owned coal hoppers over the state-owned railway has been a feature in the Illawarra from the earliest of days. Australian Iron & Steel made a great leap forward when it provided high-capacity bogie hoppers to convey coal to its cokeworks at Cringila. 5173 draws a train load of these wagons onto the main line at Bulli Coal Siding in May 1963.  
   P.C. Booth

Below Left: Of the three variants of the Standard Goods engines, the 120 strong 55 class were the last to be added but also the first to be withdrawn. They were fitted with Southern valve gear, which required an upward step in the running board to clear its mechanism and this feature easily distinguished them. By the early 1960s, the number of 55 class, or K class as they were more familiarly called, had dwindled considerably but several could be usually found on local trip working in the Illawarra. 5617 was so employed on a coal train from Bulli Coal Siding to AIS sidings at Cringila and is seen here approaching Bulli's lattice post home signal on 5 February 1960.  
   R.K. Booth

railway system. In steam days, blue metal ballast for Southern line destinations beyond Moss Vale was taken via the Unanderra-Moss Vale line, the necessary loaded wagons having been shunted off at Wollongong yards.

A fairly regular set of trains ran between Thirroul yards and Bombo to be loaded with blue metal. One of these trains, No.105, also took any goods loading from Thirroul to Kiama. Engines off down empty blue metal trains ran into Kiama for water and turning. Loaded up trains were marshalled in the quarry sidings and then propelled to the refuge loop at Bombo for wagon number getting and brake test. A special feature of steam working at Bombo was that up trains reversed in the Kiama direction until almost all the load was inside Kiama tunnel and the engine just on the northern side. The crew had the Bombo-Kiama staff for this move. Once a good fire and full boiler pressure had been achieved, the train charged forward to make a run at the 1 in 50 grade on the northern side of Bombo beach. The Bombo signalman had the uncertain task of hand exchanging the Shellharbour staff for the Kiama one as the engine bucked and swayed past the platform. With Bombo beach as a background, the whole procedure was a memorable event in Illawarra steam working.

The Bombo 1 in 50 grade and the steeper 1 in 44
at the top of Shellharbour bank limited through loads to 565 tons for a single Standard Goods engine. This is quite a high tonnage for such grades, but the Bombo 1 in 50 was short and had the advantage of a running approach. The grade on Shellharbour bank had an easing in the middle. Just the same, the crew was pleased to see the engine dip its nose into the Shellharbour tunnel on such journeys. Double-headed blue metal trains were run when demand from the quarry was heavy.

Impressive, too, was the steam goods working on the Unanderra-Moss Vale line. The 1 in 30 climb to the Illawarra Range restricted the load of Standard Goods engines to 230 tons. Standard Goods engines were used exclusively on this work, trains being run with two and even three engines hauling 460 and 690 tons respectively.

Diesels had replaced steam on the Unanderra-Moss Vale goods trains before the Allans Creek triangle had been built. Loads for Moss Vale and beyond, therefore, were marshalled in Wollongong yards. Special arrangements for three engine working were devised so that crews did not exceed their permitted hours of duty. An engine ran light from Thirroul to Wollongong where it went onto its already marshalled train. After the guard recorded the wagon numbers plus load and had made a brake continuity test, the train proceeded to Unanderra. Here the engine was run around the train and coupled to the rear of the brakevan. This engine then became the push-up or third engine of the train. In the meantime, a pair of light engines arrived at Unanderra from Thirroul and coupled onto the front of the train. The rear engine being coupled to the train became a part of the air brake system and, to achieve this, the driver isolated the brake valve. The driver of the second engine had already isolated his engine’s brake valve at Thirroul, meaning that the driver of the first engine had sole control of the train’s brakes.

Once the train was ready to depart and the electric train staff had been shown to the drivers of the front two engines but handed to the driver of the rear engine, an exchange of whistle codes sounded the departure of the train. Seventy-five minutes were allowed for the 12½ mile climb to Summit Tank.

The 1 in 30 grade commenced once the train
Thirroul was the starting point for goods trains heading southwards to Port Kembla, Bombo, Kiama and Nowra. 5617 has a good head of steam as it takes a goods train to Kiama. The tarpaulin-covered S and K wagons are for Kiama, while the BBW ballast wagons will be loaded at Bombo.

R.K. Booth

passed over the Princes Highway level crossing and any speed gained was soon dissipated as the three engines settled down to a steady plod. It was the firemen who had all the hard work, adding coal on the little and often basis. Between rounds they could momentarily enjoy some fresh air and keep an eye on the water gauge glass. The continuous curvature and dense forest gave only fleeting glimpses of the front two engines to the crew of the rear push-up engine.

The drivers' interest increased as Dombarton's distant signal came into view. If at clear, the train was going to pass straight through; if at caution, the train was to be refuged to cross a descending train. Footplate conditions were quite bearable, despite the hard steaming, as the train climbed through tall shaded forest, but the short Illawarra Range No.1 tunnel was a hot one with plenty of smoke and fumes left by the first two engines for the crew of the third engine to endure.

Not long after the coastal panorama disappeared, the train's pace quickened as the grade eased temporarily to 1 in 120 through the Illawarra Range No.2 tunnel. Conditions inside the tunnel were quite tolerable compared to No.1 tunnel. The resumption of the 1 in 30 grade had all engines working hard again, but, with only three miles to the top, the thought of a welcome cup of tea arose. Some drivers had a favourite lineside spring from which to fill the billy with crystal clear water. The train's progress was so slow that the driver could climb down the cab steps, run beside the engine, scoop up the water and climb back onto the engine. Not all drivers did this, of course, but the more daring thought the danger was compensated for by not having to use tender water to make their tea at Summit Tank.

At Summit Tank the train drew up with the front engine beside the water tank. The push-up engine uncoupled and reversed to the water column at the northern end of the loop. Once both front engines had taken water, they set off with the train climbing the 1 in 60 grades to Robertson. The push-up engine was then free to proceed to the turntable located almost on the scarp edge, to turn before running light engine back to Thirroul.

The front bank engine was removed at Robertson, allowing the train to complete its journey with a single engine. This bank engine ran tender-first to Summit Tank, where it was turned before resuming its journey to Thirroul. Sometimes a returning bank engine was coupled on the front of an up or
SIGNAL BOX

DOMBARTON
1972
Left: The main tonnage hauled along the Illawarra line south of Wollongong is blue metal from the quarries at Bombo and Dunmore. 5215 hauling blue metal ballast from Bombo takes advantage along a brief easing of the 1 in 44 grade approaching Shellharbour tunnel on 27 June 1964. R.K. Booth

Right: Summit Tank was a stopping place for all goods trains after the 12½ mile climb graded almost entirely at 1 in 30. Three engines were needed for goods trains conveying 690 tons. The third engine pushed in the rear to Summit Tank only, leaving the front two engines to take the train to Robertson. 5450 + 5612 leave Summit Tank on 22 March 1958 with a train consisting of ballast and steel products.

R.K. Booth

5090 was a saturated member of its class and was employed for many years as Thirroul’s shunter. This view, taken from Thirroul North signal box on 5 February 1960, shows 5090 dragging a train towards the up shunting neck. The dead-end signal bracketed to the right-hand signal post has been cleared for this move. Kirton’s Excelsior Colliery is behind the engine. A BCH coal hopper which has just been loaded can be detected above the loco’s boiler.

R.K. Booth
## Allocation of Engine Classes at Thirroul

<table>
<thead>
<tr>
<th>Year</th>
<th>13</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>26</th>
<th>30 Tank</th>
<th>32</th>
<th>50 Sat.</th>
<th>50+</th>
<th>53</th>
<th>Former PWD</th>
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<td>(a)</td>
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<td>(a)</td>
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<td></td>
<td></td>
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Notes:
(a) Engines used exclusively for shunting the wharves and industrial network at Port Kembla. Shedded at the former PWD depot at Reids Hill.
(b) Engines on hire to private companies, especially to AIS for shunting at the steelworks, coke ovens and on its colliery lines.
(c) The single saturated 50 class from 1940 onwards was the Thirroul yard shunter.
(d) 50+ means a superheated 50 class.
(e) Engine on loan for Moss Vale working. Shedded at Thirroul.
(f) Engine on loan for Moss Vale working. Stabled at Wollongong.
(g) Saturated engine in 1917; superheated engines in all other years.

Much of the signalling in the Illawarra was done by mechanical semaphores. Meanwhile, when Unanderra was remodelled in 1941, extensive use of electric signals was made, a feature normally associated with metropolitan Sydney and Newcastle at that time. However, the points and locks were mechanically operated, as can be seen from the point rodding. This view is looking north.
descending train at Summit Tank. This even happened with the passenger train, producing two engines and two carriages downhill. One of the authors had personal experience of this particular working in 1958. The front engine (a 50 class) had poor brakes and was being lightly steamed with the valves set in reverse while descending the 1 in 30s. The cylinder cocks were opened so that compression would not damage the engine. The driver of the train engine, a 30 class tank (3140, in fact) was not happy about the slow progress downhill and so nudged open the regulator to speed things up a bit. When the driver of the 50 class realised what was going on, the following verbal exchange between drivers took place (minus rude words):

1st driver: “You’re pushing me.”
2nd driver: “I want to get home tonight, not tomorrow!”

On the other hand, the descent of a fully laden goods train was a very serious business and 80 minutes were allowed to travel from Summit Tank to Unanderra. Hand brakes were applied to vehicles to control the descent when the air brakes were released and the auxiliary reservoirs were being recharged. Vehicles fitted with grade control valves to retard the release of the air brakes lessened the need for hand brakes to be applied.

Much of the traffic heading from Moss Vale was limestone for the steelworks. This was conveyed in LCH and S wagons, which were left in the exchange sidings at Unanderra for the AIS engine to transfer to the steelworks.

The timetable provided for a bank engine released at Summit Tank to be turned again at Wollongong so that it could push a second train to Summit Tank. The turntable at Summit Tank was installed in 1953, but before this, the 1942 working timetable instructed that returning bank engines were to be attached, tender-first, behind the engine of a downhill train. It seems tender-first light engine running was discouraged, while night running without a headlight was prohibited on this line, a further discouragement to tender-first running.

60 class Garratts would have been used to great advantage on the Unanderra-Moss Vale line. The firemen certainly would have welcomed a mechanical stoker. It was not the single line tunnels which banned their use, as happened on other lines, since the tunnels were wider and had straight sides. The crew could then escape from the footplate in an
emergency. It was the inability of their brakes to hold a descending train assuredly that prohibited their use.

The Unanderra-Moss Vale line was an early candidate to have its goods trains exclusively diesel hauled. Greater tonnages and a saving in crews were the economic attraction. Also, there was difficulty in keeping sufficient water in the tanks at Summit Tank when several three-engine trains arrived in succession. Steam on the goods trains succumbed to the diesels in 1962.

The foregoing shows that the engines used for Illawarra working out of on Thirroul were the standard types: 30 class suburban engines, 32 class passenger engines, and 50, 53 and 55 class goods engines. This is reflected in the allocation of engines to Thirroul depot throughout its life. The total number of engines remained fairly constant for almost 40 years.

Some examples of earlier engine transfers to and from Thirroul are listed as follows:
- In 1920, TF1170 (5457) and TF1097 (5436) were sent to Thirroul replacing TF1099 (5438) and T610 (5060) to come to workshops.
- In 1927, 5155 (saturated) was allocated to Thirroul, replacing 5440 which was sent to Eveleigh depot.
- In August 1932, additional engines for working the newly opened line to Moss Vale were sent to Thirroul: 5037 (ex Lithgow), 5359 (ex Enfield) and 5444 (ex Bathurst).

The total stock of engines at Thirroul was insufficient for all the depot's work and engines from other depots, especially Eveleigh (32 class) and Enfield (50, 53 and 55 class) worked in company with Thirroul engines. This is borne out by two sample observations, as set out in the table at left.

The NSW Railways took over from the PWD all the shunting on the wharves and industrial sidings at Port Kembla in 1949. Most of the PWD engines at Port Kembla became NSW Railways' stock. One of these engines, PWD 80, formerly NSW 2002, had been purchased second-hand from the NSW Railways by the PWD in 1940 and so reverted to its former owner in 1949, but it did not resume its previous number.

The PWD continued maintaining the eastern breakwater after 1949 and retained several of its engines for this purpose. One of these, PWD No.75, was formerly 1802 on the NSW Railways stock and so was never returned to the Railways.

The NSW Railways were not happy with the age and condition of many of the boilers on the engines they inherited from the PWD. They substituted engines of their own for Port Kembla shunting duties in 1949, namely 1801, 1805, 1806, 2019, 2604 and 2613. At the same time, PWD 28, 29 and 80 were sent to Eveleigh works for overhaul, followed by PWD 79 later in the year. A typical allocation of engines to Reids Hill under NSW Railway auspices is shown in the accompanying table, below.

The engines shunting the former PWD network at Port Kembla were listed nominally under Thirroul's allocation from 1949 since the Thirroul DLE was now responsible for them. However, the engines still operated out of Reids Hill depot at Port Kembla and only ventured to Thirroul for repairs which could not be done at Reids Hill. They were sent to Eveleigh for any major work. The NSW Railways accepted the former PWD men into their

<table>
<thead>
<tr>
<th>Reids Hill Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
</tr>
<tr>
<td>29</td>
</tr>
<tr>
<td>79</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Notes:
(a) 5051 was transferred to Thirroul along with 5095 and 5062 in 1925. The engine subsequently spent time at a number of other depots, but in 1942 it was sent back to Thirroul where it stayed until 1964.
(b) The 70 class diesel-hydraulic shunters were allocated to Thirroul as early as 1962. By July 1964, all ten of the 70 class were at the depot.

