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The signalbay at Moe on 5 September 1987. This 20 lever frame had an interesting history. The right hand half was provided in 1913 as a 10 lever B pattern frame to work the signals. In 1931 the frame was extended at the left hand end by an additional 10 lever bay. However, the first four levers were double wire levers, each of which occupies the space of two normal levers, so the frame was notionally only 17 levers long. In comjunction with the provision of the junction to the new Yallourn line in 1953, three levers were converted to A pattern levers so that the cams could work the necessary electrical equipment. The leftmost three double wire levers were removed in 1960 when the line from Melbourne was duplicated. This provided space for an additional 5 conventional levers, numbered A, B, 1, 2, and 4. By this time a little over half of the levers were A pattern, the other half were B pattern, and there was one double wire lever. In 1984 the last double wire lever was removed, providing room for an additional two conventional levers, giving a 20 lever frame. Six of the levers still had B pattern locking. At eyeheight to the left of the frame can be seen a periscope. This was provided to allow the signalman to clearly see the Receiving Sidings over the structures on the platform. The only other signalbox in Victoria with a periscopes, that I know of, was Mentone. *Photo: David Langley.*

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Minutes of Meeting held Friday November 18, 2005, at the Surrey Hills Neighbourhood Centre, 1 Bedford Avenue, Surrey Hills

Present: - W.Brook, B.Cleak, G.Dunn, C.Gordon, J.Gordon, W.Johnston, J.D.Lean, L.Savage, B.Sherry, A.Wheatland & R.Williams.

Apologies: - G.Cumming, D.Langley, S.Malpass, T.Murray, P.Silva, R.Smith, & A.Waugh.

Visitors: - V.Findlay.

In the absence of the President, the Vice – President, Mr. Bill Johnston, took the chair & opened the meeting @ 20:10 hours.

Minutes of the September 2005 Meeting: – Not available.

Business Arising: – Nil.

Correspondence: – Not available due to the absence of the Secretary.

Reports: – Nil.

General Business: – Jack McLean advised that he hopes to have the Wingrove Line operating again during 2006.

Chris Gordon advised that Solid State Interlockings (SSI) will be installed between North Shore and Werribee during the next shutdown on the Geelong Line. This shutdown is expected to be the last two weeks of December 2005 and the first two weeks of January 2006. In the meantime running is restricted to "traditional" Up and Down running on the respective tracks i.e. no bi – directional running.

Chris Gordon noted that the Ballarat Line is due to be handed back on 19/12/2005. This will include the commissioning of the new signalling from Sunshine to Ballarat including the new deviation at Bungaree as the new Main Line. The RFR control panel at Ballarat will control Deer Park and Deer Park west.

Sunbury – Kyneton reopened on 2/11/2005 with the new signalling in use but not all intermediate crossovers are in use. Kyneton – Bendigo is expected to reopen in late January.

The Gippsland Line resignalling is expected to be commissioned by June 2006 according to comments from management at V/Line Passenger.

Laurie Savage advised that work to build a passenger platform at Deakin University in Warrnambool had commenced. It is expected to be open before Christmas 2005. The platform will be located on the down side of the line and on the down side of the University entrance level crossing. Construction of the platform will be similar to the platform at Marshall. An initial 30 metre platform is now to be 140 metres with a bus stop type shelter. The adjacent level crossings are to have level crossing predictors installed. Brett Cleak advised that the University pedestrian crossing will be fitted with flashing lights but no gates. The level crossing on the Princes Highway at Warncourt will have yellow warning flashing lights installed to provide additional warning for road traffic.

Track Block on the South Geelong – Marshall section is to be commissioned on 26/11/2005. Currently the section is operated by staff and ticket.

The switch out facilities at South Geelong have not yet been commissioned as further modifications are required at Geelong. The South Geelong Up Distant Signal (two position light signal) will be mounted on the same post as the Marshall Down Distant Signal.

It was noted that the Caulfield SSI had again been out of service for an extended length of time on Cup Day due to a lightning strike. Discussion took place concerning the time taken to clip points so a service could be reinstated. The meeting was advised that permanent mechanical point clips/ lock bars installed in many locations are no longer approved for use due to lack of maintenance.

At Frankston, the Down Departure Signals and Disc Signals on the gantry at the Down end of the yard have been replaced with led units on the same gantry. The Disc Signals were replaced with light Dwarf Signals with purple lights that were not visible so high in the air.

Replacement of the Middleborough Road level crossing at Laburnum may begin in 2006. The work is expected to be done with a track shut down so road traffic facilities can be kept open. To facilitate trains terminating at Blackburn, a facing crossover into Platform No.2 for Up trains will be needed. The design significantly reduces the grade for Up trains at Middleborough Road

Work at Craigieburn is expected to begin in early 2006. The minimalist option has been adopted. This involves one trailing crossover at Craigieburn, two storage sidings, and overhead and signalling, all supported from the Down side of the line to avoid involving ARTC.

The remains of Flinders St "A" Box are being clad, presumably to hide the eyesore.

Cheltenham has again got two trains terminating in the AM peak, both extended from Moorabbin. This is not being done for the customers but is to reduce vandalism while the trains were sitting at Moorabbin.

It is expected that Spencer Street station will be renamed Southern Cross before Christmas.

The old Platform 7 & 8 digital clocks are going to Colac for use in a six day bike race.

A question was asked about the status of the crossing loop at Hearne's Oak. The meeting was advised that the crossing loop has been returned to service.

V Findlay noted that Peter Trembert of the Timetable Collectors Association had died.

Syllabus Item: - No details provided.

Meeting closed at 22:00 hours.

The next meeting will be on Friday 17 February, 2006 at the Surrey Hills Neighbourhood Centre, Bedford Avenue, Surrey Hill, commencing at 20:00 hours (8.00pm).

SIGNALLING ALTERATIONS

The following alterations were published in WN 1/06 to WN 8/06 and ETRB A circulars. The alterations have been edited to conserve space. Dates in parenthesis are the dates of publication, which may not be the date of the alteration.

23.09.2005 **Merbein** (SW 190/05, WN 1/06)

On Friday, 23.9., flashing lights were provided at River Ave (619.108 km via Lal Lal or 582.108 km via Ballan) on the Up side of Merbein. The lights are operated by level crossing predictors.

31.08.2005 **PBR - Rules & General Instructions** (A17/05)

A number of amendments were made. Among many other alterations are:

* Healthy State Warning lights at level crossings are now defined as Crossing Protection Signals are are classed as Permissive Signals
* When admitting a train to a road for which a separate signal is not provided, the Driver must challenge the signal before it may be cleared.
* Stop Boards are separately defined with additional requirements as to their observance.
* Scotch blocks are to be left open on unoccupied roads
* Certain engines may assist in the rear of Up trains departing from Lakeside

01.11.2005 **Menzies Creek** (A 19/05)

On Tuesday, 1.11., a Down Approach bell was provided. A new track circuit was provided which commences 28 metres on the Up side of the Up end School Road crossing and which terminates opposite the site of the future Down Outer Home. The Approach Bell is located at the left hand end of the frame and an indicator is provided on the illuminated diagram. It is no longer necessary for Guards to advise the Signalman at Menzies Creek of the approach of their trains.

17.12.2005 **Menzies Creek** (A21/05)

On Saturday, 17.12., the Down Approach track circuit was extended in the Up direction to the commencement of the Down Approach track for the School Road level crossing.

19.12.2005 **Menzies Creek** (A21/05)

On Monday, 19.12., two additional track circuits were provided. The first covers the main line points at the Up end of the platform, and the second covers the section between the main line points and the site of the future Down Outer Home. These track circuits are indicated on the diagram. The track circuit for the points also indicates the lie of the points (but not the plunger).

23.12.2006 **Camperdown** (SW 259/05, WN 1/06)

From 23.12., No 3 Track will be booked out of service due to an investigation into a derailment. An Up movement is not permitted to arrive into No 2 Track via the Down end points, although a Down movement is permitted to depart from the Down end.

04.01.2006 **Dingee** (SW 263/05, WN 1/06)

From Wednesday, 4.1., the Home signals will be secured at Stop due to platform work and signal frame reconstruction. Train Orders are not to be issued through Dingee, and a Signaller must be in attendance before a Train Order can be issued to Dingee.

(10.01.2006) **SWR Padlocks** (SW 5/06, WN 1/06)

SWR padlocks will replace 260, 7P and V7P padlocks securing signalling equipment such as equipment cabins, relay room doors, and location cabinets. The key cannot be removed from this type of padlock unless it is locked.

(10.01.2006) **Flemington Racecourse** (SW 2/06, WN 1/06)

Trains are permitted to stable in No 1 Track provided the train is between the baulks and Post 72 and Points 18 are reversed before the Signaller ceases duty.

Hand operated derails are provided at the Up end of Nos 2 & 3 Tracks. These must be locked on by the Signaller prior to ceasing duty when trains are stabled in these tracks, and locked off when commencing duty. Drivers must ensure that the derails have been removed prior to the train moving from these tracks.

When trains are stabled in No 4, Points 26 must be reversed and the lever sleeved prior to the Signaller ceasing duty.

11.01.2006 **Deniliquin** (SW 9/06, WN 2/06)

On Wednesday, 11.1., the Turntable Siding was booked out of service and the points clipped normal.

14.01.2006 **Werribee - North Geelong** (SW 10/06, WN 2/06)

From 0100 hours on Saturday, 14.1., the Automatic and Track Control system Werribee - Little River - Lara - Corio - North Geelong (both East and West lines) was decommissioned. The Train Staff and Ticket system was provided on the East line between Werribee (Home 22) and North Geelong (Homes 58, 60, and 62). The Train Staff is lettered "Werribee - North Geelong (East Line)". Staff Tickets will not be used and Ticket Boxes were not provided. All trains will be accompanied by a Safeworking Co-ordinator. The Staff working will be by the Signaller at North Geelong A box. However, revenue trains will only run over the East line during operational windows. These are planned to occur on Mondays and Thursdays from 1800 to 0600 (presumably the next morning). At other times the East line will be under absolute occupation issued by the Signaller at Geelong. The West line will be under absolute occupation at all times.

Posts 22, 26, & 30 at Werribee and Posts 58, 60 & 62 at North Geelong will be secured at Stop for movements to the East or West lines. The authority of the Signaller and possession of the Train Staff will be necessary to pass a signal at Stop to enter the East line. Flagmen will protect the area of absolute occupation. All other signals will be taken out of use and the signals fitted with black crosses. Points 9, 23, and 25 at Werribee and 59 at North Geelong will be secured normal by point clips. Points 1 & 9 at Little River, 1, 5, 7, & 9 at Lara, 5, 7, & 9 at Corio, and 35 at North Shore will be put in the hand operating mode and secured normal by point clips. The key to the point clips will be held by the Track Force Co-ordinator.

The level crossings at Werribee St (32.382 km), Edgar St (47.375 km), Windermere Rd (55.910 km), McClelland Ave (57.697 km) and Grammar School Rd (63.513 km) will be manually operated for movements on the East line (and normally for movements on the standard gauge). The level crossings at Browns Rd (33.525 km), Wests Rd (39.469 km), Cherry Swamp Rd (49.606 km), Peak School Rd (51.722 km), Plains Rd (53.842 km), Canterbury Rd (59.275 km), and St Georges Rd (65.528 km) will be closed until further notice.

