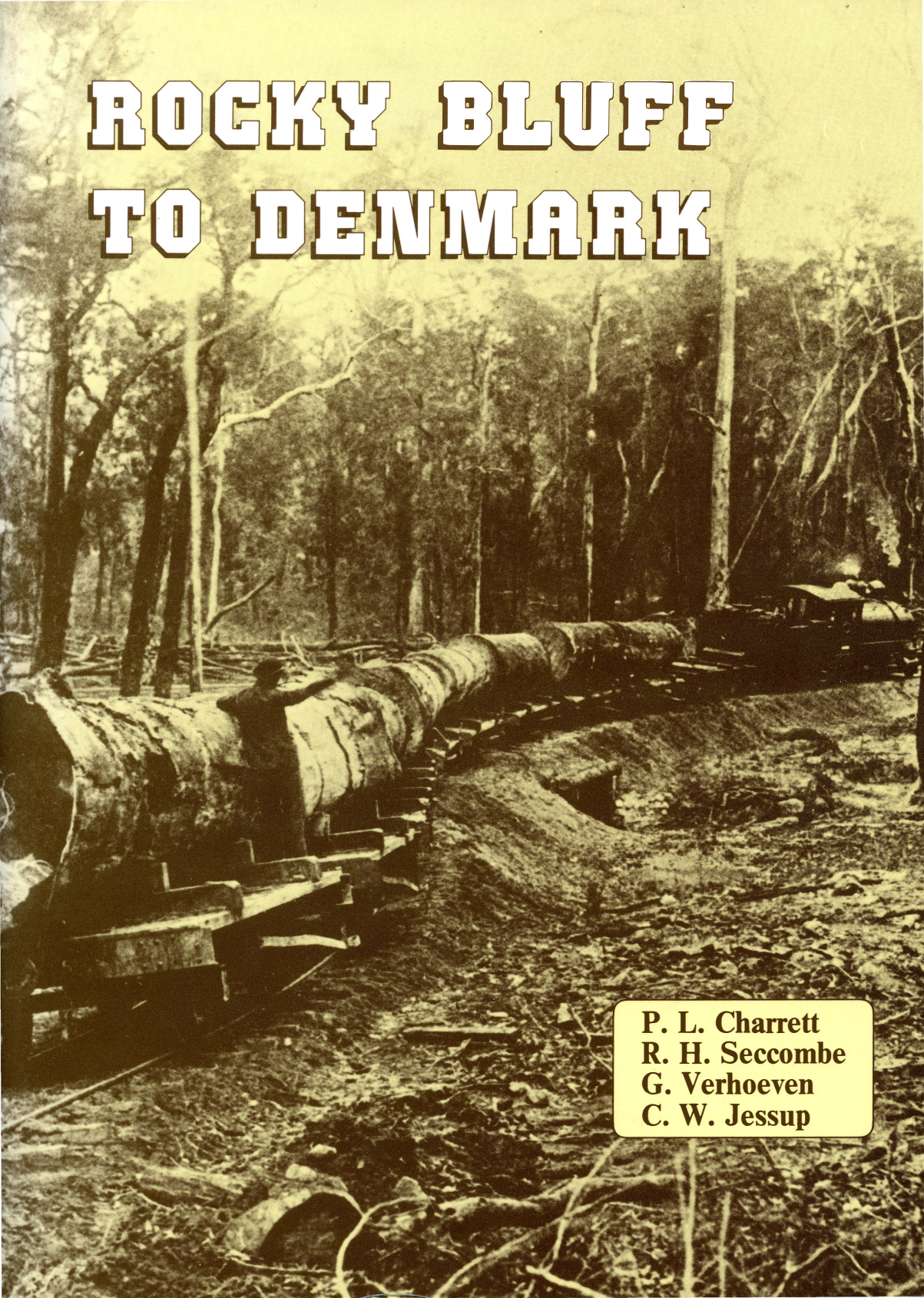


ROCKY BLUFF TO DENMARK



P. L. Charrett
R. H. Seccombe
G. Verhoeven
C. W. Jessup

ROCKY BLUFF TO DENMARK

Twenty-fifth Anniversary Selections
from "Light Railways"

P. L. Charrett
R. H. Secombe
G. Verhoeven
The late C. W. Jessup

MAPS DRAWN BY G. R. THORPE



LIGHT RAILWAY RESEARCH SOCIETY OF AUSTRALIA
MELBOURNE 1986

For reproduction, please contact the Society

Light Railway Research Society of Australia
P.O. Box 21, Surrey Hills, Victoria 3127

Copyright. All rights of reproduction reserved without written permission of the authors, except in the case of brief quotations embodied in critical reviews and for the purpose of private study and research.

First published February 1986

ISBN 0 909340 22 6

References to sums of money are in Australian pounds (£).
One pound equalled two dollars on changing to decimal currency in 1966.

Printed in Australia by Magenta Press Pty Limited, Mulgrave, Victoria.
Typesetting by Peter Boyd Typesetters, Mulgrave, Victoria.

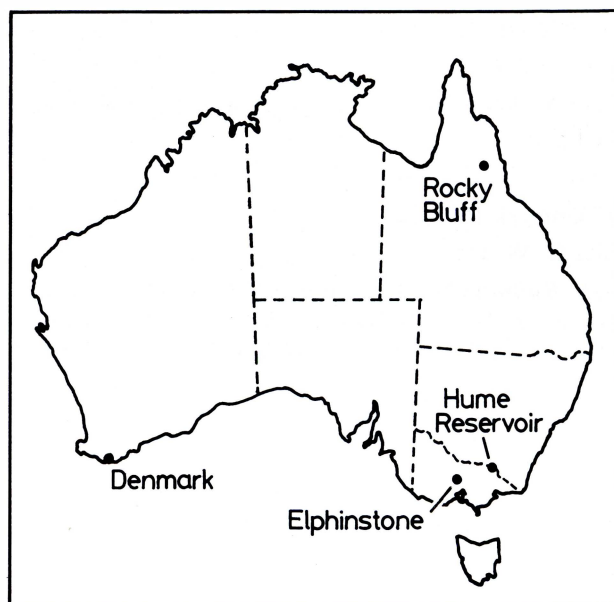
Contents

Foreword	v
1. Hume Reservoir Construction by P. L. Charrett, from <i>Light Railways</i> No. 23, Autumn 1968	1
2. Elphinstone Timber Tramway by R. H. Seccombe, from <i>Light Railways</i> No. 27, Autumn 1969	19
3. Stannary Hills and Rocky Bluff by G. Verhoeven, from <i>Light Railways</i> Nos. 30 and 32, Summer 1969-70 and Winter 1970	29
4. Millar's Denmark Railway by the late C. W. Jessup, from <i>Light Railways</i> No. 33, Spring 1970	51

Publisher's Note

To mark the Society's Twenty-fifth Anniversary we asked a number of long-standing L.R.R.S.A. members to select their choice of outstanding articles from early editions of *Light Railways*. The four articles chosen for this book were clearly the most popular choices. Each is as relevant as when originally published — a tribute to the thoroughness of the authors who set the standards for other L.R.R.S.A. contributors to follow.