<table>
<thead>
<tr>
<th>Samples of Engines Seen at Thirroul</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 December 1959</td>
</tr>
<tr>
<td>1931</td>
</tr>
<tr>
<td>1941</td>
</tr>
<tr>
<td>1958</td>
</tr>
<tr>
<td>PWD80</td>
</tr>
<tr>
<td>2601</td>
</tr>
<tr>
<td>3045</td>
</tr>
<tr>
<td>3077</td>
</tr>
<tr>
<td>3097</td>
</tr>
<tr>
<td>3113</td>
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<tr>
<td>3140</td>
</tr>
<tr>
<td>3230</td>
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<td>3244</td>
</tr>
<tr>
<td>3252</td>
</tr>
<tr>
<td>3277</td>
</tr>
<tr>
<td>3295</td>
</tr>
<tr>
<td>5051(a)</td>
</tr>
<tr>
<td>5056</td>
</tr>
<tr>
<td>5090</td>
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<td>5159</td>
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<td>5165</td>
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<td>5173</td>
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<td>5192</td>
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<td>5223</td>
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<td>5234</td>
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<tr>
<td>5243</td>
</tr>
<tr>
<td>5274</td>
</tr>
<tr>
<td>5341</td>
</tr>
<tr>
<td>5359</td>
</tr>
<tr>
<td>5373</td>
</tr>
<tr>
<td>5417</td>
</tr>
<tr>
<td>Notes:</td>
</tr>
</tbody>
</table>
(a) 5051 was transferred to Thirroul along with 5095 and 5062 in 1925. The engine subsequently spent time at a number of other depots, but in 1942 it was sent back to Thirroul where it stayed until 1964.
(b) The 70 class diesel-hydraulic shunters were allocated to Thirroul as early as 1962. By July 1964, all ten of the 70 class were at the depot.
An engine with a long association with Thirroul depot was 5051, which was allocated here from 1941 to 1964. The 1 in 44 Shellharbour bank has slowed the pace of a loaded blue metal train from the Railways' own quarry at Bombo. 27 June 1964.

R.K. Booth

### Repairs Made at Thirroul, December 1957

<table>
<thead>
<tr>
<th>Engine No.</th>
<th>Stop Date</th>
<th>Repair Type</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>3027</td>
<td>5/12/1957</td>
<td>stays blowing</td>
<td>incomplete at 7/12/57</td>
</tr>
<tr>
<td>3273</td>
<td>28/11/1957</td>
<td>tubes</td>
<td>complete 2/12/57</td>
</tr>
<tr>
<td>3223</td>
<td>2/12/1957</td>
<td>tubes</td>
<td>complete 3/12/57</td>
</tr>
<tr>
<td>3255</td>
<td>1/12/1957</td>
<td>big-end bolt defect</td>
<td>complete 2/12/57</td>
</tr>
<tr>
<td>5041</td>
<td>5/12/1957</td>
<td>bogie radial arm broken</td>
<td>complete 6/12/57</td>
</tr>
<tr>
<td>5051</td>
<td>3/12/1957</td>
<td>tone-up incomplete at 7/12/57</td>
<td></td>
</tr>
<tr>
<td>5143</td>
<td>1/12/1957</td>
<td>cylinder cocks to renew</td>
<td>complete 2/12/57</td>
</tr>
<tr>
<td>5153</td>
<td>1/12/1957</td>
<td>gauge column defect</td>
<td>complete 2/12/57</td>
</tr>
<tr>
<td>5362</td>
<td>1/12/1957</td>
<td>crosshead cotter loose</td>
<td>complete 2/12/57</td>
</tr>
<tr>
<td>5616</td>
<td>30/9/1957</td>
<td>tone-up complete 5/12/57</td>
<td></td>
</tr>
<tr>
<td>5707</td>
<td>1/12/1957</td>
<td>broken spring link</td>
<td>complete 3/12/57</td>
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</tbody>
</table>

### Selection of Repairs Made at Thirroul

<table>
<thead>
<tr>
<th>Date</th>
<th>Engine No.</th>
<th>Repair Type</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/2/1959</td>
<td>2609</td>
<td>tone-up complete 31/7/59</td>
<td></td>
</tr>
<tr>
<td>1/3/1959</td>
<td>2609</td>
<td>tone-up and intermediate boiler test</td>
<td></td>
</tr>
<tr>
<td>1/8/1959</td>
<td>3509</td>
<td>stopped 16/7/59</td>
<td></td>
</tr>
<tr>
<td>5/9/1959</td>
<td>3509</td>
<td>stopped 29/8/59</td>
<td></td>
</tr>
</tbody>
</table>

(The mention of 3509 shows an engine well out of its territory)
The Public Works Department opened a locomotive shed and workshop at Reids Hill, Port Kembla in 1901 in connection with its construction and maintenance of breakwaters to provide safe anchorage for ships. These facilities were used later for PWD engines shunting exclusively the industrial network of lines in the vicinity of the wharves. Former PWD engine No.29 stands outside Reids Hill depot. R.K. Booth

own staff, but these personnel continued in their former duties at Port Kembla only. Light engine movements for repairs at Thirroul and Eveleigh were performed by Thirroul crews. Similarly, Thirroul crews ran hired 19 class engines between Thirroul and the AIS exchange sidings at Cringila when making transfers.

An indication of the repairs made to engines at Thirroul can be obtained from the monthly returns for engines stationed there. Fortunately, some of these returns are in archival records and reveal that usually 10 to 12 engines per month received repairs

The first 18 class used at Port Kembla was 1802 when it was sold to the PWD in 1927 and renumbered in its stock as No.75. When the NSW Railways took over all the shunting at Port Kembla in 1949, the PWD retained No.75 for its own use in maintaining the eastern breakwater and so the engine never returned to the NSWR. This 1960 view shows No.75 coupled to a short four-wheel wagon which conveyed cast concrete blocks to the breakwater. Note the tank and stand pipe for watering locos. R.K. Booth
Above: 2604 was the second last of its class to survive in NSW Railways' service and spent some time as a shunter at Port Kembla. It was fitted with automatic couplers and an electric headlight for these duties. The 26s were the only class of engine to retain two single-tone whistles, a relic of pre-1925 practice. The Reids Hill breakdown train is behind the engine. 2604 finished its days at Bathurst, a long-time haunt of the class.

R.K. Booth

Right: When the PWD first provided locomotives at Port Kembla they were all of the 0-6-0 tank engine type. PWD 28 was built by Hudswell Clarke in 1908 and was placed in service at Port Kembla on 13 March 1909. No.28 carried “Kembla” nameplates which it retained under NSW Railway ownership until 1960. The NSWR replaced the original boiler in 1949 with one of the type fitted to their 18 class, causing the Hudswell Clarke appearance to be lost.

R.K. Booth
at Thirroul. Engines dealt with were Thirroul's own, plus engines from other depots which developed defects while working in the local area. The return for the month preceding 7 December 1957, listed on page 75, has been chosen as a sample of the repairs performed at Thirroul.

Some selected repairs which have been extracted from other returns are set out for interest in the accompanying table, also on page 75.

Thirroul did see a number of engine classes which were never allocated there. The 57s are the best remembered example. 5701 made its first revenue-earning trip to Thirroul on 6 November 1929. The 57s were regularly employed between Enfield and Thirroul until 1961. They were rostered for return runs from Enfield and were permitted no more than 90 minutes to be serviced at Thirroul before taking an up train. 5711 was the last of its class to work to Thirroul.

Sometimes express passenger engines were pressed into goods service, which brought the occasional 35, 36 or 38 to Thirroul. When the air-conditioned HUB set was introduced on the South Coast Daylight express in 1949, the 310 ton load was too heavy between Sydney and Waterfall for the traditional 32 class and a 38 was used to and from Thirroul. The 38 handed over the train to a trusty 32 class for the Thirroul-Nowra section, where the wooden bridges would not permit a 38 and the turntables were too short. Sometimes a 36 was used instead of a 38.

From 1958, the early morning paper train (No.9 mixed) brought a 36 into Thirroul and this engine returned to Sydney on No.98 passenger. In the early 1960s, the load of ten cars on No.135 (5.12pm commuter train from Sydney) was causing its 32 class problems in restarting after signal checks on Como bank and a larger 36 or 38 class engine was used instead. A sudden engine shortage saw a 35 class used on one occasion. The following No.137 fast passenger to Nowra was also hauled by a 36 or 38 during this period if the train was over load for a 32 class. These arrangements saw an increasing number of 36s and 38s being serviced at Thirroul but, at the most, only in ones or twos. Some, but not all, Thirroul men were qualified for 36, 38 and 57 class engines. Wollongong men were qualified for 36s, but not 38s or 57s.

Engines, new and converted, were often given load trials to Thirroul. The first of the 55 class converted to burn oil, 5502, made its first trial with a train to Thirroul on 1 October 1946. Many of the 59 class, which were introduced as oil-burners in 1952/1953, were given load trials to Thirroul when placed in service. However, the 59s, either as oil burners or in their converted coal burning form, never worked to Thirroul on a regular basis.

The demise of steam occurred slowly at first, following the introduction of the 40 class diesel electric engines in 1951. These took over some of the Enfield-Thirroul goods trains and were given selected runs to permit a quick turn-around at

All six of the 18 class 0-6-0 tanks were used at Port Kembla at some time or other but the whole six were not necessarily there simultaneously. 1805 shows the final form of the class having automatic couplers, electric headlight and a steam driven turbo-generator. The photograph was taken beside the coal stack at Reids Hill.

R.K. Booth
Sister engine to PWD No.28 was No.29, which was similarly reboilered with NSW standard components in 1949. Hudswell Clarke built this engine in 1912 and it commenced duties at Port Kembla the next year. Unlike 28, it was never named. No.29 makes a smoky arrival at Reids Hill. R.K. Booth

Hunslet supplied an additional engine to the PWD in 1938 for shunting at Port Kembla. It was an 0-6-0 saddle tank and numbered 79 in the PWD listing. It, too, was taken over by the NSW Railways in 1949 and, apart from the fitting of automatic couplers and an electric headlight, it remained largely as built. R.K. Booth

The last 18 class to be sent to Port Kembla was 1076, formerly 1804, but renumbered in the miscellaneous 10 class when it was converted to a coal grab crane engine in 1937. Upon conversion back to original form, the earlier number was not reinstated. Note how the short boiler required the turbo-generator to be mounted on top of the side tank. R.K. Booth
By the late 1950s 36 class engines commenced to appear more regularly on the Illawarra line. No.98 passenger from Wollongong to Sydney was used to return the 36 class engine which had brought down the early morning paper train. 3653, which was commonly seen on this run, heads No.98 past Thirroul yards on 4 January 1964. The newly outshopped LUB set is one car short of its normal complement and an FR has been added at the front as a temporary substitute.

The NSW Railways leased a number of their 19 class 0-6-0 tender engines to Australian Iron and Steel for shunting its various works at Port Kembla or for hauling coal from its own mines. 1913 pauses between shunting duties at the AIS cokeworks, Cringila.
The first displacement of steam by diesels on the Illawarra occurred with the introduction of the 40 class late in 1951. The 40s were given selected runs between Enfield and Thirroul to ensure a quick turn-around. 4013 heads No. 406 goods from Thirroul through Wombarra in December 1963. The train is a block load of steel products being conveyed in tarpaulin-covered wagons.

Many engines were given load trials to Thirroul either when first delivered from the manufacturers or after an overhaul in workshops. Parkes-based engine 4904 made a rare run to Thirroul on 15 January 1964 after a visit to the workshops. It was photographed on its return journey north of Austinmer.
In December 1964 steam made a brief return to the Enfield-Thirroul goods trains, often employing 36 class engines instead of the more usual Standard Goods types. 3649 works No.23 down pick-up goods beneath the towering Illawarra escarpment at Scarborough on a day made hazy by bushfire smoke. 22 December 1964.

R.K. Booth

Thirroul. Single units entered the roundhouse to be turned, as was done for the 42 and 43 class engines which followed the introduction of the 40s. Double units did not need to go to the turntable and simply uncoupled from a goods in the down yards at Thirroul and shunted onto an already-marshalled train in the up yards. It was little surprise that the diesel operation statistics looked so good. Steam was starting to get the leftovers!

The 49 class made trials on the South Coast and occasionally one would venture to Thirroul following an overhaul. The increasing number of 44 class units in the early 1960s made heavier inroads into the Enfield-Thirroul working and displaced steam entirely from the Unanderra-Moss Vale goods trains in 1962.

The 70 class diesel-hydraulic engines were designed specifically for Port Kembla shunting and transfer work, and they soon displaced the best collection of steam veterans to be seen anywhere in the state. Thirroul looked after the 70s briefly until a new depot for them was built at Port Kembla. This signalled the end of Thirroul in more ways than one. Not only was steam to be entirely displaced, but the new centre of operations on the Illawarra was to be located at Port Kembla, from where most of the freight traffic was now originating.

1964 was set as the year to sweep aside steam from the Illawarra. On 1 January 1964, the 70 class, now based at the new diesel depot at Port Kembla, commenced the takeover of shunting in the Port Kembla area. In just over a month, on 7 February 1964, the steam shed at Reids Hill closed, with 2-6-4 tank 2029 being the last departure. New 48 class diesels scheduled for delivery that year were to take over the remaining steam operations on the Illawarra but delays in their arrival saw some steam last until 1965. There was a brief revival of steam working on the Enfield-Thirroul goods trains in December 1964 with some highly unusual engine combinations for the Illawarra, including 36 + 38, 53 + 36 and 36 + 36.

By mid 1964, eleven steam locomotives were still allocated to Thirroul but during the last months a number of engines were transferred away, including the three superheated 50 class, namely 5051, 5173 and 5273. A sole 19 class, 1915, was still on hire to AIS for working its Bulli Colliery line in 1965, while seven 30 class tank engines remained at Thirroul. Two were transferred away in March
The last 19 class to work in the Illawarra was 1915 which transferred coal wagons between the AIS-owned Bulli Colliery and the Bulli Exchange Siding. This photograph was taken in May 1963 and the engine continued in these duties until early 1965.

R.K. Booth

1965, followed by 3076, 3077, 3093, 3134 and 3137 in April. Incidentally, 3137 was one of the so-called 'super' 30 class, because of its raised boiler pressure and enlarged cylinder diameter. By May 1965, all locomotives had been transferred. Thirroul serviced an engine for the last time on 5 June 1965. The official closing date of Thirroul depot is shown in the records as 6 October 1964, even though some steam locomotives and enginemen worked out of the depot for some months after that.

