

ii

A History of Morwell Open Cut

Its Origins and Development to June 1995

J.A. Vines

Cover photographs:

Front: *No. 11 Dredger loading to its face conveyor.
A Mobile Slew Conveyor on standby for extending the
reach of the dredger.*

Back: *Morwell Open Cut at March 1996.
Dredgers 10, 11 and 9 in the South East Field; Dredger 25
in the South West Field on the bottom cuts.*

Errata

*The photographs as printed on the external front
and back covers are transposed from that shown
above i.e. the front cover depicts Morwell Open
Cut at 1996, the back cover depicts No. 11
Dredger.*

*Personnel in photograph 17.7/2 are, [Back from
left]: Brian Ware, Eric Hilditch, Athol Minster,
Jack Embry, Stan Le Gassick. [Front]: Lou Corti
and Martin Ryan.*

COPYRIGHT

© 1996

GENERATION VICTORIA

*This book is copyright. Apart from any fair
dealing for the purposes of private study,
research, criticism or review, as permitted under
the Copyright Act, no part may be reproduced by
any process without written permission.*

*Inquiries should be made to the publisher
Hazelwood Power Corporation
Morwell, Victoria, 3840.*

*National Library of Australia
Card Number
ISBN 0 646 28558 0*

*Printed in Australia by
DROUIN COMMERCIAL PRINTERS
66-70 Young Street, Drouin, 3818.*

FOREWORD

The proposal for this history of Morwell Open Cut was initiated by John Hutchinson in 1989 while in his role as General Manager, Production, with the State Electricity Commission of Victoria. The proposed coverage of the history was developed in further detail by the writer in conjunction with Robert Hutchings, then Manager Morwell Production Centre, with whom the writer maintained liaison during the initial stages of the project. Subsequently, from 1991, due to organisational changes within the Production Group of the SECV, the liaison arrangements were conducted by the writer with the Mine Manager, Morwell Open Cut, sequentially Graeme Freshwater, Rob Stewart and Ian Derham.

The task, as initially defined, was to prepare a technical history of Morwell Open Cut development, utilising historical records and reports available in the Latrobe Valley and in Melbourne archives of the SECV with comments from the writer and others having knowledge of issues and developments that have occurred in relation to Morwell Open Cut between the years 1870-1990.

Subsequently, the scope of the history was modified from the initial proposal to reduce the coverage of external influences on the development of Morwell Open Cut and to transfer emphasis to the details of planning, construction, operations and maintenance of the open cut facilities and the personnel involved therewith.

The time frame of the history was extended to June 1995 to incorporate events involved in the transfer of operations to the South East Field in Morwell Open Cut, and the organisational and personnel changes occurring up to and including the transition of the Morwell Mine activities into the Hazelwood Power Corporation.

J. A. Vines

PREFACE

The collation of information for this history has been made from a wide variety of resources.

Information on the early coal discoveries and mining prior to 1914 was in general obtained from Geological Progress Reports and Special Reports of the Mines Department, from reports of the Mining Registrars of Victoria, from comments and analysis by authors including John Wells, John Adams, Andrew Spaul and Bill Morley, and by D E Thomas and W Baragwanath in their document "Geology of the Brown Coals of Victoria". The SECV publication by G B Lincolne, 1954, *Electric Supply in Victoria* was a valuable source of information on the commencement of electricity supply developments and amalgamations from the 1880's in Victoria. The SECV archives, including collected papers of Hyman Herman, John Monash, and Willis Connolly, provided detailed information in the 1910-1950 era. SECV in-house documents, the SEC Magazine and subsequently the SEC News, were a constant source of detailed reference material from the 1920's through to 1992. The SECV Library in Melbourne, including a service through the SEC Technical Library in the Latrobe Valley, provided availability of a wide range of pertinent reports and publications by SEC personnel and others relevant to the coverage of this history. Histories specific to the development of Yallourn and Yallourn North Open Cuts by Robert McKay (to 1947), Fred Rusden (to 1965), and Jack Vines (to 1987), and of the Latrobe Valley Open Cut Train Systems by Jack Vines (to 1994), with their cross-referencing of information were vital sources of detailed chronological developments. The SEC Latrobe Valley in-house magazine - *Contact* - provided a wide coverage of personnel information and progress on Latrobe Valley developments from the late 1960's to its final edition of 21 December 1994.