Apart from corrections to typographical errors, and minor corrections to tables, the articles have not been altered in any way, hence where they describe the present-day situation, this refers to the late 1960s. The maps have been redrawn, and photographs added.



Foreword

Recently whilst trundling along in the van of one of Australia's restored light railways, I fell to a contemplation of the extensive and significant achievements made in the field of light railway research and preservation during the past three decades. In many cases the goals set years ago by adventurous amateurs have been surpassed, and operating segments of light railway history now exist for the person of casual interest to wonder upon.

It is also fortunate that during this period an increasing number of folk turned their enquiring minds in the direction of investigation, verification and documentation of the extensive use made of this form of transportation during the development of our nation. This is fortunate for, although a handful of interested researchers had recorded a deal of basic information, the field ranges so widely that the need was for a concentrated research effort by numerous people.

Twenty five years ago the Light Railway Research Society came into being and has admirably fulfilled that need.

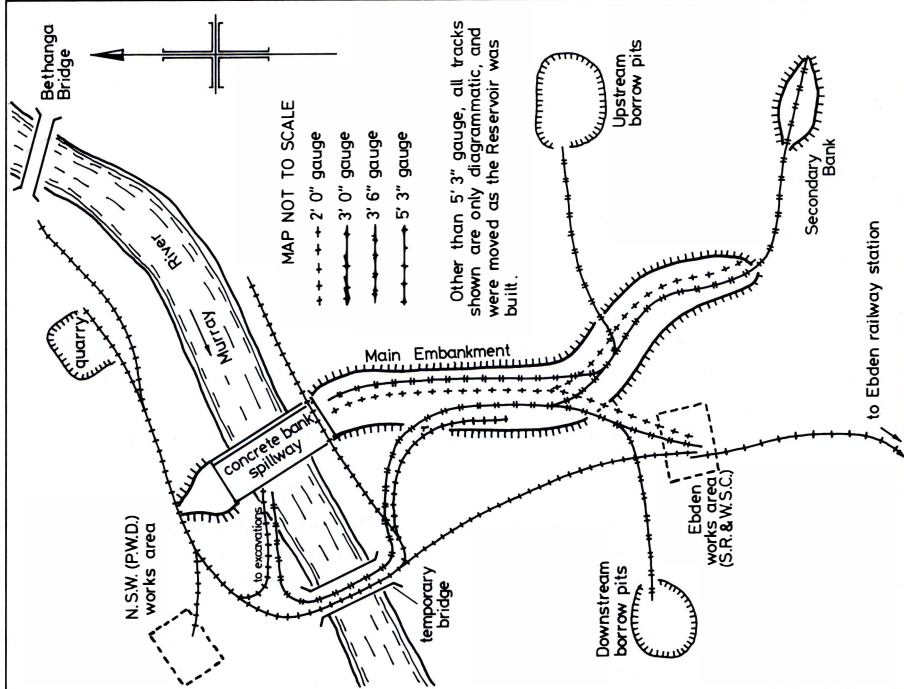
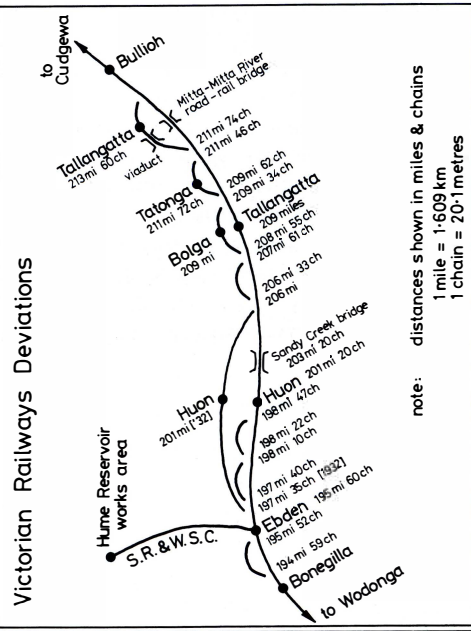
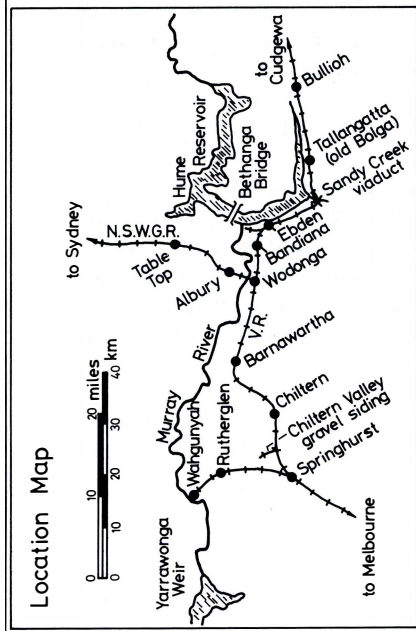
Enthusiastic Society researchers have documented a great amount of material. Not only is this technical in nature but writers have been at pains to place their histories in the context of the communities served.

Correctly, it is often said that history is unfolding at the present, but for that very reason it is often lost. Being aware of this risk the Society also has concentrated on recording contemporary history.

Above all, throughout its existence, the L.R.R.S.A. has communicated. It regularly disseminates information that others might enjoy a little known facet of Australian history and, hopefully, encourage some to add their contribution.