The Moss Vale passenger made uneconomic use of an engine because of the overnight stay at Moss Vale. After Thirroul lost all of its 30 class in April 1965, an Enfield engine, 3076, was loaned to Thirroul for the Moss Vale passenger service. This engine worked light to Thirroul for servicing after returning to Wollongong. Once the depot was closed in June, the servicing was done at Wollongong. Even Enfield was running short of 30 class tank engines to send to Wollongong at times and despatched a tender version, 3014, on 30 April 1966 for the Moss Vale run. The 30 class supplied consecutively by Enfield for varying periods were 3093, 3034, 3077, 3136, 3137, 3127T, 3076, 3025, 3014T and 3097. A rail motor replaced the steam service on 20 February 1967. History, in a sense, repeated itself in that the rail motor was difficult to dislodge also, making the Wollongong-Moss Vale passenger the last regular use of a rail motor in NSW. The Railways took the easy way out on this occasion by running a bus instead of a train.

Even though the depot was closed, the new 48 class diesels used the turntable and roundhouse at Thirroul for storage during off-peak periods. Occasionally a steam engine from a specially hired train would visit Thirroul to turn the engine. However, the turntable commenced to deteriorate in 1970, resulting in progressively increasing load restrictions being imposed. Tenders were called in July 1970 for the purchase, demolition and removal of the roundhouse, sand bin, elevated coal bunker and approach span at Thirroul. This work was completed by June 1971. On 8 December 1971, tenders were called for the purchase, demolition and removal of the turntable, power collector arch and control cabin. Another tender was called at the same time for the demolition of the walls of the turntable pit and for filling plus levelling of the site. The DLE’s office was the last structure to go, tenders for its removal being received on 8 November 1972. So, 55 years after its opening, almost all of the evidence of a large steam depot disappeared.
Thirroul engine 5269 standing at the coal stage at Thirroul loco on 15 December 1958 with 3207 in background.
I. Wallace

A number of 20 class 2-6-4 tank engines were sent to Port Kembla in their final days for shunting duties. 2022 passes between shifting rakes of wagons at Port Kembla. Sister engine 2029 was the last to leave Reids Hill depot.
R.K. Booth
The improvement in grades on the Illawarra made in the 1915-1920 period required some expensive deviations of the line. The deviation at Stanwell Park eliminated the notorious Otford tunnel and was the last to be constructed. 5441 + 3662 climb upgrade at Stanwell Park towards the Bald Hill tunnel with No.52 goods from Thirroul to Enfield on 22 December 1964 during a brief revival of steam.

R.K. Booth
Stations in the Illawarra

A feature of the Illawarra line at the peak of its development was the number of closely separated stations between Scarborough and Wollongong serving numerous small villages which sprung up along the narrow coastal strip. Before detailing these, however, the use of the names Clifton, Scarborough and Coalcliff needs clarification.

Clifton is the name of a small village, which originally housed miners who worked in the Coalcliff mine. This mine’s tunnel opened directly to the sea below the present cliff drive just to the north. A wharf for the loading of small colliers projected into the sea from the mine entrance. A steep track down the cliff was the sole access to the mine, which commenced operations in 1878. When the railway was opened in 1887, the station and goods yard serving the area were located several kilometres south of the village of Clifton since this was the first available space for such facilities in an area of very steep topography. This station was originally called Clifton, but changed to South Clifton on 3 October 1888 when a miners’ platform serving the village of Clifton was opened as North Clifton. The latter name was short-lived and changed to Clifton on 1 January 1889.

South Clifton was changed to Scarborough on 1 October 1903 and at the time was positioned 1 km south of the present Scarborough station. As a lead-up to duplication works, the site of Scarborough station was moved to its present position and opened as Clifton on 15 August 1915, on which date the Clifton miners’ platform just to the north was closed. However, the new station was quickly renamed Scarborough on 21 January 1916. The word Clifton disappeared from railway station names until 1934 when the miners’ platform was reopened as Clifton.

The nearby 1002 metre long tunnel which pierces the escarpment was called the Clifton Tunnel and this has always been its proper title. Unfortunately, it is also referred to as the Coalcliff tunnel and the Scarborough tunnel, even in official publications, all adding to the confusion in nomenclature.

The name Coalcliff does not enter the railway language until about 1910 when a siding serving a recently sunk shaft was opened. This shaft superseded the original tunnel access (adit) in the nearby ocean cliff face. Coalcliff Signal Box was opened on 27 September 1910 to control the newly-opened crossing loop and colliery sidings. The platform Coalcliff was opened in 1920 in association with the duplication of the line. Miners working in relocated Coalcliff mine were provided with a platform called Miners’ Platform in 1911 but renamed Coalcliff South in 1926. Coalcliff South was 1 km south of Coalcliff platform.

Coalcliff has been used out of its railway historical context in the foregoing article so that the reader can be sure of the location being described. Proudfoot & Logan’s contract commenced at a point just north of the present Coalcliff platform.

The Illawarra Line

<table>
<thead>
<tr>
<th>Station</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clifton</td>
<td>Miners’ platform above the village of Clifton. Opened 3/10/1888 on down side. Name changes detailed above.</td>
</tr>
<tr>
<td>Scarborough</td>
<td>Opened as Clifton 21/6/1887; changed to South Clifton 3/10/1888 then to 1st Scarborough 1/10/1903. Platform on down side with wooden station buildings. 1st station closed in 1915 when new station with wayside platforms.</td>
</tr>
<tr>
<td>Wombarra</td>
<td>Opened 12/2/1917</td>
</tr>
<tr>
<td>Coledale</td>
<td>Opened July 1902 principally to serve miners. 1st platform on down side. Replacement platform a little further north when crossing loop was opened in 1906. Present island platform with brick building was opened in 1912</td>
</tr>
<tr>
<td>Austinmer</td>
<td>Opened 1/9/1887; single platform on down side. New up platform for duplication in 1915 when platforms were brick faced. Timber station buildings</td>
</tr>
<tr>
<td>Bulli</td>
<td>Opened 21/6/1887 with crossing loop and goods siding. Original wooden station building on present down platform. Up platform with standard brick building opened with duplication in 1923.</td>
</tr>
<tr>
<td>Woonona</td>
<td>Opened 25/8/1919; platform on up side. New down platform for duplication 20/5/1923.</td>
</tr>
<tr>
<td>Bellambi</td>
<td>Opened 1889 with platform on down side. New island platform in 1913 having up and down working for local duplication.</td>
</tr>
<tr>
<td>Towradgi</td>
<td>Opened with two side platforms in 1948.</td>
</tr>
<tr>
<td>Fairy Meadow</td>
<td>Opened as Cramsville in 1887; single platform on down side. Name changed to Para Meadow 1888.</td>
</tr>
</tbody>
</table>
North Wollongong

Opened as two wayside platforms on 19/7/1917. Line had been duplicated locally in 1913.

Wollongong

Opened 21/6/1887 with 400' (122 metre) platform on down side. Brick station building. Dock at southern end of platform; crossing loop provided. Contractor for station building was Alex Scoulter. Refreshment rooms added 1890

Coniston

Opened as Mount Drummond on the branch line to Port Kembla on 1/4/1916. Closed 1923; reopened and changed to Coniston on 1/11/1925. Moved to a new site further north on 20/5/1941 when two wayside platforms were provided.

Unanderra

Opened 9/11/1887 with platform on down side of line. Short back platform opened 1924.

Kembla Grange

Dapto

Opened 9/11/1887 with platform on down side. Timber station building.

Yallah


Albion Park

Opened as Oak Flats 9/11/1887; changed to Albion Park 1888. Platform on up side; timber building.

Oak Flats

Opened as a milk stage on up side in 1890. Passenger platform opened 9/3/1925.

Croom

Opened as a cream stage on down side in 1890. Passenger platform 19/6/1938. Closed 1/7/1950. Located on Wollongong side of Shellharbour tunnel which consequently has been given the unofficial name of Croom tunnel.

Shellharbour

Opened 9/11/1887. Wooden station building; platform on down side.

Minnamurra

First platform costing £45 was on up side of line near the Wollongong end of the Minnamurra viaduct and was opened 23/12/1891. Moved 1 km to Kiama side of viaduct on 10/10/1943 to serve greater population numbers there. Platform on down side.

Bombo

Opened as North Kiama 9/11/1887 and was the terminus of the Illawarra line until 2/6/1893. Platform on up side. Changed to Kiama 1/5/1889

Kiama

Opened as an island platform and crossing loop 2/6/1893. Large brick station building

Omega

Opened 2/6/1893 with platform on up side. Closed.

Gerringong

Opened 2/6/1893 with platform on down side. Original timber station building destroyed by fire and replaced with a brick building.

Toolijooa

Opened as Toolejooa on 2/6/1893

Berry

Opened 2/6/1893

Jaspers Brush

Opened 2/6/1893

Nowra

Opened as Nowra/Bomaderry 2/6/1893

Port Kembla Branch

Mount Drummond

Opened 1924. Platform on down side of Port Kembla branch only. Closed 1923 but reopened as Coniston in 1925. Became an Illawarra line station in 1941 when two wayside platforms were opened.

Haig's Platform

Opened 1920. A platform built of sleepers long enough for two cars

Lysaghts

Opened 30/5/1938 for Lysaghts works employees. Platform on up side; new down platform for duplication in 1941.

Cringila

Opened 16/4/1926 for steelworks employees. New island platform with brick station building opened for duplication in 1941.

Port Kembla North

Open in 1936. Platform on down side.

Port Kembla

Opened 15/1/1920. Platform on up side.

Unanderra-Moss Vale Line

Mount Murray


Ocean View

Opened 8/1/1936; closed 6/7/1968.

St Anthonys

Opened as Ranelagh 9/1932; changed to St Anthonys 2/1948; closed 19/10/70.

Robertson

Opened 20/8/1932 having a standard P3 type station building.

Burrawang


Calwalla

Above: Enfield engine 5344 and its Wampu tender are swaying from side to side as No.675 goods takes a run at Beecroft bank, building up speed down the 1 in 75 grade between Epping station and the Devlins Creek crossing. The fireman is laying a good fire in 5344, necessary for the ensuing hard working to Pennant Hills. Composed substantially of vehicles for conveying perishable goods, No.675 originated at Darling Harbour and was destined for Broadmeadow yards. It was commonly hauled by a 60 class Beyer-Garratt but, on this day, its load was within the capacity of a Standard Goods locomotive. Saturday afternoon, 1 August 1959.

All photos by author unless noted.

Right: Former Casino engine 3506 makes a fine sight as it ascends Beecroft bank at Cheltenham on Saturday morning, 2 May 1959 at the head of No.25 Newcastle passenger which departed Sydney at 9.40am on Saturdays. At this time 3506 was based at Broadmeadow depot, and is hauling a load of eight American suburban cars and EHO van.

Below: On a sunny but cool winter’s morning, the silence at Cheltenham is shattered by 3812 stamping up the steep grade with the eight-car RUB set of No.23 Northern Tablelands Express. Saturday 1 August 1959.
Beecroft is an attractive suburb on the main northern railway line almost 17 miles by rail north west of Sydney. One of its principal attractions is its bushland setting in the hilly country north of the Parramatta River. In *Byways of Steam 3*, I commenced an account of my experiences of steam working on the “Short North”, referring particularly to Eastwood bank, a stretch of about one mile of 1 in 40 grade between West Ryde and Eastwood railway stations. This was a favourite location for photographing steam trains, particularly during the period November 1958 to January 1960. It was possible here to see steam locomotives working really hard as they ascended the bank.

There were two other significant stretches of 1 in 40 grade against down trains between the Parramatta River bridge and Hornsby which required skill and effort by crews to negotiate. The section of 1 in 40 grade about one mile long commencing at the crossing of Devlins Creek between Epping and Cheltenham stations and extending to several hundred yards beyond Cheltenham station, followed by a further mile of 1 in 50 grade to beyond Beecroft was commonly known as Beecroft bank. This climb continued to Pennant Hills station.

Beecroft bank was a severe test of engine and crew, as it was a steep climb of more than two and a half miles. The stretch of 1 in 40 grade, slightly more than half a mile long between Normanhurst and Hornsby, was less of a problem for crews because of its relatively short length and because it was preceded by a significant section of downhill running through Normanhurst.

Beecroft bank was also a favourite venue for my steam train photography, particularly in 1959, prior to electrification of the line to Gosford in January 1960. This was because engines on down trains were working hard and because of the bushland setting near Cheltenham which I found appealing. This article describes some of my experiences of steam working on Beecroft bank. In an attempt to gain an insight into the problems faced by engine crews in steam days between Strathfield and Hornsby, I spoke with a driver who fired and drove both goods and passenger services on the Short North during the mid-to-late 1950s.

The historical development of the line between Meadowbank and Hornsby, based on the work of C.C. Singleton in 1965, was presented in the article entitled “Eastwood Bank” in *Byways of Steam 3*. Reference to the accompanying gradient diagram shows that down trains, after ascending Eastwood
This old postcard shows an S class 4-6-4 side tank locomotive at the head of a six-car American suburban set, arriving at Cheltenham station with a down suburban passenger train. It is likely the photograph was taken around 1910. I. Wallace Collection

bank and passing through Eastwood station on the level, face adverse gradients of 1 in 75, 1 in 55, then 1 in 44 to Epping station which, again, is on the level. Beyond Epping station there is a relatively long downhill section of 1 in 75 until the line crosses over Devlins Creek on a high embankment, then the 1 in 40 grade of Beecroft bank commences and continues to several hundred yards beyond Cheltenham station. The grade eases only slightly to 1 in 50 through Beecroft station and continues to climb at 1 in 75, then 1 in 55 and 1 in 44, to Pennant Hills station which, again, is on level ground. Pennant Hills is regarded as the top of the main climb though there are still short sections of relatively steep grade, particularly the 1 in 40 between Normanhurst and Hornsby.

Cheltenham station is located on a large sweeping curve of about 30 chains radius in the midst of the 1 in 40 grade. According to C.C. Singleton, Cheltenham station was the scene of numerous “fireworks” displays with the old S class 4-6-4 side tank locomotives on slippery rails trying, sometimes vainly, to restart an eight-car suburban set on the down journey. When the main northern railway line was opened to Hornsby in 1886, Cheltenham station did not exist, it being opened on 10 October 1898 as an unattended station with two side platforms. It has been related that, in the early days of the line, locomotives used to take water at Devlins Creek, Epping, pending the completion of the Ryde supply. This was when the embankment over Devlins Creek was much lower than it is at present.

