

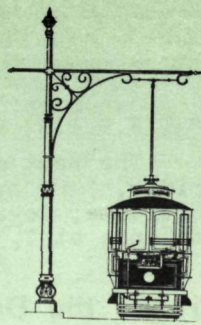
TROLLEY WIRE

Magazine of the
SOUTH PACIFIC ELECTRIC RAILWAY
AUSTRALIAN ELECTRIC TRANSPORT
MUSEUM

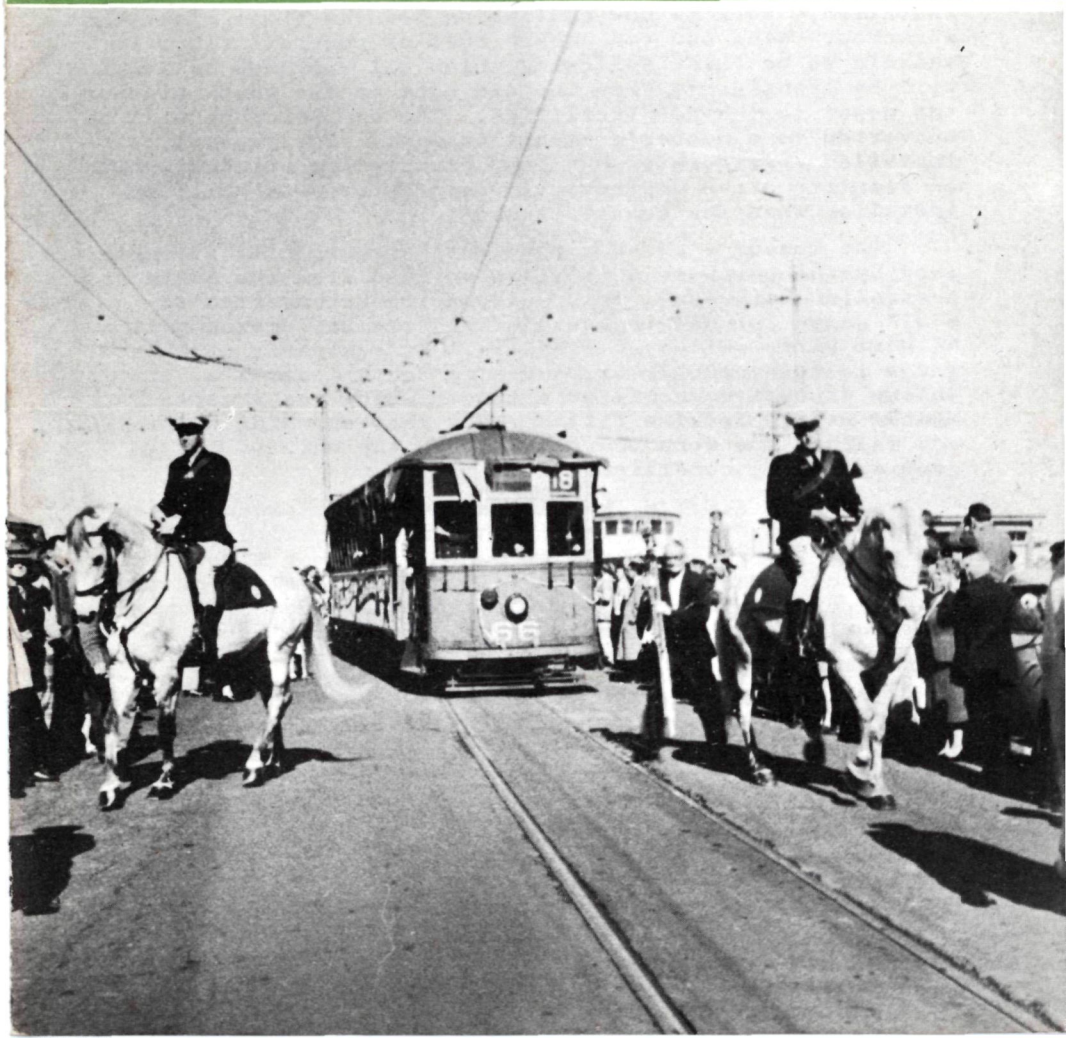
WESTERN AUSTRALIAN ELECTRIC
TRANSPORT ASSOCIATION

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THIRTY CENTS



APRIL 1971



NEXT S.P.E.R. MEETING

The next meeting of the S.P.E.R. will be held on Friday, 30th April 1971 in the Small Hall of the Railways Institute, Devonshire Street, Sydney. The meeting will commence at 7.30pm.

Around the Depots---

st. kilda

The Museum's new two-road workshop was structurally completed in January when the last of the roofing iron was installed. Work is now continuing towards fitting out the workshop. Nine hundred square feet of concrete floor is shortly to be laid, following which all workshop activities will be transferred from the old room on the south side of the depot to the new facilities. The old workshop will be converted to a member's amenities room. The recently installed refrigerator has been greatly appreciated, while an electric stove has recently been secured and will be installed when the change is made.