Movements to the Phosphate and Shell Sidings outside the operational windows must be piloted by the Track Force Co-ordinator who must have possession of the Train Staff. Access to the Phosphate Siding will be by the switched locked points at the Down end, and these must be released by a Signal Maintenance Technician. Access to the Shell Siding at Corio is via Points 9. The Track Force Co-ordinator will unclip and operate the points before shunting commences and only restore the points and reclip the points when shunting has been completed.

21.01.2006 **Eltham** (SW 12/06, WN 3/06)

On Saturday, 21.1., Ground Discs 17 (Post 6), 18 (Post 5), and 19 (Post 7) and Discs 22 and 23 (on Post 10) were replaced by two position LED Dwarfs 5 (from No 4 Track to Melbourne), 6 (from No 2 Track to Melbourne), 7 (from No 5 Track to Melbourne), 10 (from No 4 Track to Hurstbridge), and 10B (from No 2 Track to Hurstbridge). The Stop indication will be a purple light.

(24.01.2006) **Camperdown** (SW 17/06, WN 3/06)

No 3 Track has been booked back into service. SW259/05 & SW 14/06 are cancelled.

(24.01.2006) **Lake Boga** (SW 18/06, WN 3/06)

The siding has been booked back into service. SW 82/05 is cancelled.

28.01.2006 **Box Hill** (SW 21/06, WN 5/06)

On Saturday, 28.1., an additional track circuit (208A track) was provided as part of the turnout fouling project.

30.01.2006 **Werribee - North Geelong** (SW 27&28/06, WN 4/06)

From 2100 hours on Monday, 30.1., the bi-directional East and West lines between Werribee and North Geelong will be returned to service. Trains will be operated on both lines under the Automatic and Track Control System with the sections Werribee - Little River - Lara - Corio - North Geelong. The Train Staff System between Werribee and North Geelong over the East Line (SW 10/06) was cancelled.

Control of Little River was transferred from Werribee panel to Geelong panel. The panel at Lara was abolished and control transferred to Geelong panel. The panel at Corio and the associated WestCad screens at Geelong signalling centre were abolished and control transferred to the Geelong panel. The train description bells will remain in use between Geelong and Werribee and the existing code will continue to be used. A Sigview monitoring system will be provided at Train Control to display the signalling operated from Geelong.

SSI replaced the existing relay interlockings at Little River, Lara, and Corio. The existing signalling was

returned to service, converted to LED heads. The Home signals at Little River are now prefixed by LTR, at Lara by LAR, at Corio by COR, and at Geelong by GLG. Controlled Automatics 4, 16, and 36 at Corio and 46, 48, and 50 at North Shore were renumbered as Automatics G2132, GG2132, G2200, G2255, GG2255, and G2256 respectively. Local phones will not be provided.

RFR Territory Boards will be provided opposite Posts 22, 24, and 26 at Werribee and Posts GLG62, GLG150, GLG152, and GLG154 at Geelong.

Elders IXL Siding will be returned to use. The switch locked points to the Phosphate Siding were returned to use.

Pedestrian gates were provided at Edgars Road (47.379km), the Down end of Little River platforms (47.600km), Windermere Rd (55.897 km), Lara Lakes Rd (57.689 km), and Grammar School Rd (63.505 km).

Level crossing predictors were provided at Edgars Rd (47.375 km) Up West line only, Lara Lakes Rd (57.689 km) Down East line only, and Grammar School Rd (63.505 km) Up West line only.

The level crossings at Cherry Swamp Rd (49.606 km) and Peak School Rd (51.722 km) will remain closed to traffic.

Diagrams 66/05 (Paisley - Werribee), 64/05 (Little River - Corio), 60/05 (North Shore - North Geelong - Fyansford), and 62/05 (Geelong) replaced 43/04, 30/03, 24/05, and 26/05 respectively.

Clauses 54, 57A, 61, 61A, 62, and 63, Section 34, Book of Rules had minor alterations.

31.01.2006 **Dingee** (SW 16/06, WN 3/06)

The Home signals were booked back into service.

04.02.2006 **Eltham** (SW 28/06, WN 5/06)

On Saturday, 4.2., an additional track circuit (26A track) was provided as part of the turnout fouling project.

05.02.2006 **Footscray - Middle Footscray** (SW 66/06 & 67/06, WN 8/06)

On Sunday, 5.2.,(sic, may be a misprint for 5.3.) an LED co-acting signal was provided for Up Automatic M244. The co-acting signal is located on the Down side of the line at the top of the cutting and is numbered M244P. Up Automatic M244 was replaced by a new signal with Westinghouse tri-colour LEDs. The banner indicator for Automatic M244 located on the western isde of the Albert Street bridge was abolished and SW 192/05 is cancelled. Amend Diagram 39/04 (Footscray - Spotswood).

05.02.2006 **Upwey** (SW 26/06, WN 5/06)

On Saturday, 5.2., additional track circuits (A41 and A43 tracks) were provided as part of the turnout fouling project.

(09.02.2006) **Maryborough - Castlemaine** (SW 44/06, WN 5/06)

The line between Moolort and Castlemaine is temporarily closed. A baulk is provided 400 metres on the Down side of Moolort. The Train Staff for the section Castlemaine - Maryborough, the Ticket Boxes, and Master Key 46 have been withdrawn. A temporary Train Staff for the section Maryborough - Moolort has been provided. Fourteen days notice is required before trains can operate between Maryborough and Moolort, and 28 days notice before they can operate between Castlemaine and Moolort.

09.02.2006 **Kyneton - Bendigo** (SW 43, 44, 45 & 46/06, WN5/06)

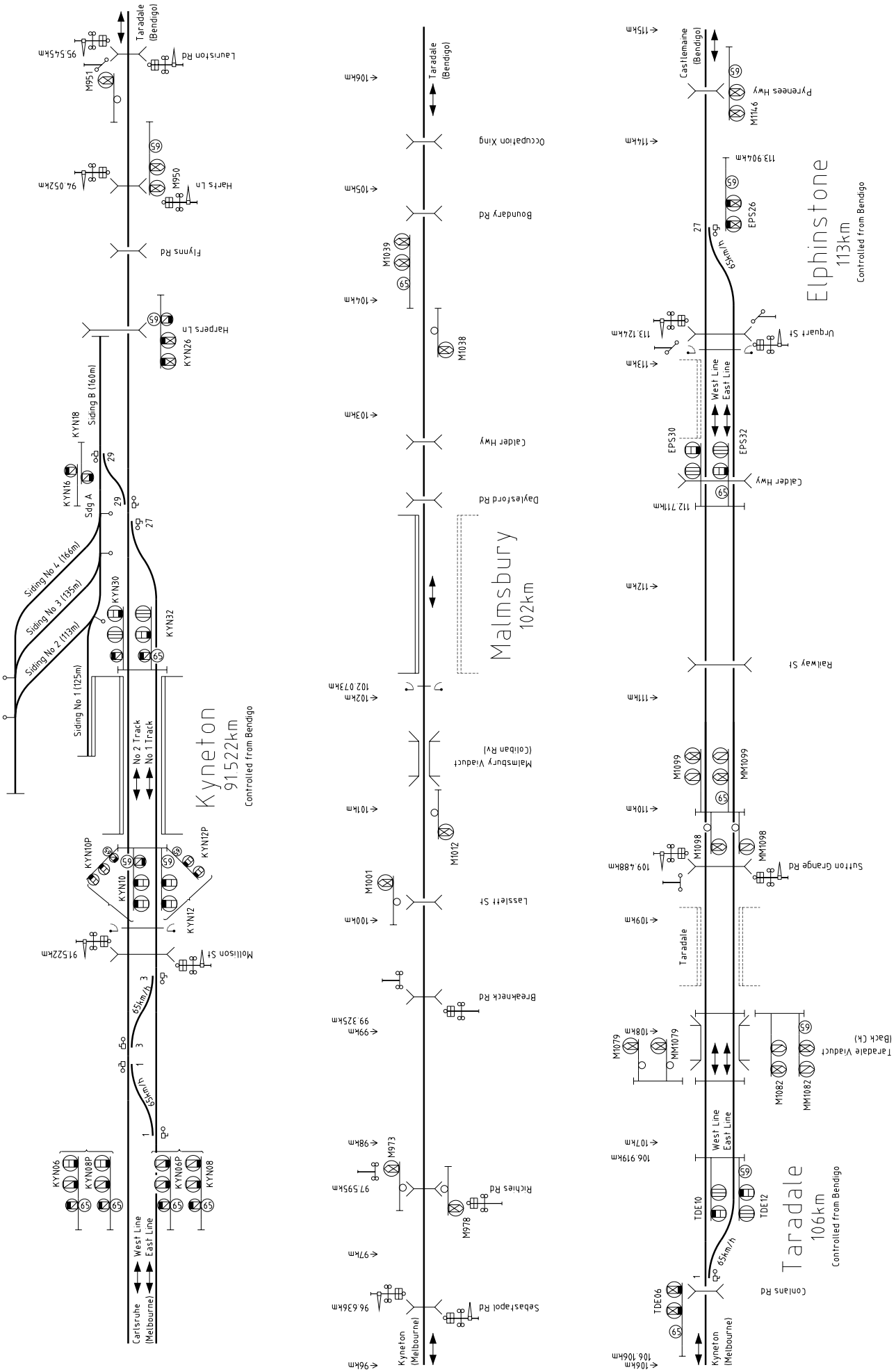
From 1800 hours on 9.2., the line between Kyneton and Bendigo was brought back into use. It will be operated under the Automatic and Track Control System with the sections Kyneton - Taradale - Elphinstone - Castlemaine - Harcourt - Ravenswood - Kangaroo Flat. The sections Taradale - Elphinstone and Harcourt - Ravenswood have two parallel bi-directional tracks named the East and West lines. Crossing loops are also provided at Castlemaine and Kangaroo Flat. The Crossing loop at Kangaroo Flat is considered part of Bendigo yard.