Beecroft station existed at the time of opening of the line, but was located 10 chains nearer Strathfield than at present. It was constructed as a brick-faced platform on the down side. Some remains of the old platform wall can still be seen on the Strathfield side of Copeland Road overbridge. With duplication in 1891, Beecroft station was relocated further north, still on the 1 in 50 grade. Two timber-faced side platforms were provided and a new goods loop siding was constructed on the down side. Following discontent from influential local residents concerning the primitive arrangements at their station, a new station was constructed in 1914. A new island platform
Looking cleaner than usual, Enfield engine 5368, at the head of a down goods, is standing at tonnage signal R.13-87 on the down relief line between Eastwood and Epping on the afternoon of Saturday, 24 January 1959. This was one of two tonnage signals before Beecroft bank, the other being located just to the north of Epping station.

and standard brick buildings replaced the primitive timber buildings of the second station. Over the years, the goods loop siding was modified to a dead-end siding with entry by backing-in from the down main line near the overbridge between Malton Road and Chapman Avenue. In more recent years, the entire siding has been removed. Although the goods siding at Beecroft was quite short, it has been reported that, on rare occasions, the down pick-up goods train to Hornsby was refuged there to allow the passage of another down train. Driver Mick Farrell (then a fireman) can remember working the pick-up early one morning and being put into the siding at Beecroft for a period just prior to daybreak.

Named Carlingford prior to 1899, Epping station was the site of considerable regrading works which were completed in 1900. This regrading eased to 1 in 75 the former grade of 1 in 44 against up trains on the climb between the Devils Creek crossing and Carlingford (Epping) station. The sudden
change of grade when running out of Beecroft bank at Devlins Creek had caused a number of breakaways. Also, towards the end of the 19th century, the Eddy regime of the NSWKR instituted a policy of regrading main lines so that Sydney-bound goods trains would meet a through ruling adverse grade no steeper than 1 in 75. This worthy objective was not always achieved due to overwhelming difficulties with rugged terrain but, in the case of the Epping regrading, the task was quite achievable. The lowering of the tracks at the site of Epping station necessitated two temporary platforms being erected at a site closer to Sydney. The embankment over Devlins Creek was also raised substantially to give an effective regrading over a distance of 75 chains.

In the steep climb from the relatively flat Cumberland Plain at the Parramatta River crossing between Rhodes and Meadowbank to the Hornsby Plateau, the railway line follows the ridge line that forms the western rim of the Lane Cove River valley. In so doing it passes through many cuttings and embankments over gullies in the deeply incised Hawkesbury Sandstone and the overlying shales of...
A rare sight indeed, although a 35 class engine was seen on this working on at least two occasions, in 1958 and 1959. Here 3513 arrives at St. Leonards station on the North Shore line at the head of a miners' picnic special train from Newcastle. Saturday, 15 November 1958.

F.C. Saxon

the Wianamatta Group. For the construction of the original line in the mid 1880s and the duplication around 1891, some of the harder sandstone was actually used for railway track ballast, being quarried at Cheltenham and Thornleigh. At Cheltenham, the quarry site is still visible, located a short distance from the up line several hundred yards on the Epping side of Cheltenham station. It was originally joined to the main line by a siding, known as Ahearn's ballast siding. The Thornleigh quarry site, opened by Amos and Company contractors for the construction of the original single line in 1883-1886, was located some distance from the main line, to which it was connected by a zig-zag railway. Both of these features were described by C.C. Singleton in Australian Railway Historical Society Bulletin No.329 in 1965.

As with Eastwood bank in steam days, there were tonnage signals for the steep grades between Eastwood and Hornsby. The first of these were automatic signals N.13-87 and R.13-87 on the down main and down relief lines respectively, just at the foot of the 1 in 44 grade into Epping. These, combined with automatic signal N.14-75, about 1000 feet on the Hornsby side of Epping station on the 1 in 75 descent, were the tonnage signals for down trains on Beecroft bank. The working timetable specified that these signals must not be passed unless in the clear position (or by telephone instructions in the case of failure) by trains conveying loads in excess of the prescribed load. These were the same loads as prescribed for Eastwood bank. A further tonnage signal, automatic signal N.19-93, located 781 feet on the Hornsby side of Normanhurst down platform, was provided for the 1 in 40 grade between Normanhurst and Hornsby.

Prior to March 1959, the great majority of passenger trains I saw and photographed on Beecroft bank were hauled by Eveleigh-based 32, 36 and 38 class engines, while the steam-hauled goods trains were mainly in the charge of Enfield-based 60 class Beyer-Garratts, Standard Goods locomotives or, more rarely, oil-burning 59 class. Eveleigh-based 36 and 38 class engines were not uncommon on particular goods services. It was also not uncommon to see a Broadmeadow-based 32, 50 or 53 class engine at work on the Short North. Occasionally one saw an engine from a more distant depot which was being transferred or was working its way to or from workshops at Eveleigh or Cardiff.

It was a memorable experience for me to witness the working of the 35 class from northern depots into Sydney early in 1959. This followed the dieselisation of the North Coast line in September 1958, which released many 35 class locomotives from Broadmeadow, Taree and Casino depots. Previously I had seen the 35 class only on visits to Broadmeadow depot and, even then, these were mainly engines based at that depot rather than the rarer, more elusive engines from Taree and Casino. In the mid-to-late 1950s the 35 class rarely ventured as far south as Sydney, being confined essentially to North Coast and New England working. The occasional engine did work to Sydney on a passenger train, but I never managed to be present at the time. When he was a fireman at Hornsby depot, Mick Farrell worked a 35 down the North Shore line on a miners' picnic special with driver Cal Halliday. They ran the engine tender-first from Hornsby to St. Leonards, then worked the train back to Newcastle. I first observed the 35s on occasional goods working between Broadmeadow and Enfield in February 1959 when, to my delight, I saw for the first time some of the "rare" engines formerly based at Taree and Casino depots. I can still clearly remember seeing, as a school boy, former Casino engine 3519 at the head of a goods train from Broadmeadow to Enfield passing a group of us as we walked to Flemington station on a February 1959 afternoon. For many of us it was the first "Nanny" we had ever seen south of Broadmeadow and it created a great deal of attention.

In the weeks that followed, the 35s became more common around Sydney, initially on goods trains to
Left: No.9 down Werris Creek passenger has several additional cars in its load as it is hauled up the hill from Cheltenham station by 3668 on the morning of Saturday, 2 May 1959. The coolness of the morning has accentuated 3668's exhaust smoke and steam.

Right: On a cold mid-winter morning, the sun has not yet reached the Hornsby end of Cheltenham station as 3521 leads No.9 Werris Creek passenger northward at a lively pace. Saturday, 20 June 1959.

Centre Left: A friendly wave from the seated fireman would seem to be evidence that all is well with the fire and that 3613 is having no trouble ascending the grade between Cheltenham and Beecroft at the head of the ten-car No.89 Newcastle passenger which departed Sydney at 8.22am. Saturday, 2 May 1959.

Right: The driver of Beyer-Garratt 6023 is keeping his up goods train well under control as it slowly descends the steep grade between Beecroft and Cheltenham on the morning of Saturday, 1 August 1959. The loading is mainly coal from northern coalfields. 6023's cylinders were bored out in 1958, here indicated unusually by a '+' marking on the front.

Left: 3826 is working hard but efficiently as it rounds the curve past the lawn tennis courts at Beecroft with No.105 down morning Newcastle Flyer on Saturday, 14 March 1959. This train departed Sydney Central at 9.22am on Saturdays. The quaint little building in the background on right of photo was constructed for Hornsby Shire Electricity Dept. in 1923. 3826 was the first of its class to be withdrawn from service, in March 1961 following the Glenlee collision with 6028.
Enfield, then, in a burst of exposure, they worked a large number of passenger services to and from Sydney during the Easter holidays late in March 1959. Those I observed were mainly the former Taree and Casino engines. From that time and until electrification of the line to Gosford on 23 January 1960, most members of the 35 class became regular visitors to Sydney and were commonly seen on passenger working on the Short North, being based at Broadmeadow depot. During this time they also continued on goods services between Broadmeadow and Enfield. After electrification, they ventured south of Gosford only on enthusiast specials.

It was always an interesting feature of steam train photography to listen to the sound from distant oncoming trains and in this way try to determine the class of engine at the front. This was generally easy with 38 class engines as their distinctive exhaust beat and the shrill sound of the chiming whistle was unmistakable. Similarly, the characteristic four cylinder exhaust beat and chiming whistle of the 60 class and the unique whistle tone and “clanking” of side rods on the 59 class oil burners could often be distinguished. With other classes it was not so easy, though the 36 class were also noted for their “clanking” and their beautiful whistle tone. From my photographic locations between Cheltenham and Beecroft it was sometimes possible to hear down trains at the top of the ridge near Epping station and then speeding down the grade between Epping and Cheltenham to take a run at Beecroft bank. Down passenger trains usually sped through Cheltenham station with the engine and crew working hard. It was common to see the fireman “hard at it” as the train surged through the station, often with dark smoke billowing from the funnel of the engine. As the grade eased to 1 in 50 between Cheltenham and Beecroft, most trains were moving fairly slowly as they passed the lawn tennis courts beside the Beecroft Village Green rounding the 16 chain curve that led into Beecroft station. The engine laboured on through reverse curves to Pennant Hills, commonly with interesting sound effects. For a crew with a near-full load or a poorly steaming engine, this was a very exciting stretch of track. There were instances of down trains, including some prestigious expresses, stalling on the grade and having to be rescued by the engine detached from a following train, pushing at the rear.

Armed with the best available timetable, I was usually in position between Cheltenham and Beecroft to photograph both down and up passenger trains as most were more or less on time but, occasionally, I was surprised by unexpected up goods trains or light engine movements. The latter, typically Standard Goods engines returning to Enfield from Hornsby or Broadmeadow, or 30 class or 32 class engines returning to Eveleigh from Hornsby, were relatively common. I remember, particularly, having to move swiftly to take a photo of saturated 50 class engine 5147 as it ran light engine down the bank one afternoon. 5147 was working its way from its home depot, Port Waratah, to Eveleigh Workshops. It would have been common in the 1940s and 1950s to see a 30 class from Hornsby running bunker-first down the grade to West Ryde, to couple onto and assist to Hornsby an overloaded 36 or 38 class on a mail train. According to Mick Farrell, a 30 class from Hornsby often ran down to West Ryde prior to the arrival of the down North West Mail around 4:00pm and stood pilot at West Ryde until the last mail train for the evening had passed without incident. The engine would then return to Hornsby late in the evening unless it had been required to provide assistance to a down train in trouble. Sometimes the 30 returned to Hornsby “light attached” to the train engine of the last mail train or a northbound goods. This practice was particularly common at holiday times when many trains were heavily loaded. Even Eveleigh-based 19 class 0-6-0 goods engines occasionally were sent to Hornsby depot for minor repairs. I saw a 19 class at Hornsby on occasions between 1957 and 1959 but I never saw one in transit.

The following is a summary of an experienced driver’s account of the run between Strathfield and Hornsby, ascending Eastwood bank and Beecroft bank. Of necessity, it is a generalised account as the run varied according to the type of train and the class of engine at the front. Different drivers approached the climb to Hornsby in different ways, but what follows are comments that could apply to a 32 class on a passenger train or a Standard Goods engine on a freight train.

Heading north, the fire should be right on leaving Strathfield after a relatively short run from Sydney (or Enfield) with an engine that was only just warming up. Very light steaming took place over the level run to Rhodes, ensuring that there was ample water in the glass, then slowing down to 30 mph for the bridge across the Parramatta River (when speed restrictions applied). On leaving the bridge, the driver would open the regulator and steam through Meadowbank past the tonnage signal and on to West Ryde. By now a reasonable amount of speed had been built-up with the regulator fairly wide open going around the 24 chain curve to Denistone. The train would have slowed appreciably by Denistone station. The reversing screw was wound towards full-forward going around the 30 chain curve out of Denistone station and the engine would steam hard up the 1 in 40 to Eastwood. In this stretch most trains hauled by 32 or 36 class engines, and certainly engines on goods trains, were working hard and going slowly. It was common for 38s on fast passenger trains to keep up a fair turn of speed to Eastwood, but most trains were travelling slowly when they reached auto signal N.13-09 just before the Rutledge street overbridge. Some goods trains experienced trouble at this point, slipping to a stand near the top of the grade. Normally though, speed was regained slightly through Eastwood station on the short length of level track, then it was straight into a stretch of 1 mile of 1 in 75 to 1 in 44 to Epping past the tonnage signal at N.13-87. By Epping, the water level in the boiler was relatively low, so the
Above: 3823 races No.24 up morning Newcastle Flyer down the hill and around the curve from Beecroft station on its fast journey to Sydney. This train ran non-stop between Newcastle and Sydney, the timetable allowing 2 hours 25 minutes for the journey. So precise was the timing that the working timetable specified times to the nearest half-minute for passing many stations en-route. Saturday, 14 March 1959.

Above Right: Following shortly after the up morning Newcastle Flyer, the up Cessnock Express, No.24a, rounds the curve from Beecroft station next to the Beecroft Village Green with 3822 in charge of two FS and six-car NAB set. Saturday, 14 March 1959.

Right: On the morning of Saturday, 14 March 1959, the down Northern Tablelands Express races into the 1 in 40 grade just prior to Cheltenham station with 3825 in the lead. The train is at the location where Ahearn’s ballast siding joined the main line from the left.
On Thursday, 17 December 1959, 3643 rounds the sweeping curve into Beecroft with No.25 Wyong passenger, which departed Sydney at 9.30am on weekdays. 3643 was the first of its class to receive a Belpaire boiler and new cab in 1953.

level had to be regained. The driver would ease off the regulator after Epping and lightly steam past the tonnage signal (N.14-75) beyond Epping station. Drivers of trains with a near-full load never passed this signal unless it was at clear, as the risk of being unable to re-start on Beecroft bank was too great if the train was brought to a stand on the grade.

As a general rule, drivers liked to build up as much speed as possible to take a run at a steep grade. Accordingly, the driver would pick up speed and momentum on the 1 in 75 down grade to Devlins Creek, while the fireman would be getting the fire into final shape in preparation for the assault on Beecroft bank. Rounding the sweeping curve on the embankment over Devlins Creek the regulator would be opened wider as the train entered the grade. From there on, the regulator would be gradually opened further and the screw wound further forward as the engine and train lost speed. After passing through the sandstone cutting beyond Cheltenham station, most trains with a reasonable load had lost speed and were travelling fairly slowly.