The Museum's per-way equipment was recently strengthened by the purchase of a Villiers quad from the South Australian Railways. This unit had been converted to 4'8½" gauge for use in constructing the new Broken Hill to Port Pirie railway. Since railway equipment of this gauge is not commonly available in South Australia, the Museum executive submitted a tender which was accepted. Member Ronald Jenkins fitted a new gear-changing mechanism and relined one worn brake shoe, and the unit is now in good operating condition.

Although A.E.T.M. members are always pleased to see visitors from sister museums, they were especially appreciative of the recent visit by S.P.E.R. member Mike Giddey. Mike spent a very busy day helping erect the last of the roofing timbers for the new workshop and made a valuable contribution towards completing the project.

POWER GENERATION PLANNED

The first step towards operating the cars at St. Kilda was recently taken with the purchase of a large A.C. electric motor complete with starter from the South Aust-

FRONT COVER: Electric tramway operation came to an end in Western Australia on 19th July 1958 when the last line, route 18 to Inglwood, was abandoned in Perth. E class car 66 made the last run accompanied by a mounted police escort and is seen returning to the car barn at East Perth.

Photo: Don Tyler collection.

TROLLEY WIRE

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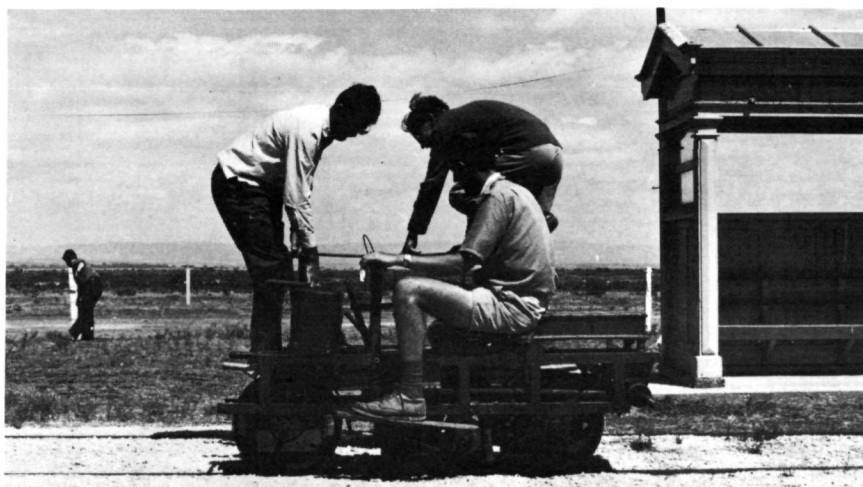
Editor : **R. I. MERCHANT**

Subscription rate (for non-members):
\$2.00 per annum, post paid.

NEW MEMBERS.

The Board and Shareholders of the SPER welcome the following members to the museum:-

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John Pennack (left) and Roger Wheaton (right) leap aboard Villiers Quad no. 17 as John Radcliffe begins to take off. This unit, formerly operated by the S.A.R., is the first vehicle to run at St. Kilda under its own power.

Photo: John Hoffman.

ralian Railways. It is intended to couple this motor to an old tram motor which was presented to the Museum in 1958 by the S.A. Institute of Technology, and has since been in store. The tram motor was one of several samples sent to the Municipal Tramways Trust in 1908 when it was planning its initial electrification of the horse car system. Since this motor was not selected by the Trust, it was presented to the then S.A. School of Mines for teaching purposes. Subsequently, students rewound the motor as a shunt motor and used it as a generator.

It is proposed to house the motor-generator set in the new workshop, with provision for additional sets. The Electricity Trust of S.A. will supply a new service to the Museum for this proposal.

COMBINED MEETING AT LOFTUS

At the end of 1970, four members of the A.E.T.M., President John Radcliffe, General Manager John Pennack, Assistant General Manager John Hoffman and member Malcolm Butler journeyed from Adelaide to Sydney to attend a meeting at Loftus with S.P.E.R. executives. The S.P.E.R. was represented by Chairman Richard Clarke, Secretary Vic. Solomons, Acting General Manager Phillip Parker and Treasurer Laurie Gordon. Matters discussed included co-operation in future acquisitions, the development of a spare parts pool, and aspects of literature sales at the two Museum sites.



Erecting depot doors "Sperainian style". The pairs of doors were made in one piece and cut apart after erection. The old doors and façade were dismantled shortly after.

perth

The Fremantle City Council has donated four lengths of rail to the W.A.E.T.A. from the terminus of the Cemetery route at the corner of High Road and Carrington Street, Marmion. It is believed that the rail is some of the original rail laid when the Fremantle Municipal Tramway was completed in 1906.