The Society's publications are prepared to a high standard, very well presented and read by many outside the rail enthusiast fraternity. It is indeed fitting that its twenty five years of achievement should be marked by this special publication.

Norm Wadeson
"Kuralie"
Baxter, Victoria



Hume Reservoir Construction Railways

1

Hume Reservoir Construction

by Peter Charrett

The Hume Reservoir is on the Murray River immediately downstream from the junction of the Murray and Mitta Mitta rivers and five miles east of Albury. It was constructed by the S.R.&W.S.C. and the Public Works Department of New South Wales.

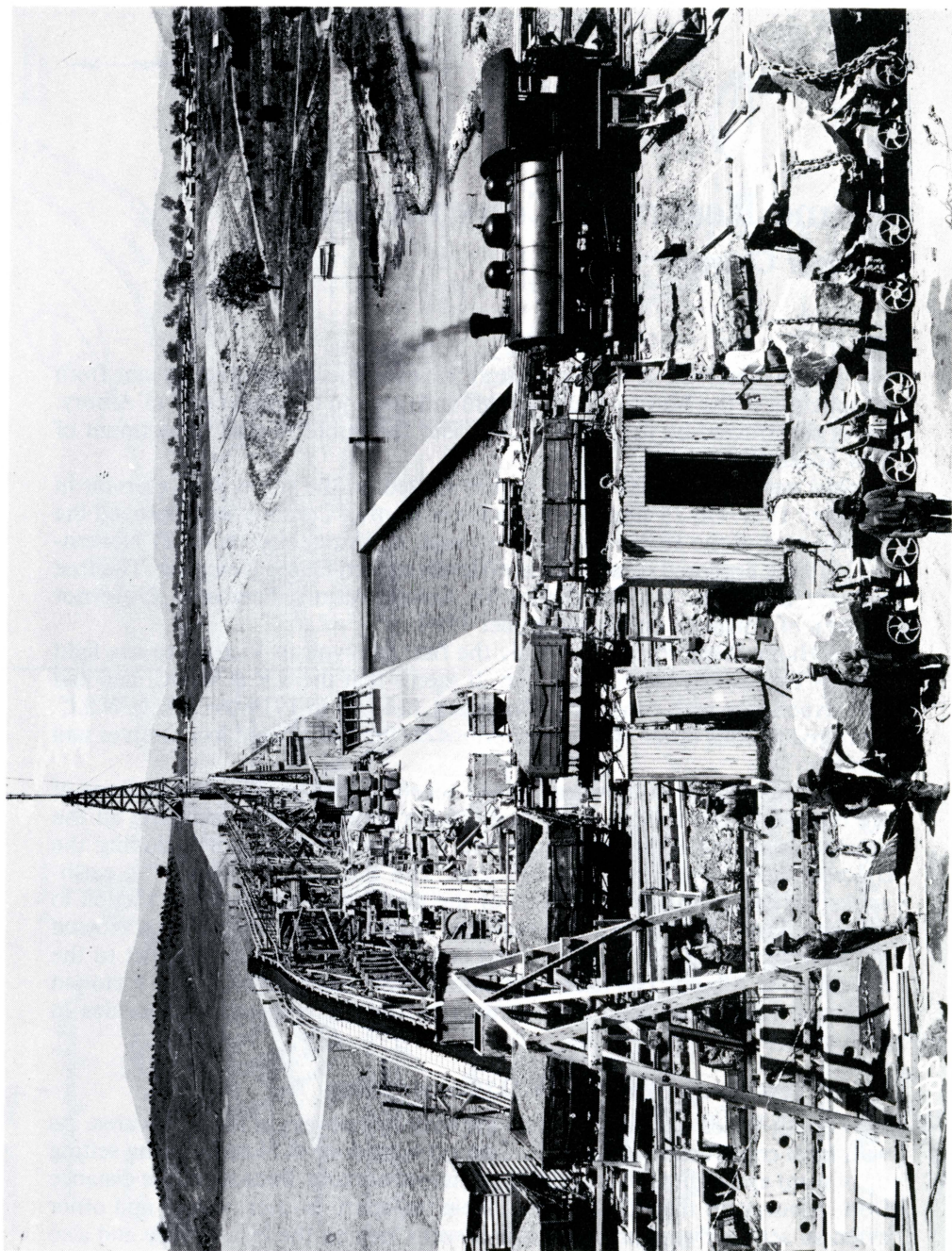
Initial survey work and boring parties started on the site of the reservoir in February 1917. On 25 April 1919 the River Murray Commission approved the construction of the Hume Reservoir storage, and subsequently on 21 November 1919 the proposed reservoir was officially named Hume Reservoir. The first sod was turned by His Excellency Sir Ronald Munro Ferguson, Governor General of Australia on 28 November 1919.

The Hume Reservoir was possibly the first reservoir in Victoria to use light railways extensively for construction. It seems that the S.R.&W.S.C. had had little experience with construction railways, because in 1919 the S.R.&W.S.C. contacted various other railway authorities on the use of light locomotives and railways.

Both construction authorities worked together, but on different sections of the reservoir. The P.W.D. built most of the concrete work including all the concrete wall and spillway through the river section, but not including the concrete corewall on the Victorian side. The S.R.&W.S.C. built the earthworks including the earthen section of the main wall from the river section to the flats. The S.R.&W.S.C. also built the Bethanga road bridge which crossed the Murray arm of the reservoir, and connected the Bethanga district to the main road at Albury. The railway deviations were constructed by the Victorian Railways. Road deviations were constructed by the respective authorities in each state.

Early New South Wales P.W.D. Construction

New South Wales was the first State to construct railways in the works area. As with most construction projects the first job to be done at Hume was the setting up of plant and laying the area out for efficient working. Because of the distance from Albury and the lack of fast suitable transport, houses, shops, and other essential services were provided at the works area on the N.S.W. side and also on the Victorian side.



A suitable quarry was found about 1¼ miles north of the dam site and in 1920 a start was made in construction of a double track 3 ft gauge railway to the works area. The railway was completed except for heavy ballasting by mid 1922, and had started supplying stone.

One locomotive was ordered in 1920 and arrived about mid 1921, apparently only to be erected and waiting the completion of the railway. 23 dump cars arrived in 1920 from existing stock, whilst 12 timber side tipping two cubic-yard capacity wagons were constructed at the works. An additional locomotive was ordered in 1922 and delivered shortly afterwards.