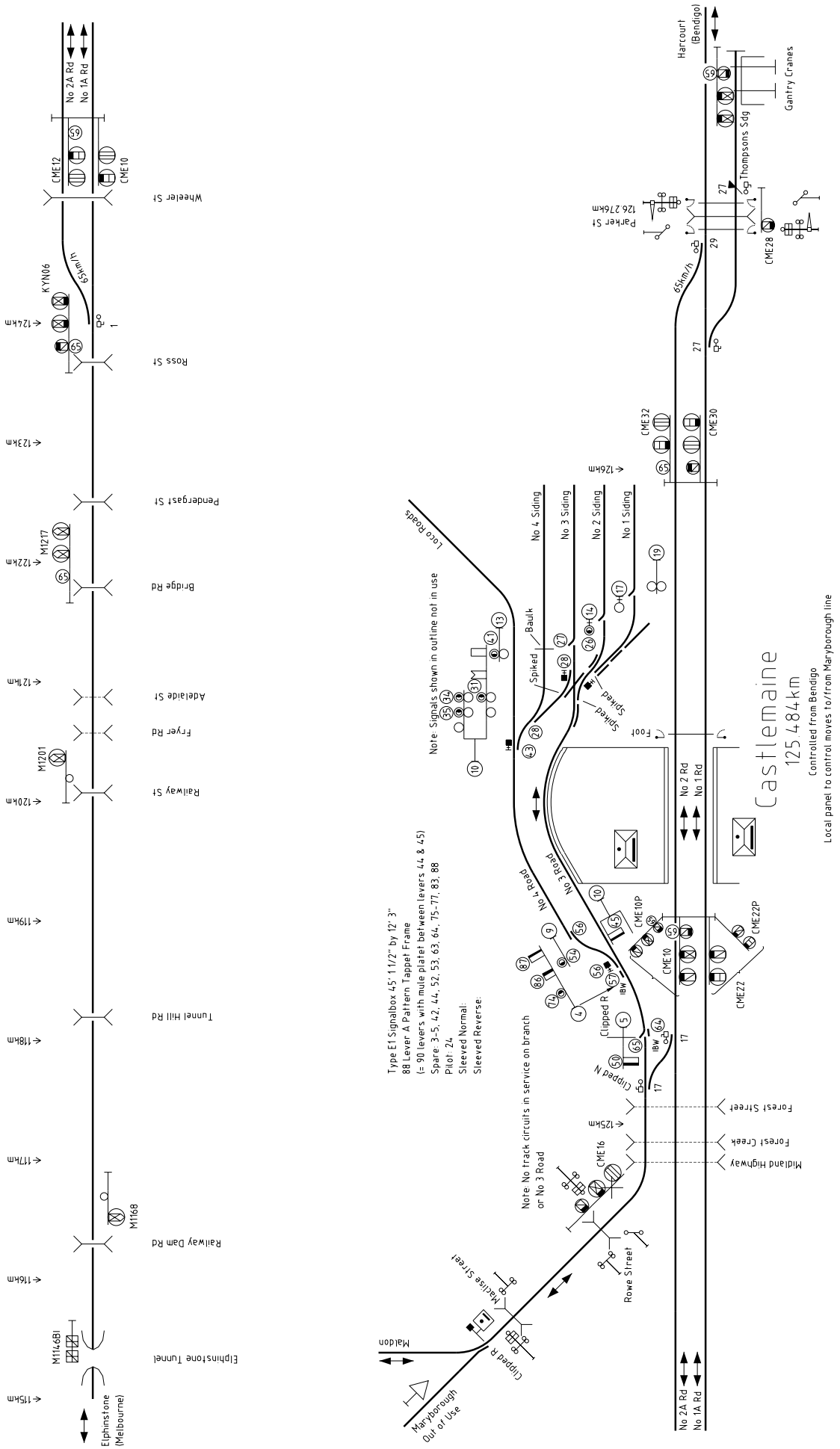
Three position LED signalling will be provided between Kyneton and Bendigo. SSI will be provided at Taradale, Elphinstone, Castlemaine, Harcourt, Kangaroo Flat, and Bendigo. Post phones will not be provided. The signalling will be operated from the panel at Bendigo and the duplicate control panel at Centrol will be used only for monitoring movements.

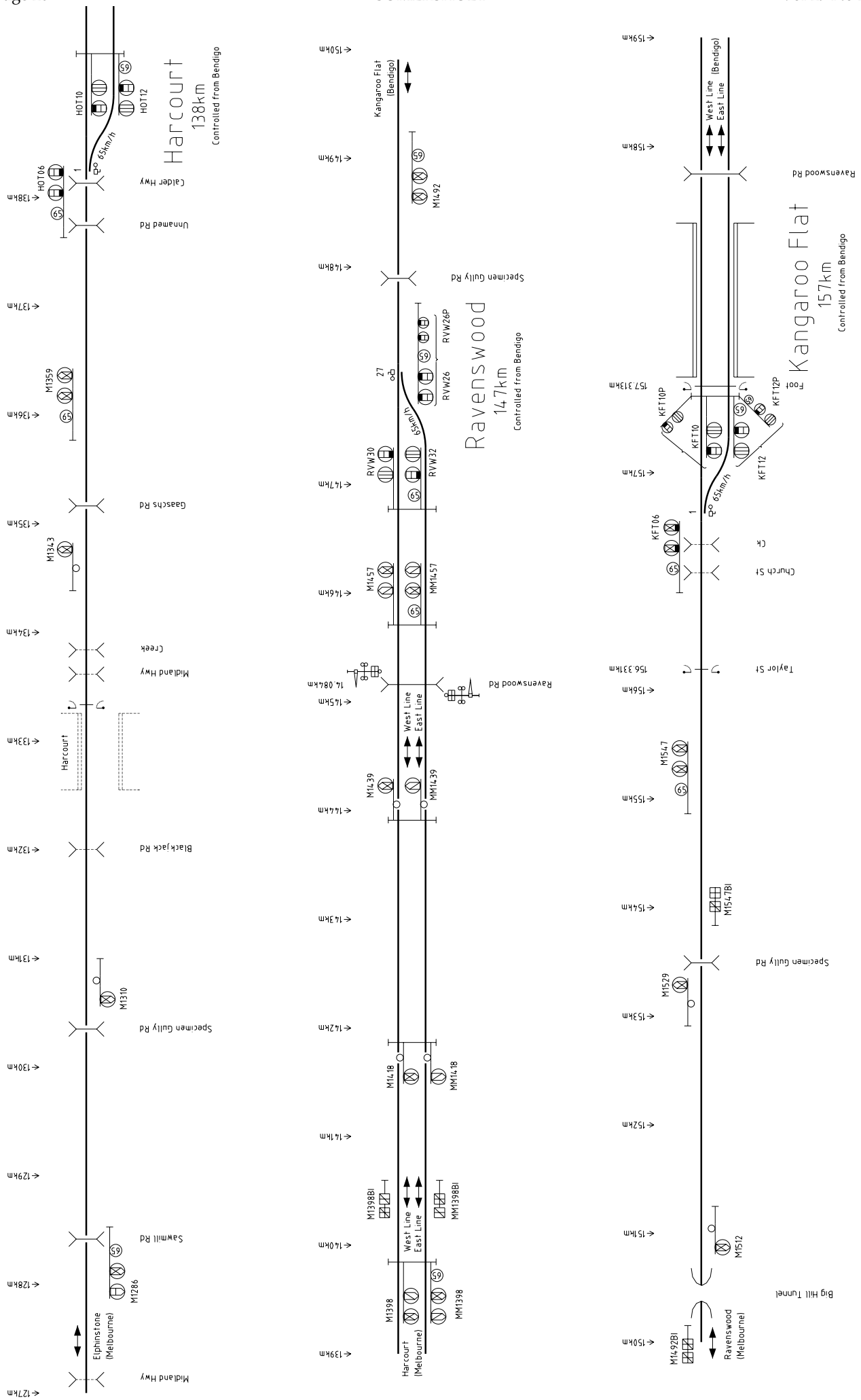
The RFR territory boards at Post KYN26 at Kyneton were relocated to Posts BDG02/06 at Bendigo. The baulks and limit of shunt boards at Kyneton (Post KYN26) were abolished.

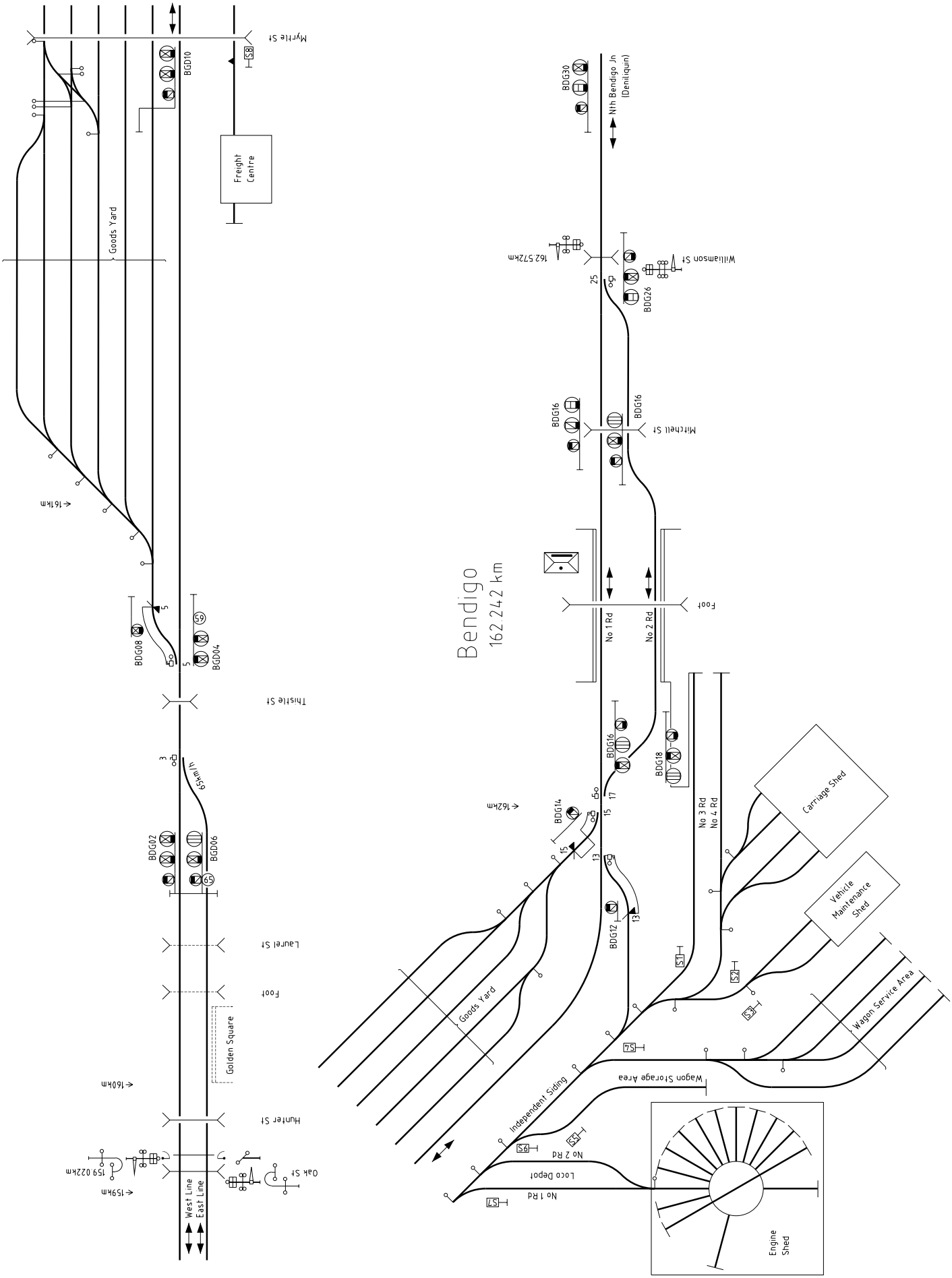
The former Down platform at Malmsbury was returned to use. The former Up platform at Elphinstone was cut back. Both platforms at Harcourt remain, but the line has been relocated to run centrally between them. Both platforms at Kangaroo Flat were returned to use.

A connection was provided to the Maryborough line at Castlemaine leading from No 2 Road. A panel is provided at Castlemaine to control moves to and from the Maryborough line. The line between Castlemaine and Moolort will be temporarily closed. The line between Castlemaine and Maldon Junction will continue to be operated by the Victorian Goldfields Railway. The flashing lights at Rowe St (126.356 km) and Maclise St (126.983 km) will be maintained by Pacific National, and at Midland Highway (127.369 km) by the Central Goldfields Railway. Points 17 will be locked normal with a point clip. Thompsons Siding was restored to use and provided with dual control point machines. A Derail and Wheel Chrowder were provided in the siding. Points 27 leading to Thompsons Siding will auto-normalise 45 seconds after a train movement clears the track circuit. Platform 1 at Castlemaine was extended 60 metres at the Down end.