Negotiations have commenced for the acquisition of the body of no. 15 which has lain for many years behind the former Kalgoorlie tram depot. The vehicle is a single truck saloon with a clerestory roof built by J.G. Brill & Co. in 1902 for the Kalgoorlie Electric Tramways Ltd. It seats 28 passengers and still retains its original open platforms.

loftus

As well as its usual Sunday operations the S.P.E.R. ran cars every Wednesday and Saturday during the schools Christmas vacation. The Artarmon Infants School arranged for the Museum to be open on Tuesday 8th December for the children's Christmas party and, despite very heavy rain, five busloads of youngsters arrived to enjoy themselves.

Work at Loftus is mainly concentrated on the new depot roof and the mechanical overhaul of N 728. The new workshop and mealroom area has been roofed over and the main depot has been rebuilt back to this point and is now entirely closed in. Work continues on the annex roof and the workshop and mealroom will be fitted out concurrently with this. Some reshuffling of the cars in the annex is necessary as PR1 1573 is at present encroaching on the workshop area.

Away from Loftus various items of signalling equipment are being overhauled preparatory to being installed on the line. Bob Harvey has rebuilt the lower quadrant semaphore signal obtained from Co-operative Junction, Plattsburgh in September, 1967 and this will be installed at the Depot Junction as a starting signal for cars leaving the yard. Noel Reed and Trevor Glenn, assisted by Arthur Perry and Bill Turnbull, are designing and assembling the components for an automatic colour light signalling system for the main line to replace the present staff system.

The overhead on no. 2 depot track was temporarily altered on Tuesday 16th February in preparation for TV filming the following day. This was to enable F 393 to be driven out of the depot without the necessity of stopping to change from wandering lead to trolley pole. At the conclusion of filming the installation was dismantled as the permanent overhead wiring in the depot will require

troughing and isolation facilities, and tie-off arrangements have yet to be finalised.

On Sunday 21st February the museum suffered its first major casualty when P 1497 in charge of driver Mike Giddey ran over a four foot long brown snake (*Demansia Textius*) on the curve near the substation. The victim was neatly beheaded by the tram and was only noticed as the return journey was being made.

MUSEUM ON NEWSREEL AND TELEVISION

The S.P.E.R.'s tramway museum has been featured on cinema newsreels and on TV in connection with the tenth anniversary of the closure of the Sydney tramway system.

Movitone News visited Loftus on Saturday 30th January and took film in which F 393 and O 1111 were the main attractions. This sequence was screened at various theatres during February.

A crew from Sydney's TEN channel 10 spent four hours at Loftus on Wednesday 17th February which resulted in a six minute feature in their News Magazine the following Sunday night. Once again F 393 was the centre of attraction although O 1111 and C 290 were prominent, with R 1740 lurking in the background.



Bob Cowing and Mike Giddey fasten roofing iron over the mezzanine mealroom and workshop area on 10th January 1971.

COMMEMORATIVE EXHIBITION

The S.P.E.R. arranged a small display in the window of the Wynyard branch of the Commonwealth Bank in George Street, Sydney from 22nd February to 8th March to commemorate the tenth anniversary of the closure of the Sydney tramways. The main items were 1in. to 1ft. scale models of R1 and P type tramcars kindly loaned by Norm Boxall and four large photos depicting the horse, steam, cable and electric tram eras. Also displayed were numerous other photographs, destination rolls and smaller items. The display was designed by Laurie Gordon who made the fixtures used, and Bill Denham who did the signwriting. Vic Solomons and Peter Kahn assisted with the setting-up and Ted Davies and Dick Jones were also involved in making the display a success.

Horse Tram at St. Kilda

The A.E.T.M. took delivery of Adelaide & Suburban Tramway Company horsecar no. 18 from the National Trust of South Australia on 27th January, 1971. The car is on loan to the Museum for an initial period of two years, and it is believed to be the only horsecar currently on display in Australia.

It is a double-deck, double-ended six window saloon car, and was built by John Stephenson, New York, about 1878, as one of the first cars of the Adelaide & Suburban Tramway Company's large fleet. It was taken over by the Municipal Tramways Trust about 1907 and used for several years before electrification was completed.

Subsequently it was purchased by Mr. William Neate of Walkerville, and used as a children's playroom, and later as a fern house. In its early years at Walkerville, an iron roof was attached to the upper deck canopy (since removed), and the car kept well painted. In about 1960, the house and land was purchased from Mr. Neate's daughter, and is now the site of the multi-story administration building of the South Australian Highways Department.

At this time, an enterprising public servant rescued the car from demolition, and subsequently it was restored by a carpenter in the South Australian Housing Trust. This work involved replacing the floor which had been damaged by water when the car was used as a fernhouse, and the fitting of new windows.

After restoration, the car joined the National Trust's display of horse-drawn vehicles situated in the Municipal Tramways Trust's Maylands Horsecar Depot.

After the Municipal Tramways Trust ceased horsecar operations at Maylands in January, 1912, the depot was handed over to the Trust's permanent way department. It is still used for that purpose today, being the headquarters of the department, now reduced to seven men, who maintain the Glenelg tramway tracks.