Mick Farrell tells the true story of a trip in a 32 class one afternoon in the 1950s when he was firing for driver Don Baker on No.51 Gosford passenger service which departed Sydney at 4.05pm. This generally consisted of eight American cars and was worked by a Hornsby crew. As the train came out of this cutting at Cheltenham they noticed that the 32 had only 130 p.s.i. showing on the steam pressure gauge. The engine was doing it hard and the train was travelling slowly, so slowly in fact that the train was overtaken by a mother wheeling her baby in a pram on the footpath beside the line. The train had previously passed the lady, but, as the train lost speed, the lady and pram caught up and took the lead. There was a reason for this performance up Beecroft bank. The engine (3378 from memory) was well known at the time as a particularly good steamer. On this run the engine was in for a long trip, returning to Hornsby from Gosford later in the evening, then travelling back to Gosford where it was stabled for the night to return to Hornsby early on the following morning. At Eveleigh during preparation it was decided to “pill” the engine. Giving the engine a “pill” involved putting a lot of coal in the firebox, thus allowing more coal to be taken on at the coal stage at Eveleigh prior to departure. This reduced the need for reaching back into the tender for coal in the latter stages of its long trip. The problem at Cheltenham was caused by the fire not responding early enough to provide sufficient steam pressure for the steep climb to Beecroft. Gradually the engine responded to the fireman’s efforts and, although the trip to Beecroft was slow, the engine was blowing off by the time Beecroft station was passed.

Depending on the engine’s steaming qualities and the load, the fireman would be either working hard through Beecroft or he would be capitalising on the work he had done previously with the fire. Some firemen preferred to keep the firebox door closed on the steep grades while others preferred different techniques. Most trains were travelling very slowly as they rounded the long 16 chain curve leading into Beecroft on the 1 in 50 grade. Trains have been known to “stick up” in this locality as the grade, the curvature and wheel slippage took their toll. Some drivers regarded the mile or so between Beecroft and Pennant Hills as the hardest section between West Ryde and Hornsby due to the continuous reverse curves on the 1 in 75 to 1 in 44 grades. It was necessary to control slipping over this section, particularly on slow-moving freight trains. At Pennant Hills the level of water in the boiler would again be fairly low, so the correct level had to be regained. The worst was over by the time Pennant Hills station was reached, the level ground and
High-framed 3230, an Eveleigh engine at the time, has no trouble hauling nine cars up Beecroft bank on Friday, 21 August 1959. This train, No.97 Wyong passenger which ran only on Fridays, departed Sydney at 1.42 pm and was photographed between Cheltenham and Beecroft.

On Thursday, 17 December 1959, 3816 is making good time with the down morning Newcastle Flyer (No.21) between Cheltenham and Beecroft. The cutting in sandstone is typical of the trackside scenery in the general area.
3346 is running light engine to Hornsby through the sandstone cutting just to the west of Cheltenham station. The fireman must be relieved that 3346 does not have a near-full load behind the drawhook as it runs easily up the 1 in 40 grade. Saturday, 2 May 1959.

lighter grades to Thornleigh requiring only light steaming, with small sections of steeper track before Gonarro Siding and between Normanhurst and Hornsby.

Mick Farrell remarked that there were not many "incidents" during his time of steam-working as experienced enginemen knew the road and knew what to expect both going up and coming down Beecroft bank. They were well aware of the pitfalls and therefore were well prepared for any difficulties that were encountered. Of course, a poorly steaming engine or a mechanical malfunction could cause difficulties but rarely did he experience any significant problems with Beecroft bank.

Since cessation of steam working on the Short North between Sydney and Gosford, there have been many significant changes made to the line and to railway practices. However, between Epping and Pennant Hills, the section encompassing Beecroft bank, the changes have not been great. Despite upgrading works, the line and the stations now are not greatly different from how they were in 1960. Over most of the length of Beecroft bank, the tracks-side scenery, also, has not changed greatly since 1960. The occasional steam-hauled enthusiast special can still provide some semblance of the steam spectacle on Beecroft bank that occurred before electrification. So, too, can listening to the limited number of sound recordings of steam-hauled trains climbing the bank in the 1950s. The first that I heard were the "Hill Talk" recordings made by the ARHS which are recommended listening, if obtainable.

Left: The photographer was caught napping as 5035 made a quiet and unexpected descent of the grade between Beecroft and Cheltenham on the morning of Saturday, 14 March 1959. 5035 was running light engine between Hornsby and Enfield.

Right: No.29 passenger service ran to Gosford on Saturdays only, departing Sydney at 12.06pm. Here, No.29 has 3637 at the front of a "dog box" and eight American suburban cars as it climbs Beecroft bank effortlessly on Saturday, 2 May 1959.
It was pleasing to see a 36 class at the head of No.12 up Glen Innes Mail instead of the more usual 38 class. This was a common occurrence when the loading from Broadmeadow was within the capacity of a 36 or when a 38 was unavailable. Here 3666 glides down the hill between Beecroft and Cheltenham with the seven-car Mail on Thursday, 17 December 1959.
Above: Two lengthy side platforms were provided at Neath, each capable of accommodating quite respectable trains. In an era long after their need had passed, 2-8-2 tank No.22, leads a line of empty non-air coal hoppers through the station as the train makes its way from East Greta Junction to the mines. The signal box is situated at the far end of the left hand platform.

R.D. Love

Above Right: Early morning sunlight highlights the features of the front of Neath Signal Box set at the East Greta Junction end of the up platform. A small round-top window on the left served as an access for travellers to purchase tickets, while behind the four sliding panels lay the main signal-frame area. The heap of coal at the foot of the steps provided the heating so necessary on the chilly winter nights.

P.C. Booth
The year 1930 was not one to be remembered with fondness for any business interest, let alone for a privately-owned railway which was dependent on other industries and the travelling public for its income. Not only was the financial situation grim in Australia, its uncertainty throughout the world was further eroding the financial fortunes of those who looked to exports to bolster their profits.

In this regard, the New South Wales mining community and, in consequence the railways which hauled their production, were feeling the pinch. As coal formed by far the major revenue source for the South Maitland Railways, the monetary plight of the system was a daily cause for concern for its management.

The Great Depression, the cause of all the financial ills, had affected the New South Wales Government Railways to the extent that, in April, all staff agreed to work for 44 hours per week, instead of the 48 for which they had hitherto been paid.

The miners had not helped the situation by demanding a 12% wage increase, a lengthy strike resulting. With orders consequently going elsewhere, miners were dismissed and queues seeking relief and the dole increased. For the South Maitland Railways this was a financial disaster, as income was severely reduced.

Australia's hopes sailed with the Australian cricket team, which was fighting England in the traditional battle for the Ashes. Even these aspirations were dashed when the Home Country won the first test, despite a valiant fight by Don Bradman and Stan McCabe. The British, too, were not without additional problems and a Jack the Ripper type was regularly terrorising the city of London.

Most people who maintain an interest in railways
Improved safe-working procedures were initiated on the SMR with the introduction of Government operated passenger services. 3039 heads an American suburban set, standard accommodation for these trains, waits at Cessnock before heading back, through Neath, to Newcastle.

J. Hampson

will have treasured memories of the South Maitland Railways, the private line which used steam to haul its coal trains throughout its nine decades of operation. Formed as the East Greta Company in 1892, the standard gauge line which served the collieries and towns to the south of Maitland had operated a service for passengers from June 1902. For some twenty-seven years, a heterogeneous collection of passenger cars, both four and six wheel, had trundled along the developing line as it reached out to Stanford Merthyr, near Kurri Kurri, and then on the subsequent main line to Cessnock.

Locomotives to haul these trains were also from various sources, former NSWGR 4-4-2 tank engines (an ex-M class which became No.21, and two CC class, Nos 11 and 12) being the most significant.
Immediately on the East Greta Junction side of Neath, a branch line, originally serving Neath Colliery, made its junction. An empty train heads over the Cessnock Road level crossing and heads up the hill to the pit, the elegant two-storey Neath Hotel visible twixt the box and the smoke. P.C. Booth

These sufficed until traffic outgrew their collective capacities and they struggled on until the arrival from Beyer, Peacock of Nos 15 and 16 in 1912. These two were near-duplicates of the Government S class 4-6-4 tanks and their introduction brought a new sense of business to the Cessnock passenger service. A third 4-6-4T was added in 1923 from the same source, assuming the number 29.

In the meantime, the coal traffic grew at a steady rate. Early 0-6-0 engines, both saddle-tank and tender, had been steadily supplemented with more substantial power. From 1903, No.6, a chunky 0-8-0 saddle-tank, had been hauling coal and it was joined by a substantially similar loco, No.9, in 1906. Both were products of the Avonside Company.

Still larger engines came with the 0-8-2 side tanks, again from Avonside. Nos 13 and 14 arrived in 1908 and 1909 respectively, while sister No.1 (the second loco to carry that number) reached the property in 1911.

The ultimate power for the East Greta Co. and its successor South Maitland Railways first graced the rails in November 1912. Allocated the No.10, the 2-8-2 side tank not only formed the basis for a total fleet of fourteen, it also set the pattern for the haulage of coal on the South Maitland field until the end of the steam era in 1983. Built by Beyer, Peacock and Company, the powerful tank was to all intents a tank version of the NSWGR T class 2-8-0 tender engines, which were proving a great success on the Government system. The big tanks were allocated the following numbers: 10, 17 to 20, 22 to 28, 30 and 31.

In 1918, an amalgamation of the interests of the East Greta Company and the Hebburn Coal Mining Company resulted in the formation of the South Maitland Railways Proprietary Limited. So far as operations were concerned, the customers probably saw little difference and the coal, the passengers and the occasional goods train went about their respective businesses.

The early years after World War I were kind to the new company and traffic grew, resulting in the ordering of the 10 class tanks to reach the family of fourteen mentioned above, the last of the tribe entering service in 1926. These additions marked not only the zenith for the SMR loco fleet, but also the peak traffic role for the Company. During the next few years the economy started its decline, resulting in the Great Depression.

In 1929, the effects were being felt and passenger traffic on the private railway was in sharp decline.
To exacerbate the effect, the ancient rolling stock used was not only grossly unattractive, but it was well past its prime and major repair or, more importantly, replacement was essential. Unfortunately, like most of the world, the South Maitland Railways had no finance to invest in such a costly project. It should be mentioned that some additions to the fleet had been made over the years and some fifteen “American”, end-platform, bogie cars were in traffic.

The mining industry has never been noted for its trouble-free industrial climate and, with finances at a low ebb, local mine managements reduced the wages of their staff by 12½%. Strikes and other actions followed and, from March 1929, coal traffic became almost non-existent. Unfortunately, the Company was bound by charter to haul any orders and, when pressed to take a load of strike-breaking coal, the crews refused. An attempt to move the train using management staff brought the expected strike action to the private railway. Perhaps it came as some relief, for the operation of the passenger service was only adding to the financial woes.

On the evening of 1 March 1930, a fire broke out in the area of the large carriage shed, where, remarkably, the passenger fleet was stabled. All stock, together with the shed, was destroyed.

In the aftermath, local bus companies profited by an increase in traffic but, just as on other occasions, the public asked for a rail service.

Industrial peace returned, and such mines as had orders returned to work and the freight locomotives again made steam. Not so the passenger power, and the older engines such as the four-coupled tanks were stored. As the coal traffic offering did not require full capacity, many of the older six- and eight-coupled goods locos joined them.

In the interim, negotiations were taking place on the future of the passenger traffic and an agreement was reached for Government carriages to be used. Similarly to expedite the through movement of the trains, it was agreed that the NSWGR engine which had brought the train from Newcastle, would head onto the private line and steam through to Cessnock. Saturday, 31 May 1930 was the first day of the new service.

One of the conditions imposed by the Government before allowing its rollingstock to run on the SMR was that proper safe-working practices were to be in place. Tyer’s block instruments were to be used and all relevant train information was to be recorded in a Train Register Book, just like the ones used in Government signal boxes.

From a Train Register Book for Neath, which has
Left: The main elements in Neath's safeworking system were a pair of Tyer's one-wire, three position block instruments. On the left is the instrument which controlled both the up and down lines to Caledonia on the west or Cessnock side. It was fitted with a large brass bell while its partner, seen on the right hand side, was fitted with a coiled gong to announce train movements to and from Abermain. These two distinctive sounding gongs gave a clear, audible indication of the bell signal's origin. Between the instruments is a small round instrument to indicate the position of Neath's up distant signal, set a long way west of the box. By the time this photo was taken, Abermain had closed and the next signal box in the up direction was at Weston.

P.C. Booth

Right: A latter day view of the McKenzie and Holland interlocking machine in Neath signal box with the instrument shelf behind the levers. On the right of the photo can be seen an electric staff instrument which had just been installed as a prelude to closing one line and operating the main line as a single track.

P.C. Booth

survived for over sixty years, an idea of the workings of the time can be gleaned.

It would appear that the new arrangements were put into practice on Wednesday, 28 May 1930. At this time, traffic had fallen to such a low ebb that a day shift only was worked on the SMR. At 7am that day, Signalman T. Fielding signed on and prepared to operate the box under the new rules.

Neath was a fully signalled station on the double-track section. In addition, a junction to the north of the platform allowed access to Neath Colliery which was served by its own short branch line, while junctions in the down main provided for trains running direct to the Abermain Nos 1 and 2 Collieries situated north and south of Neath Station, respectively. In practice, trains operating between these two pits left the SMR tracks at Abermain and travelled on their own parallel right-of-way, some 100 metres east of Neath.

The first train to be offered to Neath on the morning of the 28th was a load of empty non-air coal hoppers heading for Stanford Merthyr Colliery, some 12 miles (20km) away. Train numbers for all coal and goods trains on SMR were taken from the number of the engine, and the 1-2-1 bell code offering No.25 was received from Abermain at 7.54am. The big 2-8-2 tank steamed past at 8.04, its line of hoppers clanking and rumbling along behind. There was little time wasted by the crew who returned at 11.08am as the first up train of the day, a string of
loaded hoppers now tugging at the drawgear.