Kyneton
91522km
Controlled from Bendigo
Malmsbury
102km
Taradale
106km
Controlled from Bendigo
Elphinstone
113km
Controlled from Bendigo
Taradale (Bendigo)
Castlemaine (Bendigo)
Carlsruhe (Melbourne)
Kyneton (Melbourne)
Laurriston Rd
Harris Ln
Flynns Rd
Harpers Ln
Siding B (160m)
Siding No 4 (166m)
Siding No 3 (135m)
Siding No 2 (113m)
Siding No 1 (125m)
Sdg A
No 2 Track
No 1 Track
Mollison St
Occupation Xing
Boundary Rd
Calder Hwy
Daylesford Rd
Malmsbury Viaduct (Coliban Rv)
Lassiett St
Breakneck Rd
Richies Rd
Sebastapol Rd
Pyrenees Hwy
Railway St
Sutton Grange Rd
Taradale Viaduct (Back Ck)
Conlans Rd
West Line
East Line
65km/h
25km/h


Castlemaine
125.484km
Controlled from Bendigo
Local panel to control moves to/from Maryborough line
Type E1 Signalbox 45' 11 1/2" by 12' 3"
88 Lever A Pattern Tappet Frame
(= 90 levers with mule plate between levers 44 & 45)
Spare: 3-5, 42, 44, 52, 53, 63, 64, 75-77, 83, 88
Pilot: 24
Sleeved Normal:
Sleeved Reverse:
Note: Signals shown in outline not in use
Note: No track circuits in service on branch or No 3 Road
Loco Roads
No 4 Siding
No 3 Siding
No 2 Siding
No 1 Siding
No 4 Road
No 3 Road
No 2 Rd
No 1 Rd
No 2A Rd
No 1A Rd
Spiked
Bault
Foot
Clipped R
Clipped N
IBW
Maryborough Out of Use
Malden
Marlise Street
Rowe Street
Midland Highway
Forest Creek
Forest Street
Thompsons Sdg
Gantry Cranes
Harcourt (Bendigo)
Parker St 126.276km
65km/h
126km
125km
CME10
CME10P
CME12
CME16
CME22
CME22P
CME28
CME30
CME32
M1168
M1177
M1201
M1146BI
KYN06
Elphinstone (Melbourne)
115km
116km
117km
118km
119km
120km
121km
122km
123km
124km
Elphinstone Tunnel
Railway Dam Rd
Tunnel Hill Rd
Railway St
Fryer Rd
Adelaide St
Bridge Rd
Pendergast St
Ross St
Wheeler St


Harcourt
138km
Controlled from Bendigo
HOT10
HOT12
65km/h
HOT06
Calder Hwy
Unnamed Rd
M1359
Gaschs Rd
M1343
Creek
Midland Hwy
Harcourt
Blackjack Rd
M1310
Specimen Gully Rd
Sawmill Rd
M1286
Elphinstone
(Melbourne)
Midland Hwy
Kangaroo Flat
(Bendigo)
M1492
Specimen Gully Rd
Ravenswood
147km
Controlled from Bendigo
27
65km/h
RVW26P
RVW26
RVW30
RVW32
M1457
MM1457
Ravenswood Rd
West Line
East Line
M1439
MM1439
M1418
MM1418
M1398BI
MM1398BI
M1398
MM1398
Harcourt
(Melbourne)
West Line (Bendigo)
East Line
Ravenswood Rd
Kangaroo Flat
157km
Controlled from Bendigo
Foot
KFT10P
KFT12P
KFT10
KFT12
65km/h
KFT06
Ck
Church St
Taylor St
M1547
M1547BI
Specimen Gully Rd
M1529
M1512
Big Hill Tunnel
M1492BI
Ravenswood
(Melbourne)


Bendigo
162.242 km
Myrtle St
BGD10
Freight Centre
Goods Yard
161km
BDG08
BGD04
Thistle St
69km/h
BDG02
BGD06
Laurel St
Foot
Golden Square
160km
Hunter St
159.022km
159km
Oak St
West Line
East Line
Nth Bendigo Jn
(Deniliquin)
BDG30
162.572km
Williamson St
BDG26
Mitchell St
BDG16
No 1 Rd
No 2 Rd
BDG18
162km
BDG14
BDG12
No 3 Rd
No 4 Rd
Carriage Shed
Vehicle Maintenance Shed
Wagon Service Area
Wagon Storage Area
Independent Siding
Goods Yard
No 2 Rd
Loco Depot
No 1 Rd
Engine Shed

At Bendigo, a new Westrace interlocking will be commissioned. The control room will be located at the northern end of the station platform. Homes 10, 16, 18, 22, 24, 26, 32, 34, and 36 and Dwarfs 12 and 14 were restored to use and renumbered with the prefix 'BDG'. All points were restored to use, as was the crosslocked Caltex and Workshops Sidings. Points 5, 13, and 15 will auto-normalise 45 seconds after a train movement clears the track circuit.

Where a Medium Speed indication is shown for a movement between two adjoining single line sections, Clause f, Rule 11b, Section 36, Book of Rules will apply (the Medium Speed will only apply until the train has cleared the points protected by the signal).

The open level crossings at Richies Rd (97.595 km), and Breakneak Rd (99.325 km) were provided with flashing lights.

The open level crossings at Harts Lane (94.052 km), Sebastapol Rd (96.636 km), and Ravenswood Av (145.084 km) were equipped with boom barriers.

The flashing lights at the level crossings at Lauriston Rd (95.545 km), Potts Ln (109.488 km), and Old Calder Hwy (113.124 km) were equipped with boom barriers.

Pedestrian barriers were provided at the Up end of Malmsbury platforms (102.073 km), Old Calder Hwy (113.124 km), Down end of Castlemaine platforms (126.069 km), both sides of Parker St (126.276 km), the Down end of the former Harcourt platforms (133.093 km) , the foot crossing at Taylor St (156.331 km), the Up end of Kangaroo Flat platforms (157.313 km), and Oak St (159.047 km).

Diagrams 14/06 (Woodend - Kyneton), 70/05 (Kyneton - Elphinstone), 18/06 (Elphinstone - Harcourt), 74/05 (Harcourt - Kangaroo Flat), 80/05 (Bendigo), and 16/06 (North Bendigo) replaced 26/90, 36/05, and 70/05 (sic).

Procedure 115C was added to Section 34, Book of Rules, and Procedure 116 was updated.

11.02.2006 **Jolimont** (SW 39/06, WN 6/06)

On Saturday, 11.2., track circuit 176A was provided as part of the turnout fouling project.

12.02.2006 **Macleod - Watsonia** (SW 38/06, WN 6/06)

On Sunday, 12.2., Down Controlled Automatic 110 at Macleod and Down Automatic S609 were fitted with tri-colour Alstom LEDs.

13.02.2006 **Maroona** (SW 57/06, WN 6/06)

On Monday, 13.2., a hand operated derail was provided at the Down end of No 4 Road. The Derail must be applied whenever loading operations are performed in No 4 Road. Amend Diagram 18/03 (Maroona).

(14.02.2006) **Pinnaroo** (SW 50/06, WN 6/06)

The broad gauge line has been extended beyond the border (601.389 km) to the Pinnaroo Grain loading site. The section between Panitya and the grain loading site will be worked under South Australian Yard Access Working.

The grain loading site was established in 2003 by the Australian Wheat Board (AWB) at 264.000 km (from Adelaide) between Pinnaroo and the South Australian border. A standard gauge loop siding was provided.

Five hundred metres of dual gauge track has been provided at the loading site. A train of 40 wagons and 2 G class locomotives can be accommodated. Facing Down trains 750 metres on the Down side of Panitya is a Stop board lettered "Stop - Commence SA Yard Access Working. Trains must not pass this point unless in possession of a yard access authority", and a board lettered "End SA Yard Access Working" faces Up trains. Approach section boards are provided for the level crossing at the Ouyen Highway, and a board lettered "Stop trains must not proceed past this point unless crossing has been operting for at least 25 seconds" at the Up Approach Section Board. Stop boards will be erected 25 metres from each end of the dual gauge track lettered "Stop - End of broad gauge 25 metres" and "Stop - End of standard gauge 25 metres".

Operating instruction 92 has been issued to cover the Pinnaroo Grain Flow site. Down trains will detach the leading locomotive at Panitya and place it in the siding. The second locomotive will then be used to haul the train past the siding and the first locomotive will then be coupled to the rear of the train. The train crew must then contact the AGR Train Control and obtain a Yard Access Authority. The train can then proceed at 15 km/h to loading point A. At this point the rear of the train will be clear of the Ouyen Highway approach. The train will move west, loading 22 wagons, until the locomotive is at the Pinnaroo end Stop Board. The last wagon on the train will then be at loading site B. The eastern locomotive will then be used to haul the train to load the remaining 18 wagons. Once the train has returned to Panitya, the train will pull forward and the rear locomotive placed in the siding. The train will then push back and the locomotive coupled to the front of the train. The Yard Access Authority can then be relinquished.

(14.02.2006) **Greensborough** (SW 41/05, WN 6/06)

Permission is granted to the Signaller to clear the Up Home signals before the arriving train passes the fixed Distant (modification of Rule 17, Section 2, Book of Rules).

18.02.2006 **Mooroolbark** (SW 25/06, WN 7/06)

On Saturday, 18.2., track circuit 202A was provided as part of the turnout fouling project

Continued on Page 36

Moe

The town of Moe lies just to the south of the junction of the Latrobe and Moe rivers. To the north lies the start of the rugged Australian alps, while to the south lie the Strezlecki ranges. To the east lies a spur of the Strezlecki ranges, known as the Haunted Hills. To the west lies the broad flat valley of the Moe River, once the Moe swamp, but now productive farm land.

When the Gippsland railway was planned, the obvious route east from Warragul was through the Moe swamp to Moe. From here the logical route would have been to follow the Latrobe River north east and then east to Traralgon, but this would have missed the town of Morwell. It is probably for this reason that the railway, instead, turned south east and crossed the Haunted Hills using grades of 1 in 50.

Construction of the railway through Moe was a complicated affair. Contract 636 for construction of about 40 miles of the Gippsland railway from a point about 3 miles south west of the Bunyip Hotel (the end of Contract 635) to 24 chains east of the Morwell River (the start of Contract 637) was let to Patrick, John and James Noonan on 3 December 1875 for £170,994-5-7. For whatever reason, the Noonan brothers did not make sufficient progress on their contract and on 6 January 1877 they relinquished a little over one half of their contract, being the section from 1 miles 48.31 chains to 22 miles 63 chains near the Moe River. The following day this section was let to Fishburn and Morton to construct for £89,528/19/5.

The Noonan Brothers completed the section from Moe to Morwell (where it connected with the line from Sale which had been opened on the 1 June 1877) and this was opened for traffic on 1 December 1877. On 1 March 1878 the section between Bunyip and Moe was officially opened for traffic, and this established a continuous line of rail between Oakleigh, on the outskirts of Melbourne, and Sale. Passenger traffic between Oakleigh and Sale commenced on the 4 March 1878 and goods traffic the following day. (The connection between Melbourne and Oakleigh was held up pending a government decision on how to extend the line into Melbourne past the private lines of the Melbourne and Hobsons Bay United Railway Company. The private company was eventually purchased, and the short link between South Yarra and Oakleigh was opened for traffic on 2 April 1879.)