The lofty central bay of the old horsecar depot has been used for a variety of purposes. For some years it was used to store H-1 car 381 before it made the journey out to St. Kilda in order to make way for the horse-drawn vehicles.

When the Museum executive heard several months ago that the National Trust was looking for a new home for its vehicles, the M.T.T. needing the depot back for its own use, an offer was made to the National Trust to store the horsecar at St. Kilda. The National Trust accepted the offer, and graciously made this most interesting exhibit available to enhance the A.E.T.M. collection.



Members relax on the upper deck of Horsecar No. 18 after polishing it up for exhibition at St. Kilda. It went on display from 31st January 1971.

Photo: John Hoffman.

Developments at Loftus

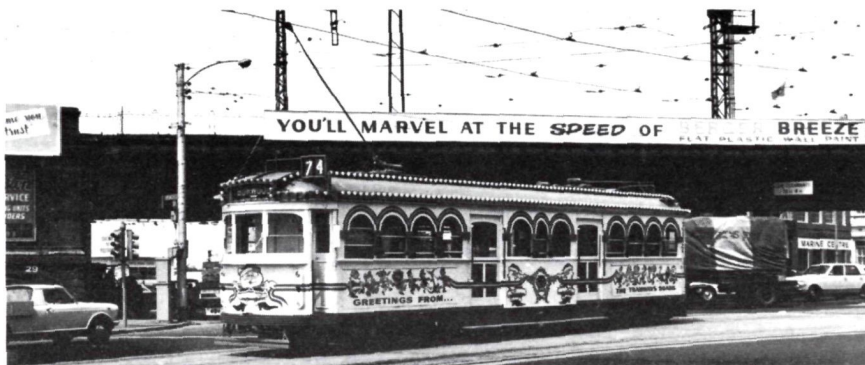
The N.S.W. Minister for Lands has advised that the proposed Southern Expressway will encroach on the tramway and that it will be necessary for the museum to be relocated when construction of the expressway is commenced. In the meanwhile no track extensions will be permitted as this would be through an area of the Royal National Park which will not be affected by the expressway and the National Parks and Wildlife Service wish it to remain in its present primitive state.

A timetable for the construction of the expressway has yet to be decided and no indication has been given as to a commencement date except a rather vague "about five years". The Minister has indicated that liability for compensation will be accepted by the Department of Main Roads and has suggested an alternative site which is currently under consideration by the Board of Directors together with a number of other sites. As the Board does not wish to prejudice negotiations at present in hand it is not proposed to release details of the areas under consideration except that the areas being considered are on the periphery of crown lands in the Sutherland Shire area and do not penetrate into the bushland as the present museum site does.

The current programme of depot reconstruction and track upgrading will continue as these are essential for the immediate protection of our trams and equipment and the safety of traffic operations. However, long term projects such as the provision of new brick toilets and shower facilities will not now be undertaken.



The ARHS special tour train and F 393 pose for photos at the S.P.E.R's southern terminus on 12th December 1970.



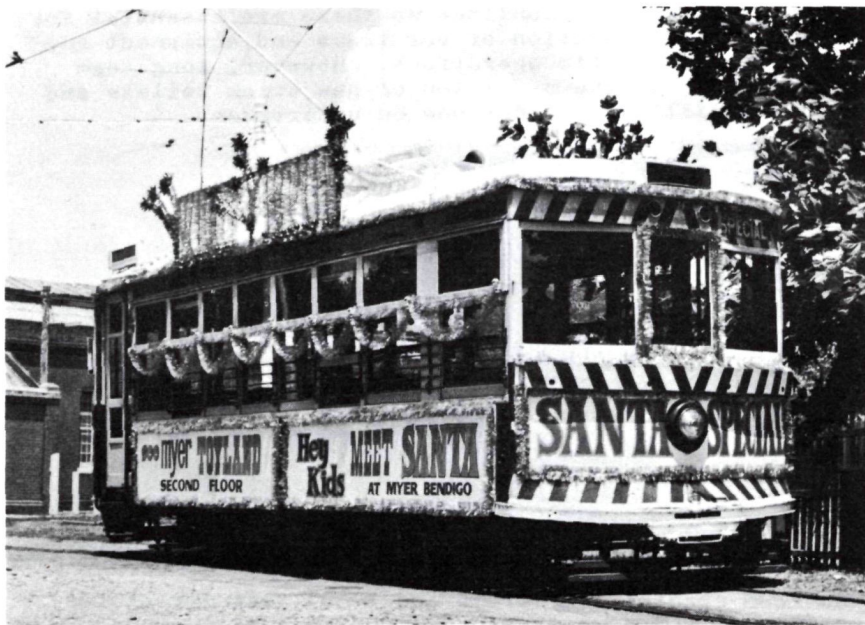
Melbourne W7 1024 in Spencer Street on 18th December. Painted white with red roof and green below floor level, the car had some 400 lights mounted along the roof. 1024 was issued to traffic from Preston Depot on 4th December, 1970.