A collation of detailed information from monthly reports by the Coal Production Superintendent Morwell from 1955 to 1971, made by Ron Hannon, Mechanical Supervisor, at the request of Jack Vines in 1971 was a valid source of information no longer available from departmental records which have since been destroyed. Detailed files on major plant

initiation, design, construction and commissioning by the former Mechanical Branch, and subsequently continued by Fuel Department from the mid 1960's provided a major source of information not available in the Latrobe Valley.

An incompleted draft of the early history of Morwell Open Cut, prepared by Leon Gottlieb, of Fuel Department in the mid 1960's at the request of John Alexander Chief Engineer Fuel aided in the identification and assembly of information on major events in the 1940's to 1960's.

Acknowledgement of all SEC personnel who assisted with or contributed to the assembly and verification of information for this history is gratefully accorded. However, specific acknowledgement is made to the following:

Ian Wilson, former Coal Production Superintendent, Morwell for recall of early events; Hugh Rodgers, Bruce Tweedley, Tom Adams, Chris Laird, Peter Jackson, David Eves, Stuart Styles, Arthur Kirkbright, Robert Gaulton, Brian Gill, Bruce Akers, Lawrie Baker, Kevin Jones, Caroline Kovacs, Bruce Ronalds, Malcolm Charles, Hew Richards, Peter Brimblecombe, Rob Odlum, Rob Stewart for technical information; Tom Adams, Hew Richards, Delwyn Hewitt, Allan Jenner, Jenny Ritchie, for photographic contributions; John Ikin, John Bohan, Len Gill, John Guest, and staff of the Morwell Survey Section for provision of drawings and development information; Arthur Nicholas, Joe Azzopardi, Kevin Beer, John Jarvis and Tony Tewierik for personnel information; John Worters, Colin Brick, Tony Dickinson, David Madden, Sue Bates, Pauline Ralph and Alison Steele for administrative support; Mary Swanton for library services.

In particular, the detailed and dedicated assistance of Ian Mason and Ron Battilana, operations personnel from Morwell Open Cut, was invaluable each for several months, in the assembly of information and in proof reading. Finally, the perseverance of Wendy Sands, in typing and amending all stages of the word processing, is most gratefully acknowledged.

terminated after a few days by the transport workers union (TWU) as being an abnormal operation which could be interpreted as strike - breaking action on their part. Transfer of Morwell coal by train to Yallourn was implemented to assist coal supply difficulties in Yallourn Open Cut until M72 conveyor in Morwell Open Cut came out of service with a blown pole fuse on 19 September.

In September 1977, coal supply from Morwell Open Cut was 16.3% below budget. From 28 September 1977, the State Electricity Commission found it necessary to apply electricity restrictions throughout the State due to the deteriorated generating output. Maintenance workers returned to work on 14 October with the agreement that the full bench of the AC&AC would hear their claims. However, decisions of the Full Bench on 18 October were rejected at a "mass meeting" of the maintenance workers in the Latrobe Valley and workers went on strike again until 25 October. On the basis that the AC&AC would commence "work value" investigations with respect to maintenance work in the SEC activities in the Latrobe Valley, all bans and restrictions were lifted when resumption of work occurred on 26 October. Site inspections for "work value" assessment were commenced by Commissioner Mansini of the AC&AC on 7 November 1977.

The short return to work period from 14-17 October enabled the cable supply fault to 21 Dredger to be repaired and this system returned to service. 120B3 dragline, S94 mobile slew conveyor, M72 conveyor for backloading coal to Yallourn and M265 face conveyor were also returned to service during this short period.

The overburden system became unavailable for operation again on 16 October due to faults on M211 trunk conveyor. The resumption of the strikes on 18 October resulted in the overburden system not returning to service until 26 October. The collapse of a travel bogie on No 11 Dredger on 22 October resulted in the inability of this dredger to travel and coal was dozed up to the bucket wheel to keep this system in operation until repairs were effected on 27 October.

After resumption of work on 26 October, considerable maintenance activity on excavating and conveyor plant, electrical reticulation systems, and pumping and fire service systems were then prioritised in an attempt to restore these systems to normal operating conditions. The overburden system underwent extensive maintenance from 2-10 November in an attempt to restore plant to a reasonable operating condition. 3 Dredger was brought back into service on No 2 cut as a standby machine for 10 Dredger after last being in operation on 15 August.

In October 1977, coal supply from Morwell was 29.8% below budget due to the continuation of the Metal Trades strike and its effect on both power station and open cut plant. Reductions in the Morwell overburden system output were 72.9% below budget for October, accumulating to 44.4% below budget since 30 June, these reductions being assessed as due to inadequate or unavailable maintenance work.