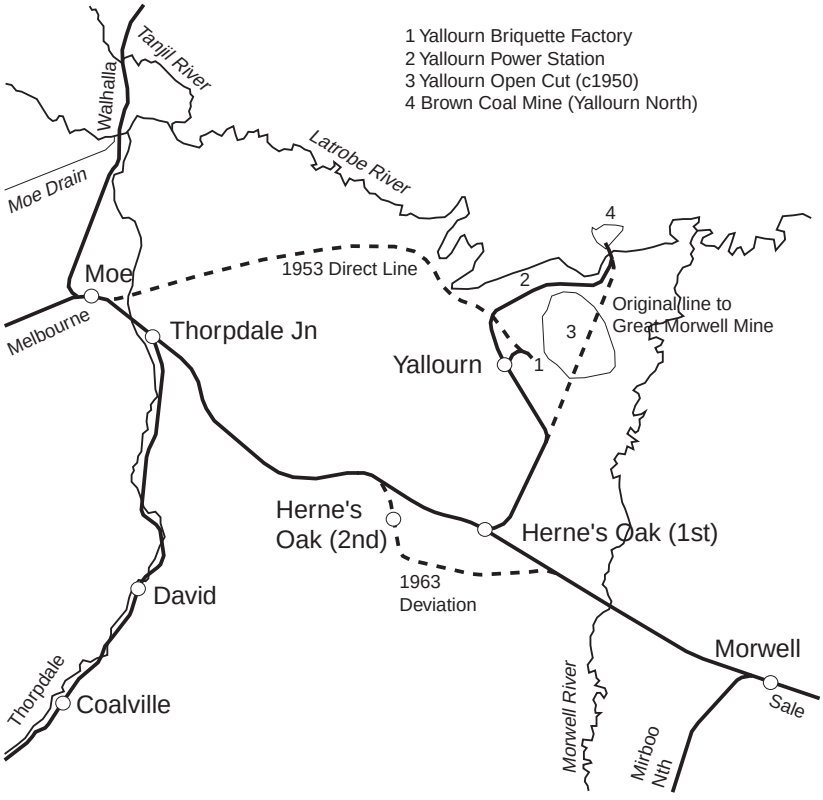
At Moe, the final return for Noonan Brothers showed that they were paid for:

* station platform, cost £165-7-7
* carriage dock, cost £104-16-2
* station ground (presumably general leveling and approach roads), cost £50-13-8
* station house, cost £8-15-8
* station master's quarters, cost £90-0-0
* erecting temporary semaphore, cost £14-2-8

At a cost of just under £9, the station building must have been primative indeed! It is interesting to note that there is no reference to any goods facilities beyond the carriage dock.

It appears that intially there was no formal safeworking protecting the trains on the new single line between Moe and Sale, nor indeed when the line was completed between Oakleigh and Sale. It was not until the Service Timetable of 1 April 1878 that the staff system was shown as in operation between Oakleigh and Sale. Moe was a staff station with the sections Warragul - Moe - Morwell. The long section between Warragul and Moe was divided in March 1880 when Waterloo (now Yarragon) was opened as a Staff station. Sometime between 1 December 1882 and 2 July 1883, the section on the Up side was divided again with the opening of Trafalgar as a Staff station. Between the 2 July 1883 and the 2 April 1884 issues of the Service Timetable, Telegraph Block was provided over the Haunted Hills on the section Moe - Morwell.

At this time Moe was a minor station between Warragul and Traralgon. The Service Timetable of 1 June 1880 shows that Moe was open for passenger traffic, but only light goods, and was provided with watering facilities for locomotives. It is likely that only the crossing loop and a loop goods siding were provided. On 1 July 1879 the Engineer for Existing Lines recorded that a Mr Burton had requested the provision of two sempahores at Moe, presumably Up and Down homes to replace the temporary semaphore of 1877. On 16 May 1884 the Engineer for Existing Lines instructed that a small cattle yard was to be erected, but it is likely that this did not go ahead at this time. However, by April 1884, sheep hurdles had been provided to load and unload sheep. On 3 June 1887 the Government Gazette notified that a contract had been let for the erection of cattle yards for £123-12-6 to J.C. Buchanen. The Engineer for Existing Lines was notified on 18 August 1887 that the yards were ready for use. Moe was still only open for light goods in October 1888 but was open for general goods traffic by 1890.



Railways in the Moe/Yallourn/Morwell area (after Herman, Brown Coal, 1952)

The Thorpdale branch

Moe became a junction on 8 May 1888 when the short branch to Thorpdale (named Warrington until 1 July 1888) was opened. For much of its length the branch followed

the Narracan Creek and a major reason for its construction was to serve the small black coal mines on the creek at Coalville.

The new branch left the main line roughly a mile on the Down side of Moe, just after the bridge over the Narracan Creek. The main line between the station and the physical point of divergence was 'duplicated' to allow the branch line to be brought into the station. On 17 June 1886, Inspector Scott asked that Driver Thomas Eustance be sent with the ballast train for the duplication of the line, and also asked for a plan of the proposed junction. The Engineer for Existing Lines instructed on 24 June 1886 that the duplication (branch) was to be located on the south (Up) side of the existing line, and on the same date there is a reference to a ballast engine in connection with the junction works. On 1 July 1886 it was noted that the junction at the end of Robb's contract had not yet been set out. The duplication had been completed by the 25 September 1886, with the exception of the side drains. The points had been installed and the line could be used for the delivery of plant.

On 5 October 1886, after a request from the Traffic Branch, the Engineer for Existing Lines instructed that a semaphore be erected at Moe, probably a home signal from the branch, to protect the station yard when the Contractor's locomotive was working. This semaphore was reported as ready for use on the 13 November, and the Signal Engineer subsequently stated that the signal could be brought into use on the 22 November. The new semaphore did not prevent Robb's engine from running through a set of locked points at Moe on 30 November.

On 10 June 1887, the Traffic Branch recommended that the Narracan line be extended to a dead end at Moe with a crossover to the main line. In 1899 this dead end was the site of the branch turntable and coal stage.

In connection with the branch, a contract was let to Miller Brothers (notified in the Gazette of 3 February 1888) to erect a residence at Moe for the Stationmaster for £509-8-10. The Locomotive Branch requested on 17 March 1888 that turntables be provided at Moe and Warrington as they considered it to be dangerous to run tender first. The estimate for the two turntables was £1400, and the provision of the turntables was subsequently approved. A contract was let to H. Hart (gazetted on 18 May 1888) for the erection of turntables at Moe and Warrington for £424-2-1. The locomotive facilities at Moe were completed by a contract let to A Meldrum (gazetted on 15 June 1888) for the erection of a fuel platform for £108-1-11, and a contract let to W.J. Love (gazetted on 28 September 1888) for construction of an ashpit for £62-3-0.

The timetable for the opening of the branch shows one train each day. The train crew was based at Warrington and ran one return trip to Moe in the morning. A second trip had been added by 1 October 1888. This departed Thorpdale (as Warrington had been renamed) in the early afternoon and ran through to Warragul before returning to Thorpdale. This would have taken the majority of the goods traffic and so little additional accommodation would have been necessary at Moe itself.

When the branch line was opened, it was worked by Staff and Ticket with a single section of Moe - Warrington. Around 1890 is was recorded that the staff sections were Trafalgar - Moe, No 1 Pattern Staff with Blue Ticket box; Moe - Morwell, No 2 Pattern with Red box; and Moe - Thorpdale, No 3 Pattern with Black box. Sometime between 12 August 1889 and 17 March 1890 Winter's block instruments were introduced between Moe and Morwell, replacing the Telegraph Block.

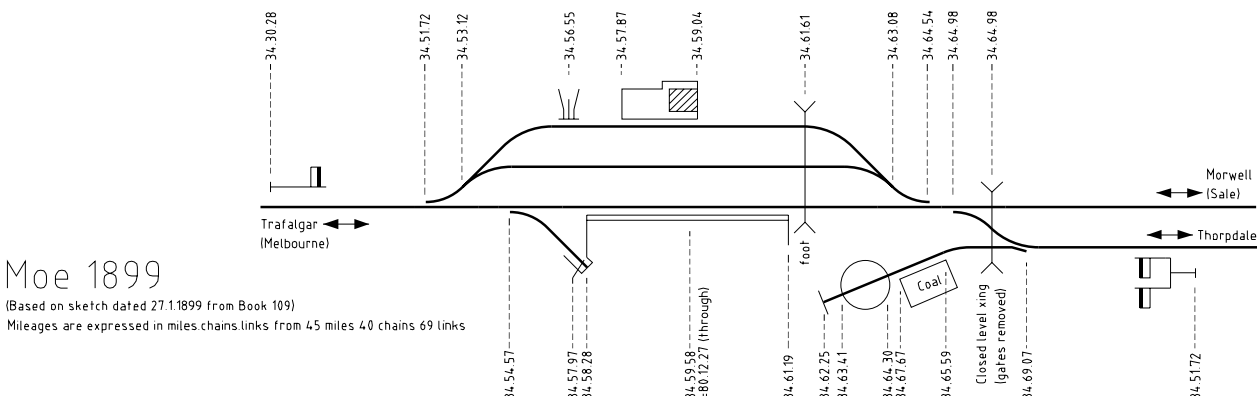
The Engineer for Existing Lines recorded on 23 October 1888 that a Mr R.M. Lloyd asked for a siding to be provided at 'his' railway crossing at Moe. A plan and estimates were provided, but it does not appear that this proposal was carried out.

On 30 March 1889 the Engineer for Existing Lines approved the provision of a wooden bracket semaphore be provided to protect the Gippsland and Narracan lines instead of the existing iron semaphore.

By August 1890 the Working Timetable shows that a third Mixed train had been added to Thorpdale line. The third trip ran only to Moe and connected with the afternoon train to Melbourne. However, by 9 May 1892 the afternoon train to Warragul had been dropped and only the morning and evening trips to Moe remained. By 21 May 1894 the service had been further reduced to a daily return service each weekday morning, and an additional evening trip on Tuesdays and Thursdays. This timetable remained in service until at least 1901.

On 13 August 1890 the 'Great Morwell Coys Jn' was opened as a Staff and Block station between Moe and Morwell. From the junction a short branch line ran north to the Latrobe River where the company had an open cut brown coal mine. The junction was renamed Herne's Oak around the beginning of October 1890. Hernes Oak was closed as a Staff and block station on 3 August 1891 after the mine closed due to floods. The mine was worked until 1899. Herne's Oak does not appear in the annual traffic returns published in the Commissioners' Report, but the outwards goods traffic at Moe collapsed dramatically between 1898 and 1900 (from 3754 tons in 1897/8, to 2181 tons in 1898/9, to 231 tons in 1899/0) which suggests that the Herne's Oak traffic was included in Moe's return, and that goods traffic at Moe itself was neglible.

On 8 July 1892 a six ton crane was provided at Moe. On 30 July 1895 the Up Home signal was replaced by two new signals. Around March 1896, the Traffic Branch asked for a plan and estimated cost for interlocking the points leading to the Thorpdale line and working them from a frame on the platform. The cost was estimated at £360 but this work did not go ahead.



Moe 1899

(Based on sketch dated 27.1.1899 from Book 109)

Mileages are expressed in miles.chains.links from 45 miles 40 chains 69 links

A sketch plan of Moe at the beginning of 1898 shows that the station had the normal two loop sidings. A goods platform, goods shed, and cattle race were situated on No 3 Road. A foot crossing at the Down end, and a carriage dock was situated at the Up end of the passenger platform. The locomotive facilities (53 foot turntable and coal stage) were situated on a spur off the Thorpdale line. A closed level crossing was situated at the down end of the yard with the note 'gates removed'. The dimensions on the diagram are expressed in miles.chains.links. Interestingly enough, the mileages are all expressed in a local mileage. The zero point for this local mileage was at 45 miles 40 chains 69 links from Melbourne which is situated just on the Up side of Garfield station and, probably, marks the beginning of Contract 636.