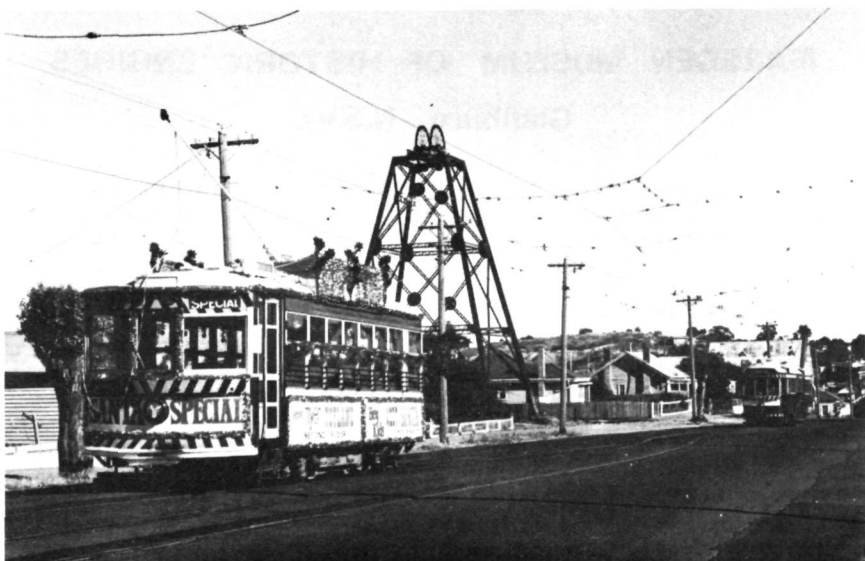
Photo: Richard Gilbert.

A Victorian Christmas (Tramway Style)

Bendigo Birney 28 leaving the depot en route to Eaglehawk on 19th December, 1970 for a Lions Club sponsored children's Christmas party.

Photo: Bob Prentice.





Birney 28 waits in Manchester Loop to await the arrival of a City bound bogie car from Eaglehawk.

Photo: Bob Taafe.



Ballarat single truck car 14 in its Christmas guise waits in the Seymour Street loop to allow a City & Sebastopol car to pass. The photo was taken on 21st November, 1970 by Bob Prentice.

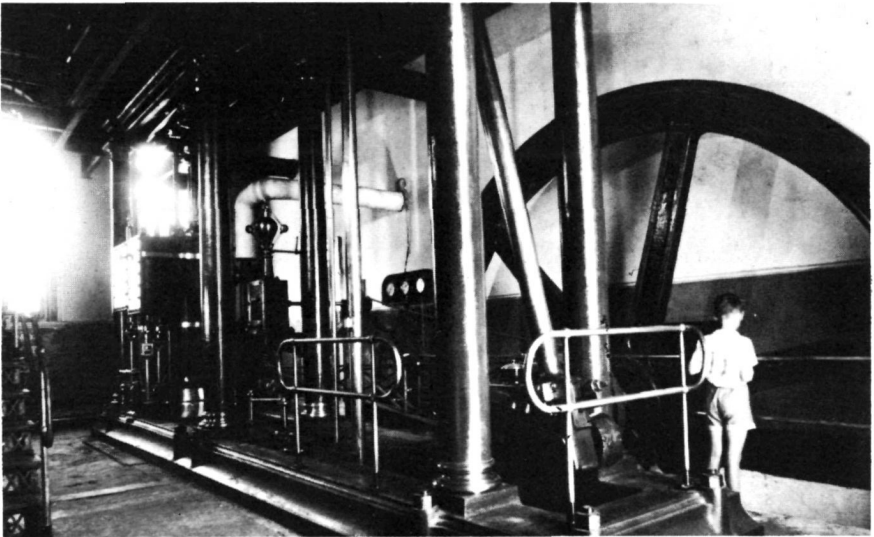
MARSDEN MUSEUM OF HISTORIC ENGINES

Goulburn N.S.W.

The interesting exhibits at the Marsden Museum of Historic Engines are assembled around the Goulburn waterworks on the banks of the Wollondilly River and are under the direction of Mr. Bruce MacDonald.

The Waterworks

When the population of Goulburn reached 5,000 in the early 1880's the Municipality engaged the Department of Public Works to construct a water supply scheme for the town. The entire cost was expected to amount to no more than £25,000 (\$50,000) but when handed to Municipal control in 1887 the expenditure for the construction of the pumping plant, reservoirs and some 26 miles of water main amounted £71,034, a liability which practically crippled the council finances for many years to come and which was expected to finally cost £179,000 over the 99 year period of the loan. The fact that ratepayers were able to avoid water rates at first, due to a defect in the Municipal laws, did not help matters but a special Act soon rectified this matter and several deputations to the Minister for Works resulted in the debt being reduced to £55,000.