A road was constructed from Albury in 1919 for access. A siding was constructed in 1921 on the main southern line north of Albury for handling materials, a shed and a coal stage being added the following year. It is thought that materials were hauled to the dam site by either traction engines or horses.

N.S.W. Public Works Department Quarry

When the quarry was first opened out, the P.W.D. intended to use large stones (known as displacers), weighing between two and seven tons, in the dam. As the main railway was some 80 ft below the quarry face, a balanced gravity inclined haulage was used to transport the stones from the quarry face to the locomotive worked 3 ft gauge railway. On the balanced incline were two flat wagons, which had rails set to 3 ft gauge on their surface, so that they could carry 3 ft gauge wagons. As one of these platform wagons, carrying loaded 3 ft gauge wagons, began descending from the quarry face, it hauled the other platform wagon, which carried empty 3 ft gauge wagons up the incline. Halfway the two platform wagons crossed each other at a crossing loop.

In 1921 a 1½ cubic yard capacity steam shovel was received and placed in the quarry. This shovel was used firstly for stripping the topsoil away and preparing the quarry faces. The incline was completed about mid 1922, but probably not used extensively until the railway to the dam was completely finished in 1923.

In 1921 a Vulcan (U.S.A.) 0-4-0 ST locomotive was imported and erected ready for use. This loco was put to use ballasting the railway and in the excavations for the wall. In 1922 another Vulcan 0-4-0 ST locomotive was received and put to use, probably in excavations around the site of the wall.

The first of two travelling cranes for the quarry was erected in 1922. Another steam shovel was also placed in the quarry in 1923. In the same year twelve wagons were built at the works to convey displacers (as described above) from the quarry to the wall. The displacers were so named because they displaced concrete in the concrete part of the wall. These wagons had flat platform tops, with three rails laid across the platform, bent up at each end and with a chain to hold the displacers on. Later a further 24 wagons of this type were built.

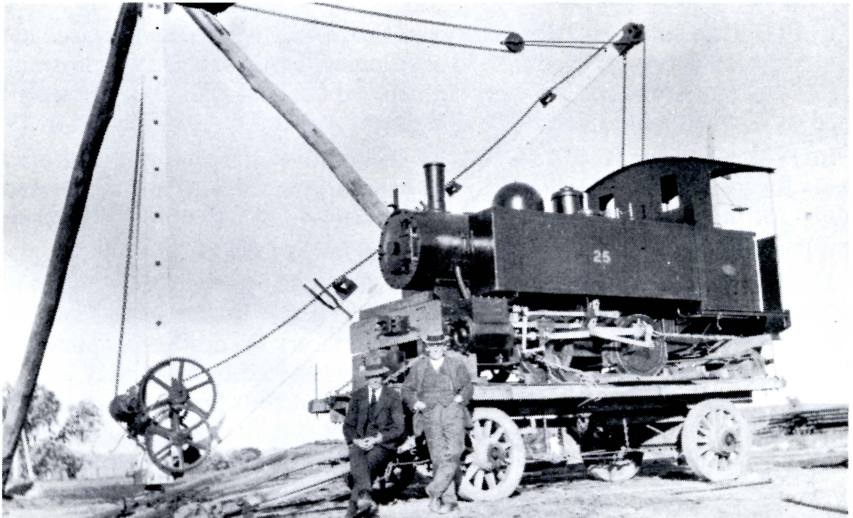
Opposite: NSW Public Works Department Vulcan locomotive with gravel train on northern side of spillway, looking towards Victoria, March 1931.

Photo: S.R. & W.S.C.



Baldwin 0-4-0 locomotive at work on the Hume Reservoir Construction. This locomotive is believed to have come from Hayden's Barwon Downs Tramway.

Photo: Late G. Eardley collection



Perry locomotive, just delivered from South Australia, on a horse dray at Ebdon.

Photo: S.R. & W.S.C.

From about 1922 the N.S.W. quarry supplied stone for both N.S.W. and Victoria, as stone in the original Victorian quarry was found unsuitable. Some stone was also obtained when excavating foundations.

During the latter part of 1926 little stone was used in N.S.W. and the output was either stock-piled or sent to Victoria. (It was during this period that two 3 ft 6 in gauge locomotives were borrowed from Victoria.) After this lull the quarry was working two shifts to supply the necessary stone.

Towards the end of 1927 the balanced incline was superseded when tracks on the quarry floor were junctioned with the main line. This enabled a greater quantity of displacers and spalls to be delivered in a quicker time, and this, together with another crane which was added about the same time, enabled only one shift to be worked. At this stage there were five cranes working in the quarry.

The quarry continued to supply displacers, spalls and crushed stone for concrete, until about 1935 when the wall was substantially complete.

Main Bank Construction in Victoria

Early in 1920 pumps were installed on the flats near the river, to lower the water in lagoons which would hamper construction. After the lagoons were pumped dry, the site of the bank was stripped of topsoil to a firm foundation material. Early in 1921 the upstream and downstream toes of the bank were built to form an enclosure against floods. Clay was obtained by wheeled scoops from borrow pits upstream of the wall, and transported in horse-drawn one cubic yard trucks (presumably 2 ft gauge, Ed.) to the bank.

In February 1922 a new method of placing clay in the bank was introduced. Two Ruston Proctor and one Bucyrus steam shovel excavated the clay and loaded it into 4½ cubic-yard capacity side dump cars, which were hauled to the bank by steam locomotives on 3 ft 6 in gauge track. The steam locomotives may have been used from late 1921, although this is uncertain. Until late 1921 only horses (or steam traction engines for heavy haulage) were used.

In February 1922 a timber bridge was built over the Murray River, about 900 ft downstream from the bank. Tracks of both 3 ft 6 in and 3 ft gauge were laid on the bridge. As soon as it was completed, Victorian 3 ft 6 in gauge locomotives transported materials from the N.S.W. excavations to the embankment on the Victorian side. Material was transported from New South Wales until about 1928, probably by both 3 ft and 3 ft 6 in gauge locos.

In August 1921 operations commenced on excavation of the concrete core wall trench which runs the length of the embankment. In May 1922 the first concrete was poured for the core wall. From photographs it appears that 2 ft gauge tracks were used for conveying the materials for the core wall. Spoil, or material from the core trench excavations suitable for the bank, was transported on 3 ft 6 in gauge.