In the meantime, a 3-2 bell code announced the progress of sister engine No.27, which was having an easier time as a lone brake van made up its load. Evidently, problems at its unspecified destination resulted in no return loading and, at 12.15pm the unprofitable train returned and disappeared towards East Greta.

However, there was still some freight business to be hauled and, at 12.25pm, No.24 passed with the daily goods. A 2-2 code was sent to Caledonia, the station in advance, to gain authority to despatch the train.

No.25 was having a busy time and, in answer to a call from Stanford Merthyr, led a line of empties towards that pit at 1.11pm. As evening shadows lengthened, the big tank reappeared with the loads. The time was 4.53pm and, six minutes later, the safeworking necessities were completed when Abermain signalled the safe passing of the train. So ended the first day of the new working and our signalman signed off and headed for home, doubtless musing on happier days when round-the-clock working would have seen him hand over to a colleague. Mr. Fielding returned next morning at 7am and received his first call to action at 7.50am, when Abermain sought permission to send No.30 and empties on its way to Stanford Merthyr. In these austere days, every economy was to be utilised and, behind the SM hoppers was a number for Maitland Main, a short distance away. Once these were delivered, No.30 returned to the former pit, collected a load, and was recorded as passing Neath at 11.42pm.

The next train to be offered on the down was the goods, headed on its way to Cessnock by No.18. Its passing was recorded at 10.33am.

Three-quarters of an hour later, the 1-2-1 bell code sought permission to send No.23 and its train to Millfield Colliery. A passing time of 11.57 was entered in the all-important book.

Neath was situated at the foot of a long 1 in 60/50 grade, which took the line over a range of hills to Caledonia. Towards the top of the grade, Aberdare Central Junction, complete with small signal box, provided access to a colliery of that name. Since the box was only manned as required, it was necessary to “cut in” the facility whenever necessary. Both Neath and Caledonia were required to communicate, by bell signals, to give permission for this to take place.

On the day in question, No.18 had arrived at
The station to the west of Neath was Caledonia. Here, the daily goods, if lightly loaded, would pause and build up its load from the extensive colliery sidings there. On this day in 1966, No.31 has but two S trucks and a CHG van and has consequently retreated to the sidings in search of additional loading. 

R. Preston

Caledonia just as staff arrived at “Central” to test the equipment.

For 45 minutes the 2-8-2 cooled its wheels while the 3-3-3 code was sent out to “open” the box and, when all was checked, the 3-4-3 code was sent to “cut out” or close it.

Things got moving again at 1.48pm and No.18 rumbled past Neath at 2.07pm.

The Maitland Mercury of the time reported that “each coal order was awaited with interest” and Maitland Main must have been overjoyed to receive a requisition. At 2.31, No.31 lumbered on its way to fulfil the demand, returning at 6.48pm. At 6.57pm, the last codes of the day were exchanged and the signalman departed.

The following day, the goods passed at 11.03am, No.19 in charge, while Nos 30 and 23 worked assignments to Millfield and Maitland Main respectively. The afternoon was enlivened when, at 3.30pm the block instruments failed, and telephone working was introduced to allow No.23 to pass at 4.07. The goods did not return until 4.21 and Fielding had an early day, finishing at 4.30pm.

Saturday, 31 May was the start of an era on SMR for, at 6.02am, Mr. Fielding received a 4 beat bell code seeking permission to send train 697, the first Government-operated passenger train along the line, Cessnock-bound. Unfortunately, the loco number was never recorded, each passenger train maintaining its NSWGR number on the private system. In deference to the steep Caledonia Bank, the 30 class 4-6-4 tank, standard power for the all-stations service, departed Newcastle funnel first, the opposite to trains which terminated at Maitland. As coal trains on the SMR had a 1 in 70 ruling grade facing up, loaded trains, the engines worked funnel-first towards East Greta. Hence, the passenger trains had a unique quality in the way the loco faced.

During the day, two coal trains ran to Maitland Main, Nos 30 and 25 doing the honours, while one worked to Millfield with No.28. The goods was in the capable hands of No.23. During the day, seven passenger trains operated in each direction, the last up service working past at 11.24pm. The day was not without drama for signalman H.Farnham, who had signed on at 3pm for, after the departure of 776 pass, the block instruments again failed and the last two movements in each direction were processed utilising the telephone.

Such was the case for the first train to run on Sunday. However, help was at hand and the three other passenger trains to run were safeguarded by the block instruments.

On most weekdays, six passenger runs were scheduled, the first passing Neath at 6.19am on the down, the last returning at 9.23pm. The exception
to this rule was Friday, when an additional passenger, No. 781, passed at 10.41pm, returning as 790 at 11.29pm.

In the meantime, some hope for the coal community started to appear. Winter brought heating needs and, in these times, that meant coal for people to burn in stoves and in fireplaces. June saw an average of 25 loaded trains running each weekday, the goods being in addition. This trend continued for the first two weeks, but then trouble appeared in the form of steady rain. The low lying ground around Maitland has always been susceptible to flooding, the depot at East Greta being specially located on a hill to keep it above flood level. Unfortunately, the tracks could not always maintain such an elevation and East Greta Exchange Sidings were on the flood plain. On Tuesday, 17 June, doubts as to the future of rail operations started to appear and the last down train to be offered was hauled by No. 20 which headed off up the hill with empties for Bellbird at 8.23am. Signalman A.W. Smith signed on at 11pm, and after one passenger and three loaded trains had
These three photographs show standard coal train rolling stock on the South Maitland Railways for over seven decades. There were the black Beyer, Peacock 2-8-2 tanks, such as No.22; red non-air coal hoppers of which this pair is typical; and, to bringing up the rear, the Company’s version of a CHG van, a grey livery distinguishing it from its Government cousins.

R.D. Love

been despatched to East Greta, settled down to wait. One more load, No.20 returning from Bellbird, passed at 12.22am on the morning of the 18th and then, nothing. At 10am that morning, Smith closed his box and headed for home through the sodden countryside. Nothing was to move again for almost two weeks, and then only after the waters had receded and the tracks had been made safe.

Mr H. Parnham was the first to return and, at 2.20pm on 30 June, received No.20 making a cautious test trip with a four-wheel SMR van as its load. Seventeen minutes later, No.22 passed en route to Maitland Main followed after a further 19 minutes later by Nos 23 and 31 and two vans, heading for Aberdare Colliery and Bellbird respectively, to rescue loaded trains that had been patiently waiting. By 11.24 that night, six up loaded trains had been processed, Nos 20 and 23 each making two trips. No passenger trains were operated.

However, confidence returned and on 1 July, so did the Government consists. Coal traffic set out to make up for lost time, up to 34 trains being handled on the up on the 3rd. Sunday 6th saw three loaded consists pass, on a day of traditional rest for the coal fleet.

On this exceptional day, ten of the 10 class were in action to Neath, while all three 0-8-2 tanks were noted. Even two of the 0-8-0 saddletanks, Nos 6 and 9 had an outing. Such was the congestion that, at 10.55am, No.6 with empties for Aberdare had to wait for line clear for so long that No.18 with van had arrived. To save track occupancy, the smaller train was added ahead of the first and, at 11.24am the whole ensemble was despatched up the hill.

All was not well over the hill and the next two trains, No.28 with 42 empties for Pelton and No.30 with 55 Aberdare hoppers, were amalgamated into one train by bringing the second train onto the van of the first. Together they were sent on at 11.51am. Similarly, 25 and 19 with their Aberdare- and Maitland Main-bound trains came together, leaving at 1.25pm.

For the remainder of July, an average of 20 loads plus the goods passed each day.

An unusual up movement was entered on 18 July. Traffic headed for the Junction was brisk at this time, so, to minimise the movements, No.28 and van returning from Aberdare were joined ahead of No.20 with loads from Maitland Main. The bell code 2-1-2 was sent at 4.36pm to announce their departure.

August was not as profitable for the Company, an average of 15 loaded coal trains being seen each day, Sundays excepted.
## BLOCK TELEGRAPH "TRAIN REGISTER BOOK," FOR DOUBLE LINES.

Station: Neath
Date: 7-10-1930

### DOWN TRAINS

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<th>Times of Signals To and From Station in Advance</th>
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**Wednesday 8th Oct 1930**

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Page 215 from SMR's 1930 Block Telegraph "Train Register Book" in use at Neath Signal Box.
When traffic was heavy, SMR solved track occupancy problems by simply amalgamating two trains. The manoeuvre was used at several locations. On 8 August 1980 No.31 plus GHG van was coupled to No.30 and No.17 and a rake of BCH-type hoppers, on a down Pelton coal, seen here passing Weston. It was only in the later days of the SMR that it was possible to see three locomotives involved in this work.

R.K. Booth

The 26th was an exceptionally good day, with 26 coal movements being recorded on the up. During the day, Nos 22 and 19 and their respective empty hoppers were joined end to end for a 3.25pm departure for Caledonia.

A problem with one locomotive saw No.22 heading an up Pelton exchange trains with No.25 on a down Bellbird in the early hours of the next morning, Signalman Farnham masterminding the movements required.

While the coal business fluctuated between 11 and 22 loads plus the goods each day, business was not as bright in the passenger market. From Sunday, 16 November, train services were suspended on Sundays and no traffic moved on those days. As the passengers ran on Saturdays, some seven coal movements were usually handled to maximise the utilisation of staff on duty. Surprisingly the Cessnock services had survived longer than the country trains on the NSWGR, cuts to which had taken place in July. The woes of the community were compounded when 650 men were surplus to the Government Railways’ requirements. Some 450 were reported as unemployed at Cessnock at this time. This situation was not helped when a stone fault was found in Millfield Colliery and 50 staff were dismissed. Consequently, the SMR lost some long distance traffic.

In these troubled times, some traditions were maintained. At 7.24am on Tuesday, 16 December, a down special empty car movement was entered as train D7. The balancing movement, E4 returned on the up at 9.20am. This, the annual miners’ picnic train was probably worked by a 32 class 4-6-0 as it would be heavily loaded. At 4.39pm that afternoon, special E10, with bell code 3-1, headed for Cessnock, the return empty cars passing at 5.19 as E16. In view of the times and allowing for the economics of the time, the picnic was probably held at Maitland to minimise costs.

December was a bad month and, from the 13th coal business declined. The miners’ holidays further reduced the traffic, an average of eight loads passing Neath each day in the two weeks leading to Christmas Day.

In the days between 24th and the year’s end, only passenger runs were recorded while No.25 ran the goods on the week days. One exception was noted when, at 2.30pm on the 30th, No.28 passed on the down with empties for Aberdare. It returned with the van only at 3.44.

There were other interesting trains during the seven months considered. Cessnock was blessed with a racecourse and, when the races were on, special trains were run to bring in the punters. On Saturday, 16 August, the 3-1 bell code announced the approach of the special. At 1.11pm it thundered past, 2-8-2 No.25 pounding away in the lead. Having delivered its hopeful passengers, the tank returned light engine. In its place came No.26, running light
to Cessnock to bring back E96 special, passing Neath at 5.40pm.

Greater economy was used on 13 September, when No.30 powered both trips. Similarly No.25 was used on 11 October and No.31 on 29 November.

However, the most spectacular train to run during the time under review probably did more for the flagging morale of the community than it did for the Company’s profits. In these days, Wirth’s Circus made its pilgrimage around the state by rail and, when it made its way to Cessnock on 19 September, it was the SMR’s turn to bring in the attraction. A 1-3 bell code announced the approach of the train and, out of the morning mist came Nos 30 and 26, double-heading the long, heavy train. The assault on Caledonia Bank started at 4.53am and ended 15 minutes later. Once the train was stored in Cessnock yard, the two locos returned to Caledonia and collected loaded trains from Aberdare Colliery. No.30 passed Neath at 10.06 and No.26 at 11.17am.

A circus does not stay long and No.24 headed for Cessnock at 10.04pm that night. Its task was to marshall the train for the return at the conclusion of the evening’s performance. Just after midnight, sister No.30 followed and together they lifted the big special up the 1 in 70 grade from the terminus to Caledonia. Train E24 rolled through Neath at 12.50am.

One form of traffic that added to the SMR coffers was the hauling of explosives for blasting in the mines. Usually a Government four-wheel powder van was used for this delicate commodity. Other Government vehicles were frequently included with the non-airs, and many S trucks were sent to collieries to be loaded with large lumps of steaming coal, locomotive fires being their ultimate destination. Abermain Colliery appeared to have a monopoly on this market but, on 16 September, No.25 paused at Neath to lift 16 S trucks from the pit.

More variety was added to train movements when the up goods was lightly loaded. On reaching Caledonia, the top of the grade, it would frequently add loads of coal from the adjacent mine and thus make a more profitable run home. In fact, Aberdare Colliery had the lion’s share of the market for most of the time. On 5 September, this pit sent out ten of the 19 trains to run during the day.

Not so fortunate was Hillend Colliery, a small concern situated on the western approach to Caledonia and served by a trailing crossover to up trains. Only two loads are recorded as coming from that source, one headed by No.20 on 7 July and the other worked out by No.22 on 27 November. This latter train was the first after a fire in the mine on 12 August.

As history shows, the South Maitland Railways survived the Depression, the fourteen 10 class maintaining the tradition until 1983. For the four men who maintained Neath Signal Box in 1930, this outlook was not obvious but, thanks to their dedication, the future was achieved and this record preserved.

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Left: A typical scene on the SMR where No.30 with a loaded Bellbird coal train passes No.10 with an empty Aberdare coal near Aberdare Junction signal box, in September 1973.

R.D. Love

Right: Shortly after passing through Abermain, up coal trains passed over Swamp Creek bridge. The steel structure feels the passing of No.18 and train of non-air hoppers which have been loaded at Neath Colliery.

P.C. Booth

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Right: The Neath signalman, acting as road traffic flagman, collects the single line token from the fireman on No.26 as it rolls off the Neath Colliery branch to rejoin the main line in October 1978.

R.D. Love
Above: In later years, No.22 Northern Tablelands Express was tabled to cross the down North Mail at Dumaresq, a few miles north of Armidale. It was usual for the Mail to arrive first, finish the station duties, then reverse back into the section from which it had come, then run forward into the loop. On 20 April 1981, right on time, the four-car 900 class set from Glen Innes passes through on the main line, crossing 4506 standing at the head of the waiting Mail.