The Appleby beam engine at the Goulburn Waterworks.

Photo: Mrs. M. Dick.

Many sites were considered for the waterworks, at least three on the Wollondilly River, another on the Mulwarree close to the location of the N.S.W.G.R. locomotive water supply, and an area to the east on the Bungonia Road. The site selected was upstream from the Crookwell Road crossing on the Wollondilly River where a steam beam engine and pump supplied by Appleby Bros. of London were erected in an ornate brick building above the pump well. Built by H.G. Evans of Wagga Wagga, the brick structure's design was such that when the beam bearing girders were later to be anchored to the walls by the erecting engineers, Ball & Stubbs of Goulburn, it was found that windows were located at some anchor positions, this necessitated a frame cross girders being fabricated to enable machinery erection to proceed.

Mrs. J. Bastable performed the laying of the last chimney stone ceremony on the last day of 1885, but a year was to pass before the Works Department handed the undertaking to the Goulburn Council, and for the next 27 years Mr. E. Woodhart held the position of water supply engineer.

The steam beam pumping engine was fabricated in 1883 by Appleby Brothers of London. Two Lancashire boilers, fitted with Galloway's tubes and working at a pressure of 60 lbs per square inch, supplied steam for the 120 horsepower engine, which functioned on the compound principle through two cylinders of 26" and 15" diameter with a stroke of 5 ft. 6 ins. This engine operated at the majestic speed of 18 r.p.m. with an 18 feet diameter flywheel and could pump at a rate of 30,000 gallons per hour (at 45 h.p.) through a pump located 40 feet beneath the engine room floor. This pump forced the water to a 2,788,000 gallon capacity reservoir on the hill behind the station from where it next moved through two sand and gravel filters (constructed in 1889) before passing to the service tank to gravitate into the town mains.

From the time when the waterworks were completed until late 1889, N.S.W. suffered under a severe drought and the pump pond, from which the Appleby engine drew water, although never previously known to fail, ran dry. To save the situation two horse driven chain or belt California pumps were pressed into service to draw water from an unexhausted waterhole and to prevent further failures an additional weir was rapidly constructed one mile upstream at Kossiville in 1889 at a cost of £8,000. This enabled some 60,000,000 gallons of water to be impounded, which, in 1893, amounted to six months' supply.

By 1893 the average water consumption for Goulburn, then a town with a population of 11,000, was 300,000 to 400,000 gallons each summer day and 100,000 to 240,000

gallons per winter day. To provide this volume the Appleby engine operated for 44 hours per week in winter and from 80 to 90 hours per week in summer. The operation of the engine and boilers fell to the lot of one man who no doubt welcomed or wished for cool summer seasons to lighten his working load. An unusual task was added to the engineman's work during March 1900; during the bubonic plague scare the town area was thoroughly cleared of any accumulated rubbish and rats and the waterworks' boiler fires were pressed into service to destroy the dead rats and some household rubbish.

The table below lists the pumping facilities for the City of Goulburn since 1886 and it can be seen that each apparatus has passed through a period of prime activity, then standby service until withdrawal. The Blake steam pump installed in late 1896 was officially commissioned at a ceremony in 1897 when the Mayor "turned on the steam".... Contemporary reports state that the steam was turned full on with such a jerk that the spectators thought themselves lucky to be spared to enjoy the refreshments which followed the deed!

In service	On standby	Withdrawn	Details
1886	1896	1918	Appleby steam beam engine and pump. 30,000 gallons per hour.
1896	1918	1932	Blake steam pump.
1918	1932	1947	Crompton AC 80hp motor - Kelly & Lewis pump, 50,000 gallons per hour.
1932	1947	1969	Crompton Parkinson AC 300hp motor - Clyde pump. 180,000 gallons per hour.
1947	1969		AGE AC 320hp motor - Thompson pump. 180,000 gallons per hour.
1969			AEI AC 350hp motor - Harland pump. 180,000 gallons per hour.

The Museum

Mr. Bruce MacDonald, a steam engineer and present curator of the Marsden Museum, arrived on the scene in 1957 and with the permission of Goulburn City Council restored



The Sentinel steam lorry before going on display at Goulburn. Its size can be compared with the Holden alongside.

Photo: Ken McCarthy.



The former Kiama 2ft gauge Fowler locomotive at the Goulburn Waterworks in September, 1963.

Photo: Ken McCarthy.

the old Appleby beam engine to working condition as a week-end hobby. It was a proud occasion for Bruce when the majestic engine, inactive since 1918, was demonstrated under steam in October 1958 with power from an old auxiliary boiler.

Around the nucleus of this beam engine the present collection of machinery has grown. During 1957 the 0-4-0 2ft. gauge steam locomotive, which hauled gravel trucks on the Kiama tramway until 1938, was transferred from the derelict Kiama engine shed to Goulburn to be joined by an Aveling & Porter steam road roller during May 1960. This road exhibit, donated by Bowral Council during March 1960 steamed the 53 miles to Goulburn under its own power.