The quarry on the Victorian side was abandoned early in 1922, because the stone was unsuitable. All the stone required was either transported from the New South Wales quarry or obtained from the main bank excavation.

Steam locos were used for transporting clay right up to the completion of the bank. From photographs it appears that the Perry locos hauled six loaded side-tipping $4\frac{1}{2}$ cubic yard wagons. 1927 to 1929 were the years when the most material was placed in the embankment, with some eleven steam locos on 3 ft 6 in gauge.

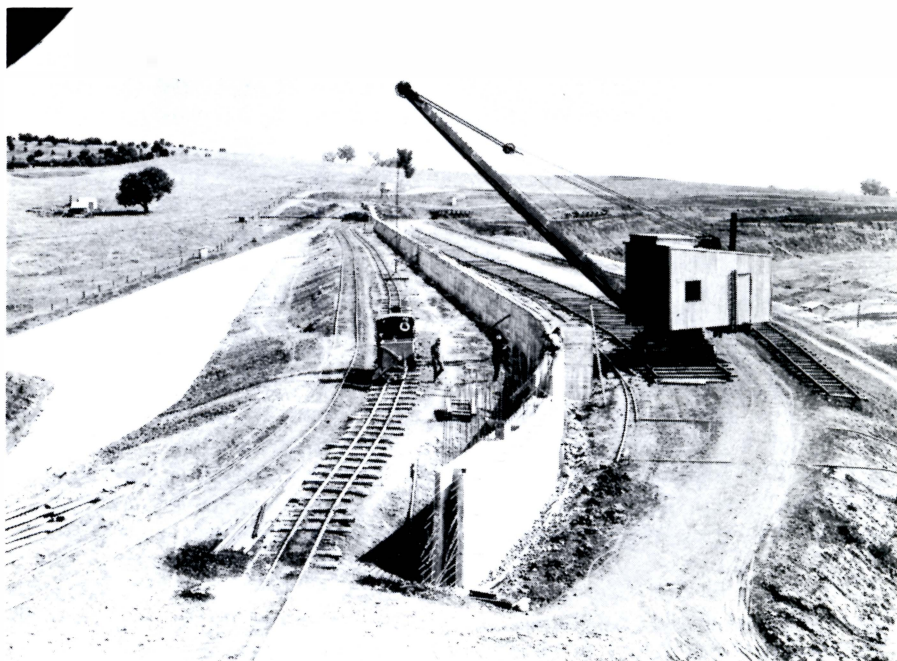
New South Wales Spillway and Bank Construction

As mentioned earlier, the New South Wales P.W.D. constructed the spillway and concrete wall through the river section. Late in 1921 the P.W.D. started excavation for the wall on the New South Wales side of the river. A concrete mixer house with trestled railway approaches, concrete lined trenches for chutes and a belting and bucket conveyor to the bank, were completed in 1923. Sand was obtained from the river and transported over 3 ft gauge track by steam locos to the mixer house.

In May 1925 the river was diverted from its original course so that the concrete spillway and bank could be built. About this time two 3 ft 6 in gauge locos were borrowed from Victoria for three months, probably to transport the spoil

Hume Reservoir Construction, showing the end of the main Victorian embankment. The 2 foot gauge locomotive is believed to be the Krauss previously used on the Torumberry Weir Construction.

Photo: S.R. & W.S.C.



away from the excavation of the river diversion channels. By late 1928 the banks constructed by New South Wales and Victoria were joined together. On 1 February 1929 the diversion channels were closed and storage of water was commenced, while construction was still being carried out.

Chiltern Gravel Heaps

In 1920 a 5 ft 3 in gauge siding was constructed from the main V.R. North-eastern line, north from Chiltern to the Chiltern Valley No. 2 gravel heap. The gravel was loaded at Chiltern Valley and transported by the V.R. to the works at Ebdon. Here the gravel was unloaded by a crane and stockpiled to be used as required. By June 1930 no more gravel was required from Chiltern Valley, and the siding was no longer maintained by the S.R.&W.S.C.

Victorian Secondary Bank

Because of a low gully behind the main embankment, a secondary bank was needed to retain the water. Construction on the bank was started about 1930 and completed about 1934. This bank was served with a 3 ft 6 in gauge track from the works, or bank area and borrow pits. Steam locos hauled the clay from the borrow pits to the bank.

Bethanga Road Bridge

In order not to inconvenience the residents of the Bethanga district by giving them considerably greater distances to travel, it was decided to build a bridge over the Murray arm of the Hume reservoir. In 1927 the New South Wales P.W.D. constructed a 3 ft gauge track from the quarry upstream to the site of the bridge. The Victorian S.R.&W.S.C. built a camp at the site of the bridge, and work commenced on the construction in 1927. Some gravel was transported from the Chiltern Valley gravel heaps early in 1927, presumably by the New South Wales locos, as the Victorian 3 ft gauge loco was not delivered until about June or later in 1927.

The steel for the bridge was transported from the works area at Ebdon over the 3 ft gauge line to the bridge site. The bridge itself was completed about 1933 and probably the line was dismantled soon after.

A locomotive was ordered by the S.R.&W.S.C. from Perry Engineering Co. South Australia, for 3 ft gauge, in December 1926. Although there was no 3 ft gauge loco auctioned in 1936, both official files and annual reports record this 3 ft gauge loco. I can only assume that the loco was converted to 3 ft 6 in gauge at the completion of the Bethanga bridge.

Deviations to Victorian Railways

For the original reservoir there was only one deviation of 8½ miles from 197½ miles to 204¾ (old mileage) on the Cudgewa line. This deviation was 1¼ miles longer than the old line. The Victorian Railways started construction of the deviation about 1929 and it was opened to traffic on 1 February 1932, all work



A general view of the Hume Reservoir main embankment construction site. Note the 2 foot gauge horse-hauled line under the bridge. On the right-hand side, in the distance, is a Perry locomotive on a rake of six trucks.

Photo: S.R. & W.S.C., from John Payne collection

being completed in December 1932. Included in the deviation was a 1,866 ft long concrete and steel bridge over the Sandy Creek and a new station at Huon.