R.D. Love

Left: Locomotive 3510, at the head of No.9 Werris Creek day train in January 1962, picks up speed on a straight section of the main North line near Scone. Ahead lies the Liverpool Range and the start of a thirty-mile climb to the summit near Ardglen Tunnel.

R.D. Love

Above Right: In times of crew shortages or heavy traffic, the Werris Creek enginemen assisted the Murrurundi-based crews on bank work. In 1964, 5367 shoves hard on the van of a down goods near Pangela.

Tony Eyre
Of the forty-three years which I spent in 'loco, twenty-four (or more than half my Railway career) were spent on the 900 class railcar sets which were operating on the Northern Tablelands Express services. Of course, other passenger and tabled goods trains occupied some of this time, but the 900 class DEB sets were in constant use for 24 years and Werris Creek 'diagram' drivers were used as normal crew for the duration of their use.

At this point, perhaps it would be useful to explain the meaning of the often-used term 'diagram' or 'rostered' work and how it applied in a large locomotive depot such as Werris Creek.

Diagram or Roster.

In most large depots, like Werris Creek, Broadmeadow, Goulburn, etc., certain regular passenger and goods trains were worked by that particular depot, irrespective of whether or not seasonal goods loading was available. Wheat, stock, coal trains and general freight trains, as well as some 'holiday extra' passenger trains, ran only as required and therefore were not 'rostered' trains. The most senior and experienced drivers in the respective depots were elevated to the roster or diagram working, whereby their duties were drawn up into a regular program and they were always able to see, in advance, their jobs for the regular trains worked by their depots.

Contrast this with the remaining men, termed 'rouseabout' crews, on non-rostered work, who were notified of their next job only on the day of duty or, at best, the previous day, whether or not they were required for work or 'booked off'. There may be, say, twenty drivers in a particular depot on the diagram. Each would have his jobs for the fortnight set out on the roster, thus enabling him to plan his free time more accurately. Such a diagram may read:
Monday off
Tuesday sign on 11.30am, work No.22 Northern Tablelands Express to Sydney, thence to barracks;
Wednesday sign on 7.10am, in Sydney, work No.23 to Werris Creek, sign off;
Thursday sign on 1.30pm, work No.23 Express from Werris Creek to Glen Innes, to barracks;
Friday sign on 5.10am Glen Innes, work No.22 back to Werris Creek, sign off;
Saturday 10.00am ‘town’ shunter (pilot or standby driver for the ‘Tablelands Express drivers);
Sunday booked off.

As a vacancy occurred on diagram working, due to a retirement, etc., so the next most senior driver was elevated to the position, retaining the set number of men as determined by the volume of regular work carried out by that depot. Similarly, with the firemen, the most senior men in the depot were offered a position on the diagram and, in each case, it was usual for a particular fireman to work with a regular driver for many years before retirements, or the fireman himself gaining his driver's appointment, would cause a change to this arrangement.

Rostered or diagram work had both advantages and disadvantages and not all men took the opportunity to go onto the rostered work. Most diagram work involved going away to barracks, usually on fast scheduled trains (mails, expresses or express goods trains, and therefore no loafing along), often no meal time (crib) and little, if any, overtime. On the other hand, rouseabout work meant that free time at home could not be planned, as the call boy was always ‘around the corner’ waiting to bring you to work. However, with the rouseabout work, there was always the opportunity for extra work, especially in the wheat and stock seasons.

So, it can be seen that both types of working had things in their favour and the men themselves decided if it was a better proposition to go onto the diagram work or stay where they were. It must be pointed out that not all depots would have ‘roster’ or ‘diagram’ work. Large depots like Eveleigh and Broadmeadow would have many men on diagram work, whereas depots like Port Waratah and Binnaway may have no regularly rostered work and therefore no diagram men.

Railmotor Working
Following the success of the 600 class rail car design, incorporating diesel-hydraulic drive, the 900 class long distance sets were developed. They were introduced (briefly) to the North Coast Daylight Express, then to the Canberra-Monaro Express and the Far West Express services. In 1959 and 1960, two more sets were built to replace the locomotive-hauled Northern Tablelands Express trains operating between Sydney and the North-West and New England areas.

In April 1959, the first
By 1960, the steam-hauled Northern Tablelands Expresses had been replaced by self-propelled DEB railcar sets. In steam days, the train was worked by Werris Creek 'diagram' crews between Werris Creek and Broadmeadow, returning home the next day. In late 1954, 3533 works hard up the short section of 1 in 66 grade toward Hanbury Junction with the 348 ton train. Engine 3533 was the first of its class to be withdrawn from service, in February 1959.

The 900 class commenced service in the North-West area of the state in 1959. Six Werris Creek drivers were initially trained to work it, including Bruce Griffey, shown here at Werris Creek station in 1959. In those days, it was possible to post a letter in the brakevan, utilising the letter-box slot (shown here) mounted in the side of the car.

three-car train 900 class set was brought to Werris Creek to replace the 600 class on the Werris Creek-Moree run, prior to the introduction of the seven-car set on the Northern Tablelands Express. Werris Creek driver Stan Marney went to Sydney to bring it to Werris Creek, with a pilot driver from Sydney to Broadmeadow. (A pilot driver is a 'local' driver, in this case either an Eveleigh or Broadmeadow man, used to assist or pilot the rostered driver through a section over which he is unaccustomed to travelling, to explain the location of speed boards, speed restrictions and signals).

As the train differed from other rail motors, it was to undergo trials and tests on the Moree and Burren runs to iron out all the bugs. At the same time, the Loco Inspectors had won the right to train the drivers. They had to undergo training themselves, then impart their newly acquired knowledge to the drivers, so it was virtually 'the blind leading the blind'. However, those first few drivers gained a knowledge and experience through trial and tribu-
Above: October 1965, and PF909 leads DEB set 156 up the Pages River valley, past the large rocks, heading for the scheduled crossing with the up service at Pangela loop. At Werris Creek, the leading four cars will continue on to Armidale and Glen Innes, while the rear three cars will spend the night in Moree.

John S. Glastonbury

Above Right: Too fast for the camera, PF907 leads DEB set 156 on No.23 down Northern Tablelands Express out of Boronia No.4 tunnel, between Cowan and Hawkesbury River on its long journey to the north.

Doug Askew

Below Right: With motors humming in readiness to work No.22 up Northern Tablelands Express, cars 958, 751, 854 and 910 stand in Tenterfield yard early on the morning of 30 December 1980. A Werris Creek driver has prepared the train and will work it home after spending the night in Tenterfield barracks. John Currey

lation that was to enable them in later years to assist the fitters who did not have this earlier introductory training.

Chief Rail Motor Fitter, Frank Gribble was not permitted to drive the rail motors any more and all movements had to be made by a qualified driver. This was the reason Stan Marney went to Sydney to pick up the set. The training staff comprised: Chief Rail Motor Fitter, Frank Gribble; fitter, Bob Fox; senior electrician, Frank Houlihan; electrician, Laurie Scarfe; Locomotive Inspector, Cedric Fraser.

I was rostered to take the set on its first public passenger service one Monday morning in April 1959 on train No.19 (which connected with No.13 Glen Innes Mail) from Werris Creek to Narrabri and to return as No.22 to connect with the loco-hauled Northern Tablelands Express at the Creek. (From my recollections the first set comprised PF907, TCR861 and HPF954). It was quite an experience in the cramped cab, as I was trying to learn a new concept in railcar working whilst actually driving the train. At the same time, fitters and electricians were bursting in to check lights and gauges, not to mention a sticky-beaking Traffic Inspector.

With the introduction of the next four cars in 1959, it was announced Werris Creek men would work the seven-car 900 class set to Sydney, Glen Innes (later Tenterfield), Moree and Burren, or indeed wherever it ran. The new four-car set would operate between Sydney and Glen Innes and detach or amalgamate with the three-car Moree set, depending on direction, at Werris Creek. It would operate on alternate days to the existing eight-car, air-conditioned RUB set, which was still steam hauled.

This announcement (of the Sydney and Glen Innes running) led to the senior drivers at Werris Creek stating they wanted the new running them-
The three-car set forming the Moree portion of the train (HPF957, TCR861, PF903) rests in Moree loco on 18 February 1983, accompanied by 4835 and 4869. The carriage cleaners are busy readying the cars for the next day’s return service to Werris Creek, where the trio will amalgamate with the four cars from Glen Innes for the journey to Sydney.

John Currey

selves, demanding preference over the fellows junior to them (myself included) who had been operating the rail motors, and particularly the 900 class, since their inception. However, the administration in Sydney said these drivers (Johnston, Marney, Taylor, Stockbridge, Boehme and Griffey) had been originally prepared to do the work at lower wages and without penalty rates, etc., so they were now to be given the benefits of the new working.

From this, we then had to learn the road between Broadmeadow and Sydney, as well as between Armidale and Glen Innes. What opposition we had from some of the Broadmeadow and Eveleigh crews, who objected to us running through their depots! In order to learn the roads, we were to travel with the crews on the engine of the regular trains and take notice and ask questions about the various aspects of the trip. We would present ourselves at their engine with the necessary authority to ride with them. Some drivers would grudgingly say, “I have to take you”, but they never spoke for the whole trip, although some went out of their way to be of assistance. Some drivers would grudgingly say, “I have to take you”, but they never spoke for the whole trip, although some went out of their way to be of assistance. On one occasion, we rode the 38 class on the midday Newcastle Flyer, but everything was made quite uncomfortable for us.

However, we overcame this and other problems and the set went into regular traffic on the Northern Tablelands Express service on 22 June 1959. Werris Creek drivers worked the train for almost all of its twenty-four years of operation in this area. The second set went into service on 20 November 1960.

With my long association with this train, I was to develop a method of driving the 900 class which brought high acclaim from the buffet staff and train crews, but which was suspect by the Loco Inspectors. The light weight of the train made it very rough riding, particularly on sharp curves and with heavy braking, and as a result, the buffet girls complained loudly. The first thing they did was to check and see who the driver was, so they could work out the sections where best to walk through the train and serve the passengers. Normally, they had to wait for heavy grades or straight track, when the train was slower and riding a little smoother.

My method was to let the motors and grade work the train, together with an intimate road knowledge. For example, about a minute before the right-away was given at Central, I would engage ‘transmission idle’ on the throttle, then when the ‘right-away’ was received from the guard, I would only release the brakes and the train would smoothly move off and attain a speed of no more than 15mph (25km/h) until it got to Redfern. I would then move the throttle to No.1 position only. (“Get up it!” would be the cry from the Loco Inspectors).

By Newtown, I was doing 45mph (70km/h), the maximum speed for the track, and at Ashfield 60mph (100km/h) was reached, all without touching
The up and down Northern Tablelands Expresses (Nos 22 and 23) were tabled to cross at Pangela, six days a week. HPF952 leads the seven-car set on No.22 express up the 1 in 40 grade into Ardglen station, heading for its appointment in Pangela loop. The Train Equipment Officer (travelling fitter) stands in the doorway of the leading car, ready to exchange staffs with the Ardglen signalman. R.D. Love

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the throttle. At Croydon, I would shut the throttle and brake lightly coming into Burwood in order to reduce speed, ready to stop gently at Strathfield on the falling grade. This method brought us into Strathfield right on time, with amazed looks on any faces present. This was a better and smoother method than full throttle out of Redfern, heavy brake at Newtown, full throttle again, heavy braking at Burwood, desperately trying to stop at Strathfield!

This method was adopted right throughout the entire trip. The brakes were never used to reduce the train speed to a lower speed board; the power was shut off early enough at the right spot, to accommodate this smoother method.

When the second 900 class set started on the run in 1960, the rail motor roster was drawn into the Werris Creek special class drivers’ roster, which allowed for twenty drivers. We then reverted to working the Night Mails, etc., as well as the 900 class working on Nos 23/22 Expresses and I then stayed as a special class driver until I retired.

In my twenty-four years of working the 900 class on the Northern Tablelands Express, I had many experiences on the road, both amusing and serious.

Eric Booth was the instructor for the travelling rail motor fitters (all the air-conditioned express trains carried a fitter in addition to the train crew) and often travelled on the train to impart this knowledge. He also had a great attraction to poker machines. He was coming up on No.23 express one day and was having a little doze in the first class car when the driver, Jack Donohue, was approaching Grass Tree, where it was necessary to traverse the turnout from single to double line. Jack had momentarily forgotten where he was and had to brake furiously for the turnout. Even then, he took the turnout a bit hard, which in turn caused mayhem on the train. A buffet girl was passing by Eric with a tray loaded with money, having just delivered the meals, when she was thrown off balance by the speed through the turnout. The money left the tray and landed on Eric who was jolted awake and called out aloud, “Jackpot! Jackpot!”.

Fires on these diesel sets were not unknown, especially as they aged. I stopped at Walcha Road one day and the station master came up front to tell the travelling fitter and myself that there was smoke coming from under the brakevan which was, in fact, the rear power car. We grabbed fire extinguishers and went back to find an oil pipe leaking and dripping oil on to the hot exhaust pipe. It burst into flame just as we arrived. We were being hindered in our work by a ticket inspector who always made a nuisance of himself on the train and offered advice when it was not required. He had his nose
These diagrams illustrate the movements required to remove the defective trailer from the up Northern Tablelands Express.
After more than a quarter century's constant service, the hard-working DEB sets were showing their age and problems were occurring frequently. In January 1984, 8006 races through Berowra about an hour late, assisting a full seven-car DEB set on No.22 up Northern Tablelands Express. R.D. Love

was then pulled forward and the passengers and stores reloaded into the rear or Glen Innes section of the train. The whole train was then reversed back to clear the up loop points, and secured. I had to walk back to the leading car of the Glen Innes set (fourth car from the front), put in the control handles and apply the brakes on that section as well as apply hand brakes. I then walked back to the leading three cars, uncoupled behind the defective car, pulled forward into the loop and set the defective buffet car back into the short dead-end siding off the Newcastle end of the loop. (This siding was once used to stow the trailer off the Cowan railmotor shuttle in off-peak times many years before). After depositing the buffet trailer in the siding, I drove the leading power car forward and then reversed back on the remaining Moree set power car, effectively giving us two power cars back-to-back. We now found that the jumper coupling receptacles for these two cars were on opposite sides and could not be joined. We then uncoupled these two power cars, ran them forward into the loop, ran the Glen Innes portion forward on the up main and secured it there. I then went over to the coupled Moree power cars and ran them on to the rear of the Glen Innes set. We then had the 4 car Glen Innes set leading, followed by the two Moree power cars back-to-back. The rear power car was not providing traction power (no jumpers) but was left on ‘idle’ to provide air-conditioning. I must have walked five miles in changing from power car to power car. The delay was fifty minutes. Of course, a major rethink would be required by the ‘local boys’ on arrival at Central in order for the cars to be worked to Flemington sheds.