The "moment of decision" was reached in 1968 when it became apparent that the work entailed in operating the museum's exhibits at weekends as well as the task of maintaining the machinery and searching out clues to new exhibits was fast outgrowing the hobby time and voluntary resources available. After negotiations, the Goulburn Council took the pioneer step in deciding to contract with Bruce on a full time basis as the museum's curator-engineer and agreed to finance the expansion of the undertaking into a seven days per week exhibition.

With the future now assured, labours reached top gear during 1969 aimed at an official opening during April 1970, the month of the Captain Cook Bi-Centenary. During September 1969 work commenced in earnest on laying half a mile of 2ft. gauge railway track linking the Crookwell Road gates with the pumping station along which four preserved locomotives could operate and in addition to the preparation of static exhibits for display, an indoor exhibition hall for photographs, model and engine parts was established.

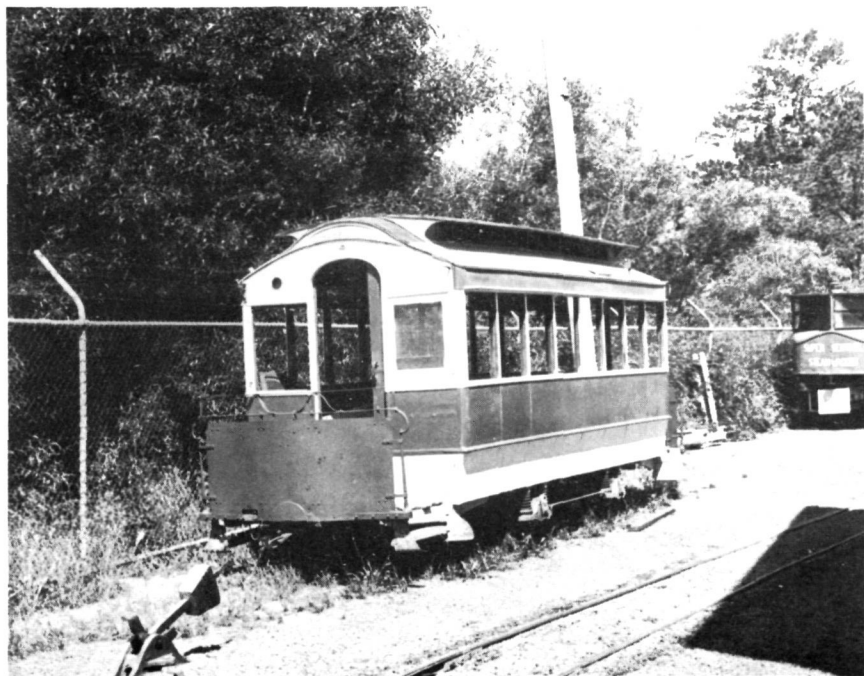
The results of years of labour at the Marsden Museum reached fruition on Saturday, 4th April 1970 when Mr. R. Brewer M.L.A. declared the undertaking open for public inspection, an event witnessed by a crowd of some 300 people (see "T.W." June 1970 p9). Almost a year has now passed and the interest and volume of visitors during that period has been more than adequate to show the Goulburn Council that its decision to establish the museum on a professional basis has been a wise one.

The Museum is currently open seven days a week from 10am until dark, although during the winter months the main exhibits only operate during the weekends. Admission to the museum is 30c for adults and 10c for children while the optional train ride costs 20c return for adults and 10c for children.



The Buffalo-Pitts traction engine behind the Goulburn Museum in January, 1970.

Photo: Ken McCarthy.



Cable trailer 110 undergoing restoration at the Marsden Museum in November, 1970.

Photo: Ken McCarthy.



The Krauss locomotive and open cars at the Crookwell Road terminus of the Goulburn museum railway.

Photo: Ken McCarthy

Exhibit	Previous Owners	Notes
Krauss 2ft gauge 0-6-0 tank locomotive. Builder's No. 3423 of 1896.	Gin-Gin Co-op Sugar Mill, Queensland.	To Goulburn 1967. Worked first official Museum train 4-4-70.
Davenport 2ft gauge 0-4-0 saddle tank locomotive. Builder's No. 1596 of 1917.	No. 65 on PWD roster; at Cordeaux Dam to 1928; Menangle Sand Coy to 1935; Quarries Ltd at Kiama to 1938, then derelict. To Parramatta Park 1958.	To Goulburn 1967. reconstructed from two identical locos B/n 1596 and 1517 at Kiama. Used as pilot engine at Goulburn.
Fowler 2ft gauge 0-4-0 tank locomotive. Builder's No. 16089 of 1923.	No. 35 on PWD roster; at Kiama with NSW State Metal Quarries to 1936; at Kiama with Quarries Ltd to 1938, then derelict to 1958.	To Goulburn 1958. Used as stationary boiler at Goulburn Aug. 1958 to Aug. 1962 Restored 1963 and named "Wollondilly".
Hudswell Clarke 0-6-0 2ft gauge tender locomotive. Builder's No. 1098 of 1915.	CSR Goondi Sugar Mill; Isis Central Mill as No. 7; Gin-Gin Co-op Mill.	To Goulburn 1969.