In 1898 it appears that a ballast train was working between Warragul and Traralgon, and in June it was working on the Down side of Moe. This lead to the issuing of special instructions to assist its working. On 1 June 1898 the Thorpdale line was divided into two safeworking sections. An Up home signal was provided at 80 1/2 miles (half a mile beyond the divergence of the Thorpdale line from the main line). The branch Staff section was truncated to start from this home signal, and the section between Moe and the home signal was worked by a Pilot Guard who had to accompany every train. At about the same time permission was given for the ballast train to shunt into the Moe - Morwell section and return to Moe without passing through the section. The engine of the ballast train had to be at the Moe end of the train. Normal block working was maintained, and the 'Is Line Clear' signal had to be cancelled when the ballast train had returned to Moe. The special working on the Thorpdale line was cancelled at the end of June 1898, the home signal abolished, and the staff section restored to Moe - Thorpdale.

On the 1 July 1899 it was recorded that Moe had three home signals, almost certainly the standard arrival home from each direction.

Electric staff working replaced the Train Staff and Ticket working between Trafalgar - Moe - Morwell and the single line block on the Moe - Morwell section on the 9 February 1900. Large instruments were provided.

The May 1903 working timetable shows that the service on the Thorpdale line had been rearranged to allow the Thorpdale engine and crew to work the Morwell - Mirboo North line as well as their own. The service was arranged that the train ran from Thorpdale to Moe in the morning, then proceeded to Morwell and Mirboo North before retracing its steps in the evening. The trains on alternate days had slightly different times. This meant that the good citizens of Thorpdale made a good connection with the morning train to Melbourne on Mondays, Wednesdays, and Thursdays, and with the afternoon train from Melbourne on Tuesdays, Thursdays, and Saturdays. The citizens of North Mirboo had a good connection with the morning train from Melbourne each day, and a good connection with the evening train to Melbourne on Tuesday, Thursday, and Saturdays.

The narrow gauge line to Walhalla

In 1900 the government authorised the construction of a narrow gauge line from Moe to serve the gold mining township of Walhalla. This meant a further expansion of the yard at Moe. A contract was let for the construction of an Engine Shed at Moe (gazetted on 8 September 1909) to T. Coate for £853/6/7. A contract was let for the erection of station buildings (gazetted on 15 December 1909) for £1626/1/10 to H.W. Sutcliffe.

By the December 1909 WTT, the Thorpdale locomotive and train crew had been relocated to Moe. They still ran both the Thorpdale and Mirboo North services. The services on both lines were similar, and were run on alternate days. On Mondays, Wednesdays, and Fridays services were provided on the Thorpdale line. On Monday and Wednesday, there were two trains, a Through Mixed in the early morning, the return working of which connected with the morning train to Melbourne, and an ordinary Mixed in the afternoon which made a good connection with the morning train from Melbourne and a poor connection with the afternoon train to Melbourne. On Fridays only the afternoon train ran. The service on the Mirboo North was similar, except the trains ran on Tuesdays, Thursdays, and Saturdays.

On 3 May 1910 the narrow gauge line from Moe to Walhalla was formally opened for traffic, although the Construction Branch had been carrying traffic prior to this. Initially the line was a single Train Staff and Ticket section Moe - Walhalla. From 20 May 1911 Harris (subsequently named Erica on 1 September 1914) could be opened as a temporary staff station to divide the section. On 12 February 1912 Harris was made a permanent staff station and a No 1 pattern Lock Staff was provided for the Moe - Harris section. Seven days later a Lock Staff was similarly provided for the Moe - Thorpdale section.

The opening of the narrow gauge probably reduced the importance of the loco depot at Moe as the train crew and locomotive of the regular service was based at Walhalla. In the May 1913 WTT the train ran as a Mixed into Moe in the morning and returned in the afternoon, except on Wednesdays and Fridays. On these days it ran as an 'ar required' goods on a path some hours later. On Wednesdays and Fridays the mail to Walhalla was carried by a tricycle based at Moe. This ran to Walhalla in the early afternoon and returned that evening.

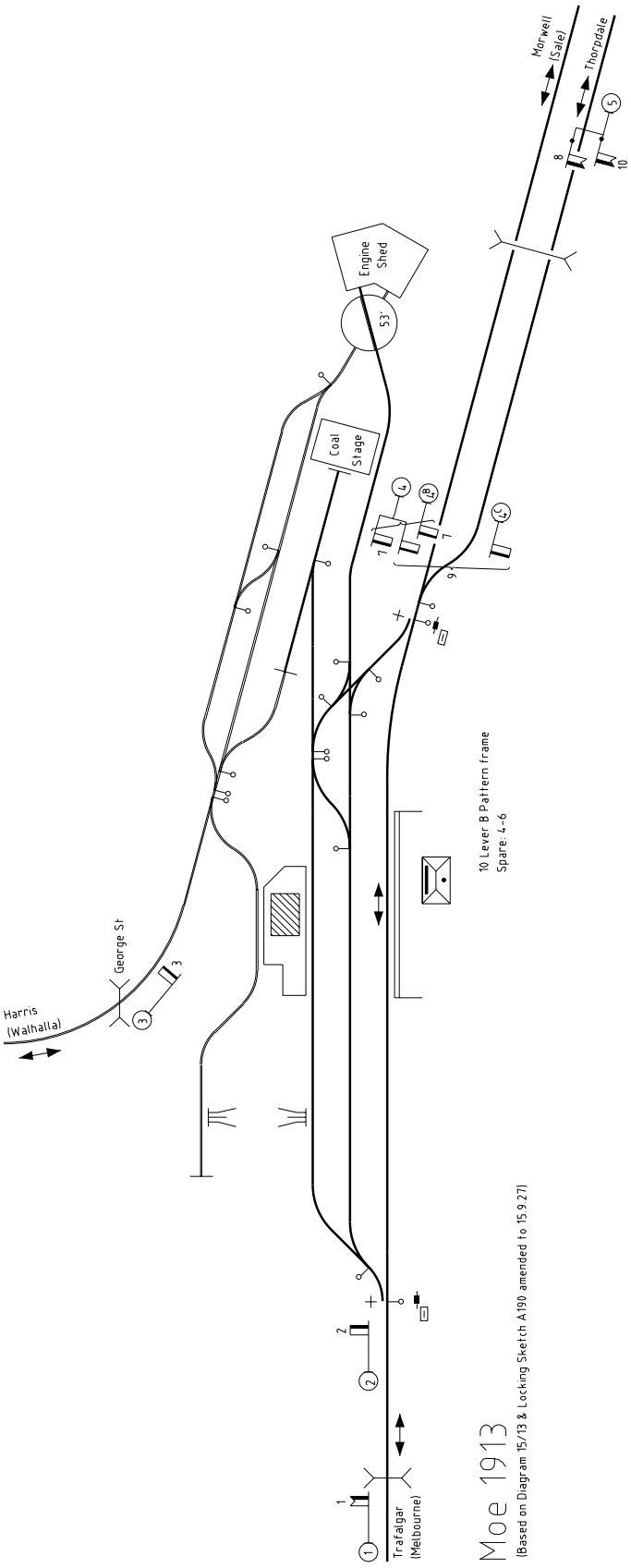
By 1913, the running of the Thorpdale and Mirboo North lines had been separated. The locomotive and train crew at Moe only ran the Thorpdale service. The afternoon Thorpdale Mixed now ran daily, but the morning Through Mixed now only ran on Moday mornings. By May 1916 the Monday morning train had been deleted and there was now only one mixed train each day. It is interesting that the timetable gave an hour for the journey, but the running schedules at the back of the timetable showed that only 39 minutes (on the Down) and 34 minutes (on the Up) were occupied in running between stations. The remainder of the time was, presumably, occupied in shunting at the intermediate stations. The timetable noted that the Mixed was to take a full goods load.

Interlocking (of a sorts)

On 13 May 1913 a 10 lever B pattern interlocking frame was provided in the signal bay of the station building. The new frame only worked the signals, and it appears that the reason for its installation was the provision of distant signals from the Melboure, Morwell and Thorpdale directions.

At the Down end of the yard, the points leading to No 2 Road were fitted with a plunger lock, but the junction points remained secured by a hand locking bar and padlock (as was standard at most small country junctions). (The Up end main line points at Moe had been plunger locked in early June 1910.)

The diagram issued for the interlocking shows that Moe had a simple three track broad gauge yard. At the Down end, No 2 Road extended to serve the coal stage, 53 foot turntable, and the two road engine shed (one road for the broad gauge engine, and one for a narrow gauge engine).



No 3 Road was similarly extended and, by a back shunt, served the narrow gauge transfer ramp. The narrow gauge yard was equally simple. Its core was a long loop siding situated between the goods shed and the turntable. An intermediate crossover was provided in this siding. Two dead end sidings were also provided. One served the transfer ramp, while the other served the back of the goods shed and the cattle race.

On the narrow gauge, Erica was closed as a Staff station in June 1916. The new Moe - Walhalla staff was a No 3 Pattern Lock Staff fitted with an Annett Key. Erica was reopened as a Staff station on 17 May 1920 and a new No 1 Pattern staff was then provided for the Moe - Erica section.

The Yallourn branch

Construction of the new brown coal mine and power station at Yallourn increased Moe's importance. During 1920, consideration was given by the Parliamentry Standing Committee on Railways as to the best way to serve Yallourn. The two options considered were to build a short line from the existing branch from Herne's Oak, or to build an entirely new line on easier grades direct from Moe. The advantage of a new line was that it avoided the 1 in 50 grades over the Haunted Hills. The disadvantage was that it was more expensive and would take longer to construct. At this time the SEC was proposing to rail 1,500 tons of raw brown coal from Yallourn daily, and the VR calculated that train running costs on the old line would exceed the interest cost on the new line at a production level of 1,100 tons. The Standing Committee, however, recommended construction of the short line off the existing Herne's Oak branch. It argued that rail access to the site was urgently required. It also noted that the coal in the new mine was very wet and the SEC might not reach these production levels. In this, the Committee showed considerable forsight as the coal proved to have a moisture content so high as to be unsaleable. Construction of the power station and new mine commenced around 1920. The old brown coal mine on the north bank of the Latrobe River was reopened to supply coal to a temporary power station for construction purposes.

At the beginning of November 1921 the Construction Branch commenced to haul goods from Herne's Oak to Yallourn. The branch line was formally opened for goods traffic on 28 November 1921, and for passenger traffic on 11 January 1922. However, the circuitous route between Moe and Yallourn meant that it was much faster by road and the passenger service was restricted to a 'Goods with Car Attached'. In the terminology of the Victorian Railways, this meant that the train was considered to be a Goods train but a passenger car was hauled for any passengers offering. A Car Goods hauled a full goods load, and, like any Goods, could be cancelled or rescheduled at any time with little notice.

The July 1923 Working timetable shows that the Yallourn service was worked from Warragul. No 2 Down Goods left that station at 0800 each day and arrived at Moe at 1033. There it attached a passenger car and waited for the Down morning Pass from Melbourne. At 1215 it departed for Yallourn as a Car Goods, and took 45 minutes to cover the 7 1/4 miles. The Up journey commenced at 1540 as a Car Goods to Moe. At Moe the train continued as a Goods to Warragul where it arrived at 1800. To give an idea how serious the Victorian Railways took the passenger service, in the Up direction the Car Goods arrived at Moe at 1630 to 'connect' with the Up Pass to Melbourne which arrived at 1839.