As stated earlier, long distances and barrack working were part of the Werris Creek drivers’ roster. In the 1960s, the diagram included the following:

- **Work No.22** up Northern Tablelands Express to Sydney, return the next day on No.23 Express.
- **Work No.8** up North West Mail to Broadmeadow, return on No.419 goods.
- **Work No.12** up Glen Innes Mail to Broadmeadow, return No.7 down North West Mail.
- **Work No.419** goods to Armidale, return on No.420 goods.
- **Work No.7** North West Mail to Moree, return No.402 goods.
- **Work No.23** Northern Tablelands Express to Moree, return No.22 next day.
- **Work No.23** to Glen Innes (or Tenterfield), return next day on No.22 Express.

In the early days we worked to Burren and returned the next day, but later, when the 900 class was extended to Walgett on one day per week, the Narrabri West men took over working this section of the run, from Narrabri to Walgett, returning the next day.

When approaching the pedestrian bridge at East Maitland one day (on No.22 up Tablelands) I noticed a number of schoolgirls standing on the bridge. As I passed underneath, stones rained down all over the front of the train, shattering the front window. I stopped at Metford Signal Box and reported it and then proceeded. Unfortunately, at Hexham, the front window blew out all over the cabin jamming the door shut and I stopped again. The fitter attempted to get into the cab but he could not open the door, he was also unaware what had happened. On arrival at Broadmeadow, he came up to the side window to ‘go crook’ and then he could see the mess. I had to scrape the glass away from the door and let him in. Railway officials came up to work out how to reverse the car sets (and therefore use the leading power car of the Glen Innes set as leading vehicle) and railway detectives were quizzing me about the incident, but I decided to press on with the window the way it was to avoid delaying the train any further. By carrying out the same procedure as with a broken window in a car, keeping all other windows closed, the wind effect was minimised and we were able to carry on.

On occasions, the 900 class ran out of fuel between Armidale and Glen Innes, causing inconvenience and delay to the passengers as they had to wait for alternative means of transport. I did not experience this myself, although at Black Mountain one day, the No.1 engine just stopped for no appar-
The DEB sets working the Northern Tablelands Express featured a tray service from the buffet, fold-away tables being provided as required. One of the girls, looking a lot like TV personality Penny Cook, from the RRR (Railway Refreshment Rooms, later TCS, Trading and Catering Service) attends to a passenger in HPF956 as No.23 passes through Ravensworth on Friday, 10 October 1980. John Currey

ent reason. There are two No.1 and two No.2 engines on a four-car DEB set and only the No.1 engines drive the air compressors. If both No.1 engines fail, the train is then a total failure because air is not available for the brakes.

A quick check revealed it had run out fuel and a check of the others showed they also had barely sufficient fuel to get to Glen Innes. I instructed the fitter to turn the other No.1 engine to 'idle' to maintain the air, which meant it would not be used to power the train. The two No.2 engines were then used as required. If the road allowed me to get enough power with one engine, then that is all that was used. On the last grade up into Glen Innes, we brought in the good No.1 engine. We made it alright, but it was a gamble. Instructions were then issued in Sydney to top up the fuel tanks in the morning prior to leaving the depot, as well as on the previous night. The motors and the air-conditioning were tested and serviced all night in the depot in Sydney and a lot of the fuel had been used in this way without being replenished for the trip on the next day.

There were many times when we worked till midnight (without pay, of course) on the 900 class in Glen Innes to get it mobile for the next morning. Officially, we were to have eight hours off in Glen Innes, but working until midnight was essential if No.22 Express was to leave on time the next day.

When the units first started to run to Glen Innes, the train failed several times due to frozen motors. Official notification was sent out to drain the radiators on arrival in the winter months. This meant that next morning, we had to climb up a ladder on to the icy, smooth and slippery roof, dragging a cold water hose to poke down the radiator filler intake and stand there in freezing conditions, often windy, until it filled. After some years, it was decided to put in a hot water plant and fill the radiator with hot water. The next step was to supply a long copper pipe with a hooked top fitted to the rubber hose and with a bit of juggling, the pipe could be inserted in the small filler hole from the ground. Another step was made when the filler pipes were fitted under the car. Much easier!

The general rule at Glen Innes was to get out of bed as soon as the call boy arrived, dress, then go straight to the train, fill the radiators, check the oils and start the engines. After all this had been successfully carried out, return to the barracks, finish dressing and have breakfast. If things had not worked out too well with the preparation of the train, there was no time to have breakfast and so it was necessary to grab a cup of tea 'on the run'. Unfortunately, the 'powers that be' never seemed to want to know about these things.

On 22 February 1969 the New South Wales Rail Transport Museum came to Werris Creek with 3813 on a tour. This was only the second time that a 38 class engine had come to town (the first occasion was one week earlier, also on an RTM tour) and on that day, I was rostered on the 10.30am ‘town shunter’ with engine 3326. My engine was facing north and I was instructed to take it to loco, turn and proceed tender-first to the Gap, via the Binnaway line, to await the arrival of the tour train. Yard shunter 5311 arrived with the tour via the North West line, we coupled up to the rear of the train and proceeded, via the Binnaway line, back to the Creek. Two photo stops were held on the way, with plenty of smoke to please the passengers.

It was the practice for many years for the Railway Commissioner or the most senior executive officer to tour parts of the system, usually one large area
at a time. It was usual for the senior crews in the depot to work these trains (subject to availability and approval of branch heads) and during my career, I worked a total of nine Commissioner's Tour trains.

When Mr Alan Reiher became Commissioner, it was decided that his train, touring from Werris Creek to Narrabri, was not to be a special but was to be a revenue train. I was rostered on with Observer Ron Simpson and Guard Kevin Webber and, when signing-on, was instructed to walk down to the Werris Creek wheat silos, there to pick up part of my train. The train consisted of double 48 class, 26 WTY empty wheat hoppers and a van. We then set back toward the platform to await the arrival of the Commissioner's Train coming from Tamworth. The Commissioner's Train was then attached to the back of the empty wheat train and away we went, heading up the North West line. This was the most difficult train I have ever worked. I was given the same running time as No.7 North West Mail, with what was basically a long goods train. Even more difficult was the requirement to stop the rear observation car on the short platforms, like Breeza, Emerald Hill, and so on, to allow the Commissioner to meet the local station master and staff. It was necessary for the guard to leap from his van, run out on to the roadway or into a paddock and hand-signal the instructions when and where to stop. Often, I was out of sight of the rear of the train, and there were no radios in those days.

On arrival in Narrabri, we changed over with a Narrabri West crew, who took over our 48 class engines, while we took their engine. We then proceeded to the rear of the Commissioner's Train, detached these cars from the wheat train, which then proceeded on to Moree. The up North West Mail arrived in the platform, the engine cut off and ran forward and then we pushed the Commissioner's train on the front of the Mail and reattached the engines. It was intended that we would return home passenger and the rostered Mail crew (Moree men) would work the combined train back. The Moree crew had not been advised of the Commissioner's Train working when they signed on in Moree earlier, and refused to work the train. The Loco Inspector advised me of this and I then worked the train back to Werris Creek, although I had already been on duty seven hours. Again, this was a large train, comprising 16 coaching vehicles,
The changing face of Werris Creek depot.

Above: In 1954, a 105’ turntable was installed in the depot. Broadmeadow’s 70 ton Craven crane is standing on a temporary track supported by pig-sties whilst carrying out the operation.

Right: A winter’s day in 1965 and the shed roads contain (from left) 3665, 5239, 3534, 5242, 5268 and 5909, normal motive power in the area at this time.

Below Right: By the mid 1980s, seventy years after it opened, Werris Creek roundhouse still saw a wide variety of motive power and working. From left, 48115, 4904+4912, 4441, 4884, 7321, 4464 and 4424 occupy the ‘bullring’, the photo being taken from the roof of 4871.

When David Hill became Chief Executive, I worked his train on a number of occasions, including Werris Creek to Armidale, non-stop. I also worked it from Werris Creek to Muswellbrook, (all stations), and it then proceeded on to Merriwa. A few months later, I worked it again from Werris Creek to Narrabri with a 44 class and then on to Moree with green branchliner 4836. Later on the same tour, I was rostered to work the train from Werris Creek to Broadmeadow. Prior to departure, the chiefs decided to stage a surprise visit to Werris Creek Loco and, in addition, the 44 class had a defective staff exchanger and required repairs. We departed Werris Creek South Box forty minutes late and by picking up time in the appropriate sections, I was only four minutes late by Maitland. Unfortunately, we were diverted to the coal road and were still four minutes down on arrival in Broadmeadow. Some officers on the train took time out to thank me for my efforts.

I worked the Executive Train to Binnaway on another occasion, with a 49 class and made a special stop at Yannergee at the house of retired ganger Mr Peter West and his wife, the fine couple mentioned earlier in my story.

In 1972, the Barraba-West Tamworth loco-hauled service, part of Nos. 13 and 12 Glen Innes Mail, was suspended. A rail motor service utilising Rail Motor No.38 (nicknamed ‘Creamy Kate’) commenced running off No.13 Glen Innes Mail, doing a round trip from Tamworth to Barraba and reconnecting with No.22 up Northern Tablelands Express. This was incorporated into the Werris Creek diagram and I was immediately qualified for RM No.38 and the subsequent 400 class that later re-
placed it. Werris Creek drivers would sign on at 1.20am, prepare the motor, work it empty to Tamworth, work to Barraba and return, then follow No.22 Express out of Tamworth, home and stable. The working of this service to Barraba was later taken over by the local West Tamworth crews.

On Tuesday night, 3 August 1982, I was driving 4814 on the up Parcels Express when we struck a car on the Robert St. level crossing in Tamworth. The car had been running parallel with us on the observer's side of the train (I did not even know it was there) when it suddenly overtook us and immediately turned sharply left and on to the level crossing ahead of the train. We struck the vehicle and I was still unaware of its presence until we actually hit. We pushed the car for 300 metres and it was securely wedged under the engine when we finally stopped. My mate had been involved in a fatal level crossing smash at Gunnedah only a week beforehand and so he remained on the engine whilst the guard and I examined the car. We immediately saw we could do nothing for the driver, who was killed instantly.

We had to wait for the police and ambulance to arrive and after the body was removed, we disengaged 4814 from the car and examined the engine for damage. We then proceeded to Duri where we were relieved by another crew.

An enquiry was held next morning, with the statements from us to the police being quite sufficient as evidence. A coronial enquiry was then held (also attended by the observer and myself), but no blame was attached to us as the deceased had not stopped at the crossing at all. The level crossing lights had not been installed at the time.

When the XPT units began working the Northern Tablelands Expresses from the DEB sets in 1983, I was trained to work them. At first, the crew on the XPT power car consisted of a driver and observer, and we worked from Werris Creek to Broadmeadow, went into barracks, and returned the next day, or to Glen Innes (or Tenterfield), camped in the barracks there and returned the next day. This working was later changed to Werris Creek to Maitland (change over, return same day); work No.13 Mail to Uralla, change over with an Armidale crew, return on the XPT to Werris Creek; work XPT to Uralla, change over and work No.12 Mail home.

On 31 January 1985, I worked No.23 Northern Tablelands XPT to Uralla, changed over with an Armidale crew and returned on No.8 parcels train. This was my last job before retiring and after clearing my holidays and long service leave, which took me to October 1986, I finally completed my service.

During my career, I was often in conflict with supervising and administrative officers, because I always chose to do my job to the best of my ability and put every effort into satisfying the customers. I was never late for work and always made myself available if at all possible, even at the shortest notice.
Epilogue.
I enjoyed my work as an engineman, having progressed from the steam days where the work was hard, conditions often unpleasant in wet and cold weather, with the barracks being archaic to say the least.

Most of the locomotive enginemen that I came across took pride in their work and, in the early days, needed an extremely good road knowledge. Headlights on locomotives were rare, only being fitted to 12, 30, 32, 35 and some 50 class engines. The rest had kerosene lights which continually went out, thus putting an additional strain on the men in fogs and in darkness. Ultimately, headlights became the order of the day on most steam engines and made work a little easier.

The arrival of the diesel-electrics brought a degree of comfort to the enginemen: heated cabs, less manual work and, of course, comfortable seats. This was quite different from the life we had been used to for many years.

In addition to the improvements in conditions on the road, barrack accommodation improved, with the provision of single rooms and air-conditioning.

Taking all the previous thoughts into account, if

I was asked to explain the most enjoyable aspects of my forty-year career, it would have to be the cordial friendships which generally developed between enginemen from the various depots when they met in barracks, the homes-away-from-home.

Complete with his old tin tucker box (which never fell off the side of a 36 class tender), Bruce climbs into the cab of 44216. For many years, tin tucker boxes were a trade mark of NSW enginemen and guards, and some are still used in the country depots. This particular box was made by a Taree signalman in 1944. When Bruce Griffey retired after 43 years in loco, he had enough experiences to fill a book.

John Currey
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Recommended Reading

Units of Measurement
Since the essays in this book deal with a period when the Imperial system of measurement was used in Australia, that system has been retained. As an aid to conversion for those who are so minded, the following factors may be used:

<table>
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<th>Unit</th>
<th>Conversion Factor</th>
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<tbody>
<tr>
<td>1 inch</td>
<td>25.4mm</td>
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<tr>
<td>1 foot</td>
<td>305mm</td>
</tr>
<tr>
<td>1 yard</td>
<td>0.914m</td>
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<tr>
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<td>1.609km</td>
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<td>1 horsepower</td>
<td>0.746kW</td>
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A mile could be divided into 80 chains (ch) of 22 yards (66 feet) each.

At the date of currency conversion (14 February 1966) £1 equalled $2. However, inflation both before and after this date makes conversion of monetary amounts meaningless unless various economic indicators, including such inflation factors, are known.

The publishers of Byways of Steam welcome additional information expanding or correcting details in the various essays.