When the capacity of Hume was increased during the 1950s no less than seven separate deviations of the line were made between Huon and Bullioh, and all were opened for traffic between 1956 and 1958. The Sandy Creek bridge was raised 8 ft and lengthened 120 ft without interruption to traffic. There was a slight deviation at Bolga which became the new town of Tallangatta and was renamed such in 1958. The siding of Tatonga was isolated on a deviation and closed. On the last deviation was the old township and station of Tallangatta together with a timber viaduct of 4 660 ft which was replaced by a combined 750 ft road and rail bridge.

2 ft gauge

In 1921 service tracks of 2 ft gauge were laid for general temporary works. At that stage the 2 ft gauge tracks were of a rather temporary nature — photos show 2 ft gauge on the top of the concrete corewall which could not have been

worked by horses or locos. I think that men would have pushed the small wagons to where they were required.

Very little 2 ft gauge is shown in the photos, and that only in connection with the concrete corewall construction. A photo taken on the end of the main embankment in 1932 shows the back end of what appears to be the Krauss loco from Torrumbarry, and a concrete carrying skip. Another photo taken in 1933 at the same place shows no 2 ft gauge at all, and the bank nearly to its full height. I think that the Krauss 0-4-0T, (see *Light Railways* No. 21, pages 23 and 24), was transferred from Maffra about 1928, and some time after 1933 was transferred to Yarrawonga Weir. This loco is a mystery, because official files and reports do not record a 2 ft gauge loco as having worked at Hume.

3 ft gauge

3 ft gauge was the New South Wales Public Works Department gauge. A 3 ft gauge line was built from the New South Wales works area to the quarry in 1920, and in February 1922 another line was built across the temporary bridge into Victoria, so that stone could be transported from the N.S.W. quarry to the Victorian embankment.

Perry 0-4-0T 3 foot 6 inch gauge locomotive on Hume Reservoir Construction work.

Photo: S.R. & W.S.C., from John Payne collection



About 1927 a 3 ft gauge line was built from the quarry to the Bethanga road bridge construction site, and another line was built to the Ebden works area to transport the steel for this bridge.

The 3 ft gauge was used until about 1936 when construction of the reservoir was almost finished.

3 ft 6 in gauge

3 ft 6 in gauge was the Victorian S.R.&W.S.C. gauge. Lines of this gauge were built in 1921 from the main embankment to borrow pits on the upstream side and to the works area. In 1922 more track was laid from the bank to borrow pits on the downstream side. In February 1922 3 ft 6 in gauge track was laid over the bridge and to the New South Wales excavations, and was probably removed about the early 1930s. Another 3 ft 6 in gauge line was also constructed from the works area and borrow pits to the secondary bank.

The 3 ft 6 in gauge probably used until about 1935, when the main embankment was completed.

4 ft 8½ in gauge

Although it has been stated at various times that there was 4 ft 8½ in gauge track, the nearest standard gauge was at Albury, and at the N.S.W.G.R. Hume Reservoir siding north of Albury, already mentioned on page 3.

5 ft 3 in gauge

5 ft 3 in gauge was used only on the two sidings — (a) Chiltern to Chiltern Valley No. 2 gravel heap, and (b) Ebden to the works area. V.R. rolling stock was used on these lines.

Permanent and Temporary Track

The track around the embankment area and bank excavations was temporary and was shifted as the bank rose. It would be impossible to give a track diagram between 1920 and 1936 because most of the track was shifting, and only a general indication could be given. The more permanent tracks were the main lines from the borrow pits to the bank, from the works area to the quarry and Bethanga Bridge, and even those would have been shifted as the need arose.

Steam Shovels and Cranes

Most of the steam shovels and cranes operated on rails of an unknown gauge — probably 4 ft 8½ in. The steam shovels and cranes could propel themselves, and so no other motive power was needed. The cranes were frequently referred to as locomotive cranes.

Locomotives

The actual number of locomotives used at Hume is rather uncertain and would appear to be 12 or 13 steam locos and two Fordson tractors on 3 ft 6 in gauge (owned by the S.R.&W.S.C.), one S.R.&W.S.C. Perry and four P.W.D.

steam locos on 3 ft gauge, and probably only one S.R.&W.S.C. steam loco on 2 ft gauge.

It has been said that at one time road Nos. 1 to 12 were given to the Victorian locos. Observations from photographs and one loco seen refute this theory. Numbers seen on locos include 22, 25, 26, 29, and 118. The number 118 seen on a Perry loco is a big mystery and could be a S.R.&W.S.C. plant number, as there never were that many locos on the S.R.&W.S.C. The other numbers could have been total loco numbers, but the S.R.&W.S.C. did not have 29 locos, unless traction engines were grouped with locos.

The P.W.D. locos carried New South Wales P.W.D. numbers, there being no separate numbering series for P.W.D. locos used at the Hume Reservoir.

2 ft gauge Locomotives

Krauss 0-4-0WT, builder's number 2437 of 1890. This loco is believed to have worked at Hume for the S.R.&W.S.C., after having been at Torumbarry and Maffra. After working at Hume it was probably transferred to Yarrawonga Weir Construction. There is no definite proof that this was the 2 ft gauge loco used at Hume, but from the photograph showing the rear view of the 2 ft gauge Hume loco, it would appear to be the same engine as that used at Torumbarry and Maffra.

3 ft gauge Locomotives

P.W.D. No.	Type	Builder	B/No. and Date	Delivered	Sold	See Note
67	0-4-0ST	Vulcan, U.S.A. 3035	3233(?) 1921	1921	Oct. 1936	(1)
68	0-4-0ST	Vulcan, U.S.A.	3232(?) 1921	1922-23	Oct. 1936	(1)
70	0-4-0T	J. Fowler, England	16130 1924	1923-24	Oct. 1936	(2)
74	0-4-0T	A. Barclay, Scotland	1900 1927	1927-28	Oct. 1936	(3)
S.R.&W.S.C. loco	0-4-0T	Perry Eng. Co. Sth. Aust	271(?) 1927	1927-28	Oct. 1936	(4)

- (1) I do not agree with the builder's numbers shown for these locos. It seems quite a coincidence that two locos have consecutive (and in reverse) builder's numbers, although delivered about two years apart, and ordered separately. Both locos sold to W. Adams.
- (2) Sold to Warburton Timber Co., later, in 1940, sold to Mt. Morgan mines. 15989 of 1922 Warburton Timber -> Mt Morgan
- (3) Sold to A. Johnson's Foundry, South Melbourne, and scrapped about 1940. There have been references to four Barclay locos, but I can find no evidence to support this contention.