Production of briquettes at Yallourn commenced in mid November 1924 and was slowly increased. By December

1924, two trains were now scheduled to run to Yallourn. In addition to the Goods out of Warragul (running as a Car Goods to and from Moe), there was a daily Goods from Moe in the morning. There was also a light engine which departed Moe at 1000 and arrived back at 1755.

The 1926 'Loads of Goods Trains' shows that double heading was not allowed between Yallourn and Moe, and that a K or N class locomotive (the most powerful allowed) could haul 392 tons to Moe (about 250 tons of briquettes). This meant a minimum of two trains per day on the branch for most of the twenties. Between Moe and Melbourne, a C class locomotive could haul 554 tons (as a C class locomotive could not double head between Yarragon and Drouin). Double heading was allowed with K, N, and A2 class locomotives, but the assisting engine had to be a lighter locomotive. The heaviest train between Moe and Warragul would therefore be a K or N double headed with a DD class. This combination could haul 628 tons between Moe and Warragul, or about 412 tons of briquettes. The most likely scenario at this time was that the loading of the morning goods from Yallourn was combined at Moe with the afternoon goods and hauled to Warragul. A DD class locomotive would run from light from Warragul and assist the train into that station.

Production was slowly increased at the factory (as the briquette works was known) as the plant was fine tuned and bottlenecks eased by additional equipment. By the 1927/8 financial year the factory was producing 400 tons per day, and the next year it was 470 tons per day. Production was further increased by running the factory seven days a week in the 1929/30 financial year. Capacity reached 600 tons per day on 22 April 1930. By 30 June 1931 the full expansion had been completed and the design capacity was now 1200 tons per day.

To handle this increased tonnage, the railways gradually relaxed the restrictions on locomotives loads. Double heading was permitted on the Yallourn branch from December 1928. From March 1929 it was permitted to double head K, N, or A2 class locomotives between Yarragon and Warragul, however the load of the train engine could not be exceeded. This was, presumably a trial, as in April 1929 the load restriction was relaxed and the load of the train was to be the combined load of the two engines, less 10%, with a vehicular limitation of 40 vehicles. This increased the maximum load of an Up train to 705 tons (470 tons of briquettes) when hauled by two K or N class locomotives. From September 1929 permission was granted for Up goods trains to be assisted in the rear between Warragul and Drouin. Special loads were also issued for through trains between Drouin and Melbourne that matched the loads up the hill from Warragul. For example, two C class locomotives (one at the rear) could now haul 1025 tons from Warragul to Drouin, and the leading C class could then take this load onward to Melbourne. In practice, this would mean that an N or K class locomotive could haul a through train of 705 tons between Yallourn and Melbourne. The locomotive would be double headed from Yallourn to Moe and from Yarragon to Warragul, and assisted in the rear between Warragul and Drouin.

Towards the end of this period, in February 1931 there were three daily goods trains on the Yallourn branch. The first left Moe at 0615 and returned there at 1035. The second was the Goods ex Warragul, which ran as a Car Goods from Moe. This returned almost immediately as a Goods, probably picked up the load of the first goods at Moe, and ran through to Warragul. The third Goods left Moe 1205, returned as the Car Goods to Moe, and then continued to Warragul as a Goods. It is not obvious from the timetable how the engine of the third train returned to Moe; presumably it ran light as arranged, or attached to another train.

Perhaps of more importance at Moe railway station was the Milk train. This had been provided by July 1923 and originated at Moe at 1515 each day and ran to Melbourne picking up milk for the metropolis. The balancing empty Milk train arrived at 2345 at night. The timetable gives specific loads for this train for A2, DD, and AA class locomotives. By December 1925 the Milk trains also ran on Sunday; this was the only train on Sunday on the Eastern line beyond Pakenham and must have been one of the few Sunday goods trains in Victoria at that time. By October 1933 a passenger car was attached to the milk trains and the load was given for a D1 class engine. By December 1935 the weekday milk train had been cancelled, but the Sunday train had been upgraded to a full passenger train, still originating at Moe. This train was extended to commence from Traralgon in 1938.

On the Thorpdale line, by July 1923 the service had been reduced from a daily service to running four days a week (Monday, Wednesday, Friday, and Saturday), with a motor mail tricycle running on the other two days. This remained the service for the rest of the '20s.

By July 1923, the Walhalla line Mixed now only ran three days a week (Monday, Wednesday, and Friday) with an 'as required' Goods running to much the same times on the other three days. On the days when the Goods did not run, a tricycle ran to carry the mails. By December 1924 the service on the narrow gauge had been revised. The basic service remained the same, with the train crew being based at Walhalla, but the third service in the week had been altered from Friday to Saturday. However, for the first time additional services were shown as originating from Moe using Moe based engines and crews. These were conditional goods trains running to Erica, O'Shea and Bennett's Siding, or Platina, and return.

Very few alterations were made to Moe in this period. A staff exchange box was provided at Moe in June 1922. The Up Home from Walhalla was relocated 100 yards further out from the station on 17 December 1924. Finally, on 15 September 1927 the points to the Thorpdale line were plunger locked and protected by a bracket post with home signals reading to Morwell and Thorpdale. The plunger lock locked the points bothways and the points were worked by a Taylor lever. The new home signals were worked from the frame, and to keep the run of levers in the frame, Home 3 (from the Walhalla line) was altered to be worked by lever 5.

(To be continued)

Coal and the Latrobe Valley

It is difficult to understand the development of the railways in the Latrobe Valley without understanding the critical importance of coal to the economy. Until the 1920s, coal directly powered almost all industry, the railways, and most shipping. It also was the source of the gas used for heating, cooking, and light. The development of the electricity industry in the '20s did not lighten the dependency on coal, as most power stations were steam driven. It was not until the development of the local oil refineries in the last '50s, and production of Bass Straight natural gas from 1969, that there was a real move away from coal as an energy source. Because of this dependency, interuptions to the coal supply caused severe dislocations to theVictorian economy. As the coal came from New South Wales there was little the Victorian government could do to ensure or restore supply. The Victorian government, over a long period, tried to encourage a local coal industry. In this, the government was hampered by the normal quality and cheapness of New South Wales coal which made it difficult for alternatives to compete.

In the 1880s thin black coal seams were discovered south of Moe on the Naracan Creek. The construction of the Warrington (Thorpdale) branch allowed effective exploitation of the coal. However, the seams were uneconomic and attention soon shifted to the thicker seams located south of Korumburra. From the VR traffic returns, it appears that the heyday of the mines at Coalville had ended by 1889/90, but the mines were worked up until the turn of the century.

At roughly the same time an attempt was made to exploit the brown coal that was discovered in the Moe - Morwell area. A syndicate was granted a lease over land on the north bank of the Latrobe River in August 1887. The Great Morwell Coal Mining Company was registered soon after. Mining commenced in 1889. The company constructed a lengthy siding to the open cut mine from Hernes Oak. The branch was opened around August 1890, but was closed again in August 1891 when flooding destroyed the bridge across the Latrobe River. The mine was subsequently reopened and produced between 3,500 and just over 5,000 tons of brown coal per year. A locally constructed briquetting plant was placed in operation in 1894, but was destroyed by a bush fire in 1895. A second plant was placed in operation in 1896 and eventually produced around 2,000 tons of briquettes. In 1897 the siding was transferred to the Victorian Railways. However, the company became insolvent and was wound up in 1899. Small amounts of brown coal were mined produced over the next 15 years.

The Mines Department reopened the Great Morwell's mine and branch in 1916 due to a major strike in NSW, but the mine was closed immediately the strike was settled. It was reopened a second time in late winter 1916 due to a coal shortage caused by a lack of shipping. Production resumed in 1917 and a "considerable" quantity of brown coal was shipped to the Melbourne City Council's power station at Spencer Street. There experiments were carried out on how to effectively burn the coal.

The need to reduceVictoria's dependence on imported fuel caused the government to pass the Electricity Generating Act of 1918. This set up the State Electricity Commission (SEC) and authorised the construction of a large power station and associated coal mine between Moe and Morwell at a place subsequently named Yallourn. Site works at Yallourn commenced in February 1921.

In 1920 Railways Standing Committee noted that the SEC planned to burn around 1,000 tons of brown coal per day in the power station, sell around 1,500 tons per day to industry, and, if experiments in briquetting were successful, erect a briquetting plant and sell briquettes for dometic fuel. By 1921, these plans had changed and the SEC planned to supply 1000 tons per day of raw brown coal for use by industry, and to build a briquette factory with a capacity of 96,000 tons per annum (360 tons per day).

These plans were based on the assumption that the brown coal in the new open cut had the same moisture content, up to 48%, of the coal from the old Great Morwell mine (subsequently known as the "Old Open Cut", the "Brown Coal Mine" or "BCM", and finally as the "Yallourn North Open Cut"). It turned out that the coal from the new Yallourn open cut had a moisture content of 67%, and could not be burnt successfully in conventional furnaces. The plan to sell raw coal from the Yallourn open cut was abandoned, even though the necessary screens had been completed in 1923/4.

Indeed, the moisture content of Yallourn coal was so high that it could not even be burnt in the boilers of the new power station. The SEC took over the Yallourn North open cut on 1 April 1924 and this was used as a source of low moisture brown coal, which was mixed with Yallourn coal and burnt in the power station. Some brown coal from Yallourn North was also sold, this amounted to between 30,000 and 40,000 tons per annum towards the end of the decade. Modifications to the boilers eventually allowed them to operate on Yallourn coal from August 1928, and the Yallourn North open cut was closed again on 30 September 1930. The open cut was reopened for about 6 months in 1934 due to the flooding the main Yallourn open cut.

The briquette factory ('A' Factory) commenced operation in November 1924, with permanent production beginning three months later. The first full year of production (1925/6) saw a production of around 86,000 tons. This was increased to 110,000 tons in 1926/7, and 122,000 tons in 1927/8. This represented a production rate of 400 tons per day. The installation of further equipment raised this to 470 tons per day in 1928/9. The next year production was increased further by working the factory seven days per week. Additonal equipment was brought into service in April 1930 to allow a daily production level of 600 tons per day, and work was in hand to double the size of the factory. By 1931/2 'B' Factory had been completed and production around 1200 tons per day, its design capacity. Towards the end of the decade annual production was further increased by the simple expedient of again working the factory seven days per week. Annual production was then, and remained for the duration of the war, around 420,000 tons per annum.

Curiously, the SEC published copious production statistics all through the war. In December 1940 the government authorised an extension to the briquette works to increase capacity to 1500 tons per day, but difficulty in manufacturing the equipment meant that 'C' Factory was not commissioned until 1945/6, at which point production increased to just under 600,000 tons per annum (annual production varied significantly depending on strikes and production problems). During the war briquette production for household consumption had ceased, and roughly half of the briquettes were used by industry, and the remainder by the SEC's power stations.

In 1940/1 the Government directed that the Yallourn North open cut be prepared for emergency production of 2000 tons of brown coal per day. Production at the mine recommenced in September 1941, but remained at low levels until around 1946 when it was producing around 2500 tons per week and it was planned to increase production to around 5000 tons per week.

In 1941 a government committee recommended erection of an additional three briquette factories with a total capacity of 4,500 tons per day. This was accepted by the government in 1943, and by 1945/6, the SEC proposed to construct a new brown coal mine and 1,300,00 ton per annum briquette works at Morwell. Apart from increased industrial and domestic demand, the SEC was planning new briquette fired power stations at Geelong, Ballarat, and Redcliffs, as well as supplying the existing stations at Newport, Spencer Street, and Richmond. The immediate post war era saw continuous industrial upheaval on the NSW coalfields, culminating in the great 1949 coal strike from 27 June 1949 until the 15 August 1949. Approval by the Victorian government was given in December 1950 to double the capacity of the new Morwell factory to 2,600,000 tons per year, or 8,000 tons per day. It is interesting to note that at this time, the Morwell project was entirely concieved as a briquette production facility (although power would be generated as a side effect of producing briquettes).