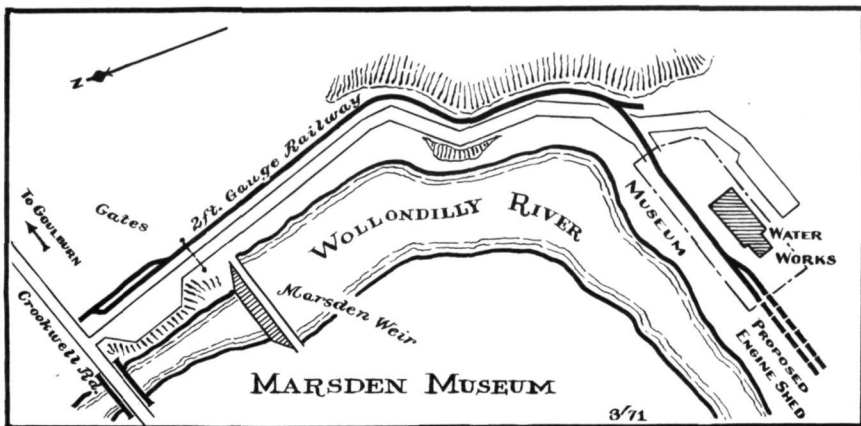


Exhibit	Previous Owners	Notes
Fowler 10 ton steam road roller. Builder's No. 16985 of 1925.	Grenfell Shire to 1937; Kogarah Council to 1963; Mittagong Council to 1965.	To Goulburn 1965. Can be converted to a traction engine.
Aveling & Porter steam road roller. Builder's No. 10637 of 1923.	Bowral Council to 1960; Out of use from 1955. On loan to Allied Works Council during W.W.II.	To Goulburn 1960. Purchased new by Bowral Council through Noyes Bros. for £1323.
Fowler Ploughing traction engine. Builder's No. 15504 of 1921.	Bought new for Murrumbidgee Irrigation Scheme. To M. Gollan, Griffith. To H. Worfolk, Griffith.	To Goulburn 1966. One of six used on M.I.A. construction.
Fowler Ploughing traction engine. Builder's No. 5933 of 1887.	Various owners, finally E. Sullivan of Coolamon.	To Goulburn 1966. A single cylinder machine used on the M.I.A. scheme.
Sentinel 6 ton steam lorry. Builder's No. 5638 of 1923.	Rockdale Council; to J. Nolan, then D. Collins; on loan to Marsden Museum of Hist. Engines.	To Goulburn 1964. Solid rubber tyres. Maximum speed 30mph.
Buffalo-Pitts traction engine. Builder's No. 10520 of 1912.	Mr. Weatherspoon of Crookwell.	To Goulburn 1965. Used as a chaff cutter. Driven under steam from Crookwell.
Saloon cable tram trailer No. 110. Four wheel, Standard gauge.	Melbourne Tramway & Omnibus Coy; then Melbourne & Metropolitan Tramways Board to 1928; Mr. Coyle of Rushworth.	To Goulburn 1970. Being adapted to ride on 2 x 2ft gauge bogies.
Saloon cable tram trailer No. 131. four wheel, Standard gauge.	Melbourne Tramway & Omnibus Coy; then Melbourne & Metropolitan Tramways Board to 1928; Mr. Coyle of Rushworth.	Expected Goulburn 1971. To be adapted to ride on 2 x 2ft gauge bogies.
Wagon type riveted boiler. Maudalay Sons & Field, London. 1836.	Goulburn Waterworks, 1836 to 1958.	Once used to drive the beam engine now in store at the Museum of Applied Arts & Sciences, Sydney.
2 x Lancashire Boilers Appleby Bros., London.	Goulburn Waterworks, 1885.	60 lbs per square inch. Galloway tubes. Used for beam engine.
Beam engine. Appleby Bros., London.	Goulburn Waterworks, 1885.	Compound. Cylinders:- H.P. 1/15" x 5'6" L.P. 1/26" x 6'0"
Horizontal engine. Hick, Hargreaves & Coy, Bolton, England.	Bell's Creek Gold Mine near Araluen 1864-1870; Wright & Bruce, Botany 1870-1963; then Baldwin of Castle Hill 1963-1970.	To Goulburn 1970. 12ft diameter fly wheel, Inglis & Spencer valve gear.

Back Page: Brisbane's Paddington Depot as it appeared in April, 1950 with handbraked dropcentre cars stored for the night. The depot was completely destroyed by fire in September, 1962 (see photo TW June, 1969 p5).