- (4) One Perry loco was delivered to the S.R.&W.S.C. built to 3 ft gauge, for use on the Bethanga bridge construction. The Builder's Number quoted is only a guess, since 271 was the last of the Perrys and may have been the one built for 3 ft gauge. I think that this loco was converted to 3 ft 6 in gauge after completion of the Bethanga bridge.

3 ft 6 in gauge Locomotives

Type	Builder	B/No. and Date	Ordered	Arrived Edden	Cost	See Notes
0-4-0WT	Orenstein & Koppel	4365 1911	Nov. 1920	July 1921	£450	(5)
0-4-2ST	Baldwin	35935 1911	June 1921	Sept. 1921	£550	(6)
0-4-0	Baldwin	(?) 1891	June 1921	Sept. 1921	£835	(7)
0-4-0T	Perry	247 1923	June 1922	March 1923	£2400	(8) A
0-4-0T	Harman	1923	Oct. 1923	1924-25	£1825	(9) A
0-4-0T	Perry	(?) 1925	Nov. 1924	June 1925	£2205	(10) B
0-4-0T	Perry	265 1926	(?)	(?)	(?)	(10) B
0-4-0T	Perry	266 1926	Jan. 1926	Aug. 1926	£4679	(11) A
0-4-0T	Perry	267 1926	Jan. 1926	Aug. 1926		(12) A
0-4-0T	Perry	268 1926	Dec. 1926	1926-27	£10680	(13) A
0-4-0T	Perry	269 1926	Dec. 1926	1927-28		(14) A
0-4-0T	Perry	270 1927	Dec. 1927	1927-28		(15) A
0-4-0T	Perry	271 1927				(16) A
Bo	Fordson engine		1930			(17) A
Bo	Fordson engine		1930			

Notes —

- A Sold in September 1939 to Bingle-Davitt Machinery Co., Melbourne.
 B Sold in September 1939 to an unknown buyer.

- (5) This loco was bought from the N.S.W. P.W.D. — No. 66; and converted from 4 ft 8½ in gauge to 3 ft 6 in gauge at the Leichardt Depot, N.S.W. Its disposal is unknown, but it was probably scrapped or sold in the early 1930s.
- (6) Bought from Isis Central Sugar Mill, Qld. Originally for the Belmont Council, Brisbane. Before being placed in service at Hume it was repaired by Forward Down & Co. This loco was not sold, but remained derelict at Ebden until scrapped in the mid-1950s.
- (7) This loco was bought from Cameron & Sutherland who also made some alterations to it before sending it to Ebden. It is thought that this may have been the Baldwin tram motor, ex Bendigo, sold by Hayden Bros., Barwon Downs, allegedly to the S.R.&W.S.C. in 1919 for Hume Construction. (See *Light Railways* No. 19, page 13). The S.R.&W.S.C. has no records of buying this loco in 1919, and no records of ever buying a loco from Hayden. The subsequent disposal of this loco is unknown, but was probably sold or scrapped in the early 1930s. If it was from Hayden's tramway its builder's number would have been one of 12, 241-5 of 1891.
- (8) This loco was definitely ordered and built before the Harman, which was reported to be the pattern loco. Later sold to the Hydro Electricity Commission of Tasmania in 1944, for use at Clark Dam and Butler's Gorge.
- (9) Built and delivered after the above-mentioned Perry. Sold in 1944 to the Hydro Electricity Commission of Tasmania, for use at Clark Dam and Butler's Gorge.
- (10) Although I have shown two locos here I think there was actually only one — Builder's No. 265 of March 1925. However, most reports give 265 as being built in 1926. If it was, then the loco delivered in June 1925 would not be the same and would be the thirteenth loco, which I doubt the existence of. This thirteenth loco does not appear in official files or reports, although a driver at Hume said there were 13 locomotives. Nothing else is known about the 13th loco — builder's number and disposal unknown. Loco 265 was sold to Pioneer Sugar Mill, Queensland, as *Kilrie*, and in 1960 was converted to an 0-4-2T oil burner.
- (11) Later sold to the S.E.C. Yallourn, and in 1947 to Australian Cement Ltd., Fyansford as No. 10.
- (12) Later sold to the S.E.C. Yallourn, and in 1947 to Australian Cement Ltd., Fyansford as No. 11.
- (13) Carried S.R.&W.S.C. No. 22. Sold in 1940 to Evans Deakin, Rocklea, Queensland as LM2, withdrawn late 1965.
- (14) Sold to Mount Morgan Mines Ltd., Queensland, as 3rd No. 1 and later sold to Pioneer Sugar Mill, Queensland as No. 2 *Pioneer*.
- (15) Sold in 1940 to Evans Deakin, Rocklea, Queensland as LM1, withdrawn late 1965.
- (16) I believe that this loco was ordered for 3 ft gauge for the Bethanga bridge construction and after completion of the bridge, was converted to 3 ft 6 in gauge. Later sold to Mount Morgan Mines Ltd., Queensland, as 2nd. No. 4, subsequently sold to Pioneer Sugar Mill, as *Klondyke* which was converted to an 0-4-2T oil burner in 1962.
- (17) Tenders were called in January 1930 to supply two 3 ton kerosene Fordson engined tractors for an estimated cost of £900 to convey materials to the concrete mixer and bank for the core-wall. No other details known at this stage.

All the locos were kept in loco sheds. The New South Wales shed was built about 1921 and the S.R.&W.S.C. built one at the Ebden works about 1922, and another at Bethanga bridge about 1927.

Small repairs were done at the Ebden works and major repairs were done by the Victorian Railways at Newport Workshops. In September 1923 the boiler of one of the Baldwin locos was repaired at Newport. In September 1925 the wheels and axles of the Orenstein and Koppel loco were repaired at Newport. Shortly after this a second-hand lathe was bought from the Victorian Railways for £200. The Perry loco delivered in June 1925 was damaged while being delivered by the South Australian Railways and Victorian Railways. This loco was probably repaired at Ebden.