However, in 1951/2 the delivery of machinery for the new factory was deferred, and the next year the project was virtually halted due to restrictions in capital funding. Construction did not resume until 1958/9 and, by this date, the priority was given to power production. Briquette production trials commenced by mid 1959.

During 1959/60 the government cancelled half of the new briquette works, and production capacity was reduced to the original capacity of 1,300,000 tons per annum. The SEC stated that this was due to increased competition from fuel oil and black coal. By this time several oil refineries were operating in Australia and fuel oil was becoming readily available. The NSW coal fields had also settled down and the quality of the coal had improved with the introduction of coal washing facilities. However, the SEC also revealed in 1960 that impurities in the coal from the Morwell open cut meant briquettes made using coal from that source caused fouling in boilers. I believe that this problem was never solved, and the Morwell briquette factory largely operated on Yallourn coal hauled over the internal railway.

By 1960/1 production at Morwell had almost reached 1,200,000 tons per annum.

The delay in beginning production from Morwell caused problems for the SEC in providing fuel for its own power stations. During the difficult years of the '50s, the SEC fired its power stations (except Yallourn) on a mixture of black coal (from overseas), fuel oil, raw brown coal, and briquettes. The raw brown coal came from Yallourn North. Production from this mine was over 1,000,000 tons per annum for almost all of the '50s, and peaked at 1,648,000 tons in 1957/8. Production from the BCM declined precipitiously once Morwell came on stream, however production was maintained for commercial customers, particularly APM at Maryvale. Production for most of the '60s was between 400,000 and 500,000 tons per annum.

During the '60s production of briquettes from the two factories - Yallourn and Morwell - remained stable at around 2,000,000 tons per annum. Not all of this production, however, was rail hauled. Some of it was sold to the Gas and Fuel Corporation which had a Lurgi plant at Morwell to produce coal gas. However, two factors combined to reduce briquette demand in the late '60s and early '70s. The first factor was the gradual closure of the coal fired power stations outside the Latrobe valley. Geelong A was retired on 1 July 1966, Richmond on 27 November 1968, Geelong B and Ballarat B on 31 December 1971, and Redcliffs B and C on 2 April 1975. Equally serious over the long term, however, was the production of natural gas from Bass Strait from 1969. The result of this reduction in demand was the closure of the Yallourn briquette factory. Half of the Yallourn briquette factory was closed on 22 October 1969, and the remainder was completely closed on 14 December 1971. The plant was subsequently demolished.

Rail haulage of raw brown coal from Yallourn North appears to have ceased by 1967. Production continued, however, with most of the coal being sold to APM at Maryvale. Production at Yallourn North ceased in the year ended 30 June 1989, probably around Christmas 1988.

Briquette production remained at a little over 1,000,000 tons per annum until the early '80s. During the '70s, the big loss was in domestic sales as the public replaced the old chip hot water heaters and open fire places. In five years domestic sales slumped from around 300,000 tons per annum to less than 100,000 tons. In another five years, they had fallen to 14,000 tons per annum. Industrial sales held up well, however, at around 600,000 tons per annum, until 1979/80 when they too began to fall.

The coal fired power station at Newport was closed in 1981/2. This was the last SEC power station fired by briquettes (Spencer Street was essentially mothballed by this time and, anyway, was largely fired by oil.) Together with a continued decline in sales to industrial and domestic consumers, this meant that rail shipments of briquettes were less than 300,000 tons per annum in 1984/5. From 1 January 1985 the selling of briquettes was handed to the Coal Corporation of Victoria, which had some success in boosting sales. Sales remained between 550,000 and 650,000 tons per annum until 1991/2. Unfortunately, production figures then cease due to privatisation. However, briquette production still continues today.

Turning to consideration of hauling the brown coal and briquettes to Melbourne, the standard steel I truck weighed 8 tons empty and had a capacity of 16.5 tons. More modern trucks (e.g. the GY) weighed 9 tons empty and had a capacity of 22 tons. Consequently, the SEC production figures should be multiplied by between 1.4 and 1.5 to get the tonnage actually hauled by the locomotives. The haul to Melbourne was lengthy, and, in parts, steep. The haul from Yallourn to Herne's Oak was relatively flat, but once on the main line, coal trains faced an immediate 2 mile bank at 1 in 50 to the summit of the Haunted Hills. From Moe to Yarragon the grades were not significant. Just before Darnum, however, there was a second bank of 1 in 50 for just under a mile and a half, followed by severe undulations and short banks of 1 in 50 through Nilma. Beyond Warragul there was a bank of 1 in 50 (around a mile long) before a final quarter mile 1 in 50 bank into Drouin. Beyond Drouin the grades were much less severe. Effectively, the loads between Yallourn and Moe, and Yarragon and Drouin, were half the loads on the remaining sections. As part of rebuilding the Eastern line to handle the proposed production from Morwell, the Victorian Railways regraded and realigned the line between Yarragon and Drouin to give a grade of 1 in 100 for Up trains. This meant that one locomotive could handle a through load between Moe and Melbourne. The bank between Herne's Oak and Moe was bypassed in 1953 with the construction of the direct line to Yallourn and this meant that the through load could now be hauled from Yallourn to Melbourne. However, traffic from Morwell still had to be hauled over the Haunted Hills and loads over this section remained half of that from Moe to Melbourne.

The information in this section has been drawn from a variety of sources. Most information was obtained from the SEC annual reports. Some of the early details about the Great Morwell Company and the early years of briquetting at Yallourn were obtained from "Brown Coal, Its mining and utilisation", P.L. Henderson (ed), MUP, 1953.

More on Poath Road Hand Gates, Hughesdale, and Rosstown

Michael Guiney has supplied some more information on the early days of Poath Road hand gates and Rosstown (Somersault Vol 28 No 6).

In the article it was conjectured that the level crossing at Poath Road was not provided until early 1885. This is incorrect. The gates at Poath Road were provided for the opening of the line in 1879.

The final return (number 20) for the construction of the line shows that gates were provided at Poath Road and the gatehouse was located on the right hand side (Up side) of the line on the Oakleigh side of the crossing. The contract for the 16 gatekeepers cottages on the South Yarra - Oakleigh line had been let to S. Cholerton on 10 April 1879. The gates were brought into use on 2 April 1879 with the opening of the line between South Yarra and Oakleigh.

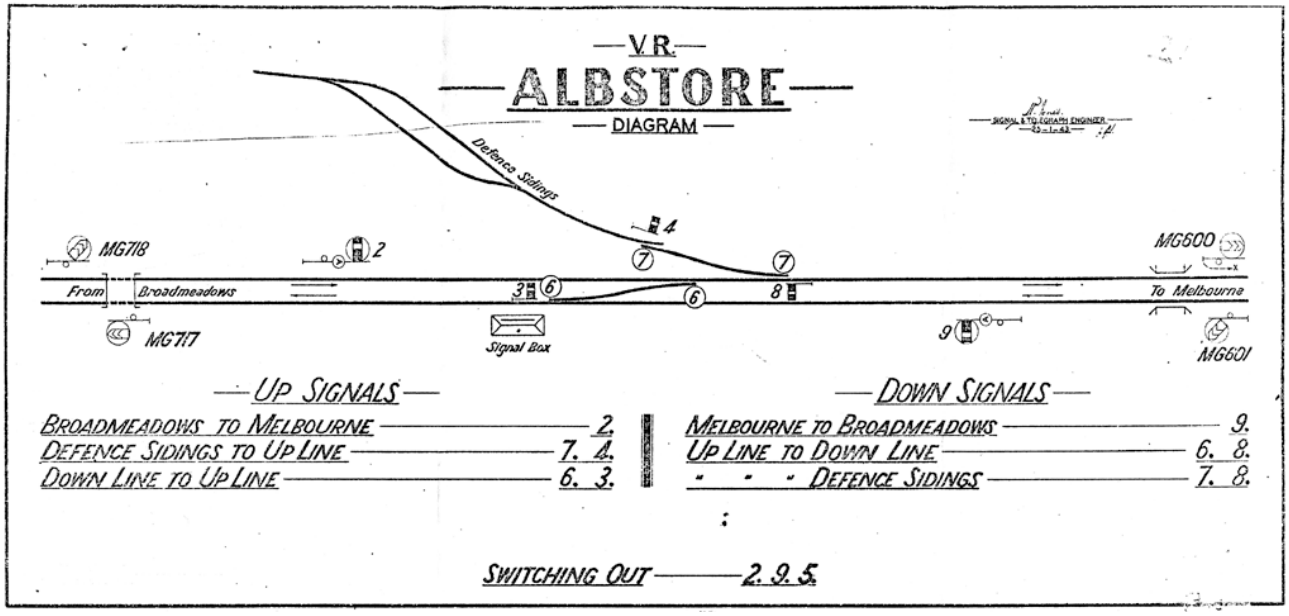
The article also neglected to mention the Outer Circle Junction which was situated at 8 miles 62 chains 6 links, just on the Up side of Poath Road. Outer Circle Junction was established as a block post on 16 December 1889 when Munro & Coys ballast train commenced running between Brooklyn and the junction. It does not appear that an interlocked signal box was provided at the junction. On 1 February 1890 Graham & Wadicks ballast train from Brooklyn to Camberwell was rerouted to Oakleigh (presumably Oakleigh Junction). Munro & Coys ballast train was cancelled on 13 March 1890. The Glen Iris line was subsequently opened between Burnley and Oakleigh on 24 March 1890. Outer Circle Junction had been abolished on the previous day and the single line extended across Poath Road and into Oakleigh station. There is further mention that Munro & Coys ballast train on the Outer Circle line was cancelled on and after the 1 May 1890.

The Outer Circle line was not lifted until the 1940s and prior to that time the rusting track existed on the Down side of the double track main line across Poath Road.

The carriage docks at Rosstown were provided from opening. Contract 1117 was for the platforms and carriage docks at Koorang Rd. The final return shows that the carriage docks were provided.

Albistore

Chris Wurr has sent in a copy of the box diagram for Albistore signalbox. Has anyone seen a photo?



Signalling Alterations

Continued from Page 28

19.02.2006 **Sherwood Park** (SW 52/06, WN 6/06)

On Sunday, 19.2., the 140 metre long platform will be available for use. The platform is situated on the Down side of the line at 261.387 km between Juilee Ave (Sherwood entrance) (261.293 km) and Mahoneys Rd (261.961 km). Level crossing predictors have been provided at both crossings. Down stopping trains must not exceed 50 km/h to Mahoneys Rd, and an appropriate Board is provided. Diagram 76/05 has been provided.

(21.02.2006) **Flinders St - North Melbourne** (SW 52/06, WN 7/06)

Diagram 7/06 replaced 49/05 as in service.

(21.02.2006) **Watsonia - Eltham** (SW 53/06, WN 7/06)

Diagram 9/06 replaced 83/97 as in service

24.02.2006 **Kensington** (SW 63/06, WN 8/06)

On Friday, 24.2., Siding B was temporarily shorted by 4.5 metres to allow the pedestrian crossing to be upgraded.

25.02.2006 **Somerton - Craigieburn** (TS 3 & 4/06, WN 8/06)

On Saturday, 25.2., the Up and Down broad gauge lines were slewed to a new alignment between 21.700 km and 22.500 km to allow construction of Roxburgh Park station.