Some technical details of the locos —

	Perry & Harman	Baldwin 0-4-2T
Outside cylinders	10" x 15"	10½" x 16"
Valve gear	Walschaert	Stephenson
Tractive Effort (80% B.P.)	6,000 lb	
Boiler Pressure	160 p.s.i.	120 p.s.i.
Wheel diameter	2 ft 6 in	3 ft
Wheel base	5 ft	
Weight	13 to 14 tons	
Water capacity	450 gallons	
Coal	20 cubic ft	

Rolling Stock

2 ft gauge: Photographs show both side-tipping steel bins and concrete skips on a frame. These were probably of 1 cubic-yard capacity. The bins may have been removable and replaceable by the skip body.

About 1922 sixty 1-cubic-yard capacity wagons were placed in service. I think these would have been of 2 ft gauge, as the wider gauges generally used bigger vehicles than this.

In March 1922 an order was placed for 30 1-cubic-yard capacity side-tipping wagons with G.F. Sewell & Co. These were presumably half of the sixty placed in service about that time. Subsequent disposal of the 2 ft gauge rolling stock is not known.

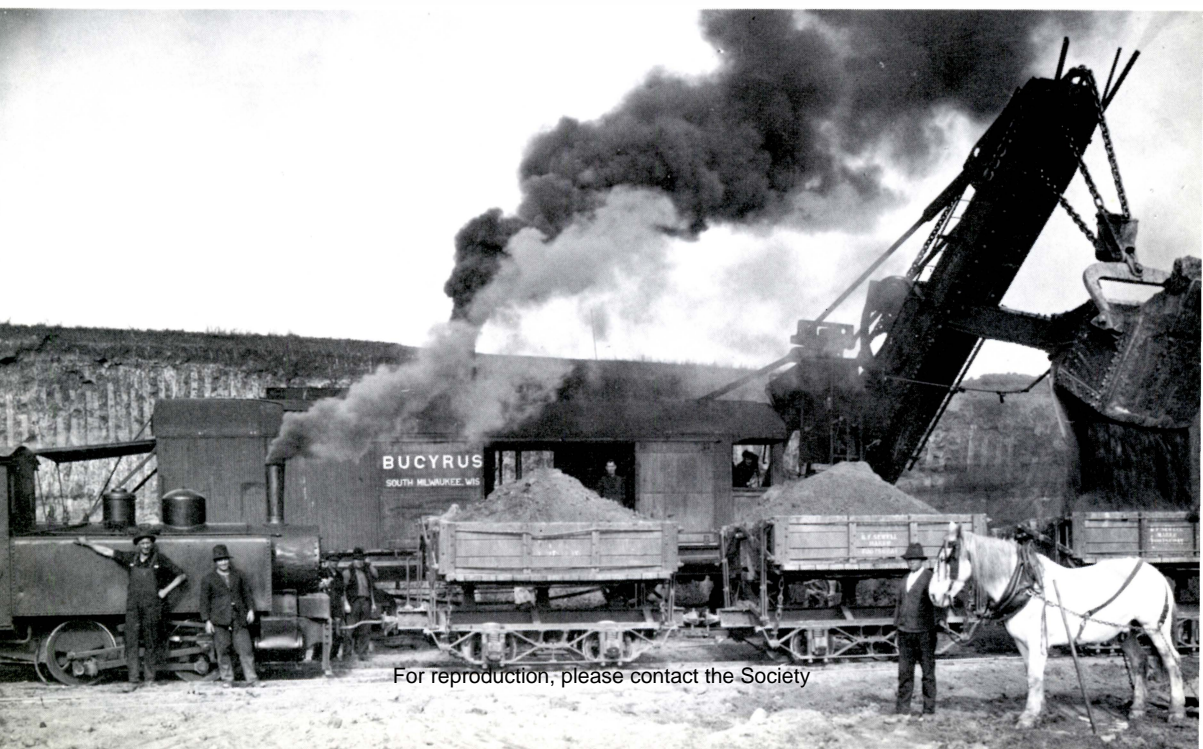
3 ft gauge: Between 1921 and 1924 about 72 timber side-tipping wagons were placed in service on the 3 ft gauge in New South Wales. Of these, 23 were from stock, and the remainder bought new.

Opposite top: Main embankment construction, Hume Reservoir. 3 foot 6 inch gauge track in foreground. A Fowler 0-4-0T can be seen on the NSW PWD line in the distance.

Photo: S.R.&W.S.C., from John Payne collection

Opposite bottom: Harman 0-4-0T locomotive and Bucyrus steam shovel on Hume Reservoir Construction. The rounded tank tops, and less-rounded dome cover distinguish this from the Perry locos.

Photo: S.R.&W.S.C., from John Payne collection



For reproduction, please contact the Society



To convey the large stones (displacers) from the quarry to the wall the P.W.D. built 12 flat-tops in 1923, as previously mentioned. A further 24 were built at the works. These were of timber construction with rails and chains on top to hold the displacers.

To convey the steel from Ebdon works area to the Bethanga bridge, flat trucks were used. These may have been the displacer trucks with the rails removed from the top, or may have been new ones.

3 ft 6 in gauge: There were about 80 timber side-tipping trucks in service. These were built new as follows — 1921, G.F. Sewell ten, and Malcolm Moore 40; 1922, G.F. Sewell 12, and Malcolm Moore six; 1924, G.F. Sewell 12. Their subsequent disposal is unknown, but they were probably scrapped.

There may have been other rolling stock, but details are not known to the writer.

The Depression

On 1 January 1928 expenditure on the project was curtailed somewhat, but not stopped altogether. The effect of this is not very apparent, but it certainly slowed down construction for a few years and would explain why the reservoir took so long to build (1919 to 1936).

Completion of Construction

Construction was substantially completed by the end of 1935 and in June 1936 the S.R.&W.S.C. sold all the surplus plant. Other plant which was still of use was transferred to other works, including Yarrawonga Weir Construction. On 8 August 1936 the Reservoir was filled to capacity. It was officially opened on 21 November 1936 by the Governor-General, Lord Gowrie.

Opposite: Main embankment construction, Hume Weir. The locomotive appears to be the Baldwin 0-4-2 originally for Brisbane's Belmont Tramway.

Photo: S.R.&W.S.C., from John Payne collection