Normal coal supply to Morwell Power Station was suspended on 1 November until 6 November to change the complete belt on M21 conveyor. Emergency coal supply to the station was maintained by the use of contract trucks to deliver coal direct from the coal face and by the use of blending with Yallourn coal from the Morwell Raw Coal Bunker.

Face conveyors M245 and M265 had to be trackshifted backwards in November to allow excavation of coal left behind on bottomside faces during the industrial problems from August to October.

The aquifer dewatering arrangements had continued satisfactorily during the industrial unrest period, although no exemptions against maintenance bans had been

received. At the end of October 1977, No 1 aquifer was operating at target level with two pumping bores providing a total of 121 litres/second with two bores in reserve. The No 2 Aquifer pumped discharge was at 927 litres/second from nine bores with four bores in reserve and the piezometric level was lower (i.e., better) than target requirements. 75 horizontal bores were in service for batter dewatering. The aquifer water collection system was recovering 85% of the clean water for transfer to Hazelwood Pondage.

11.8.14 Major Fire - 4-6 November 1977

Shortly after termination of the maintenance workers long strike, the endeavours to restore plant to normal operating condition were considerably interrupted by a major fire which commenced on Friday 4 November 1977 and continued until 6 November 1977.

This fire was first noticed as a relatively normal fire outbreak on the north end of No 3 coal level initiated apparently by the passage of a vehicle across the coal level causing coal dust particles on the exhaust or hot engine components to fall as ignited coal onto a dry area on the coal bench. Weather conditions were hot, with very strong winds. Fire protection sprays had been in operation throughout the morning. However, fire service pipelines in the immediate area of the fire outbreak were not in their planned or normal position or configuration due to maintenance resources not being available to keep installations in phase with the excavated coal faces during the maintenance workers bans and strikes of the previous few months.

The fire outbreak was noticed and attended to promptly by a fire patrol attendant about 1155 hours. At this stage, the fire area covered a few square metres of surface only. However, water pipelines in service in the area were too remote for spraying the outbreak area. At this same time, a fire outbreak on No 8 Level, detected earlier, was being extinguished by fire service personnel including the Fire Service Officer, Charles Strong, and mobile fire fighting resources had been concentrated in this area. The Manager, Coal Production, Jack Vines, who had left the fire extinguishing activities on No 8 Level and was inspecting fire spray covering of upper coal levels had noticed this second outbreak and had alerted the Coal Production Superintendent, Ian Runge, by phone of the need for additional personnel at site of the fire outbreak on No 3 Level.

By about 1215, about six personnel including the Morwell Open Cut Fire Service Officer and a Fire Service Foreman were attempting to control the spread of the fire, now of about 150 square metres in extent, with hoses and knapsack sprays, but the remote location of water mains restricted hose efficiency and the number of available connections.

By about 1225, the Engineering Services Fire Services Supervisor, Alec Bremner, with one tanker arrived on request of the Coal Production Superintendent, followed by a second tanker immediately after.

By about 1240, about 40 personnel with experienced supervisory staff were at the site of the fire. At about 1245, abnormal wind gusting above 75 kilometres per hour with rapid changes in direction almost instantaneously dispersed the fire widely up and down adjacent coal batters to other areas which were also sparsely provided with fire service pipelines or sprays. Various emergencies arose from 1300 hours onwards and more personnel and equipment were called upon for fire fighting. 11 Dredger and M225 conveyor were strongly threatened and 1000 metres of electric supply cable burnt out before this area was under temporary control. 3 Dredger, M216 conveyor and 120B3 dragline although upwind of the fire area were constantly

under threat from falling ash dispersed in swirling updrafts from the lower levels, igniting loose coal dust on this plant. Protection was maintained throughout the day and night on this plant by continuous vigilance and hosing activities.

Fire fighting support was received from the Country Fire Authority and the Australian Paper Mills fire fighting personnel and mobile fire tankers. The Royal Australian Air Force at Sale was requested at about 1530 hours to assist and provided over 140 personnel with mobile tankers and command vehicles at site by 1725 hours - personnel were "on parade" at Sale immediately before break-off for weekend leave when the call for assistance was received through the State Emergency Service arrangements. The RAAF personnel provided a vital and disciplined group throughout the evening and night time fire fighting on various operating levels and batters of the open cut.

The Regional group of the State Emergency Service provided personnel and equipment. The Gippsland Regional Police Superintendent provided assistance and traffic arrangements and maintained contact and a presence on site for the role of Emergency Co-ordinator if needed.

Serious danger occurred to 9 Dredger through mid afternoon. Its power supply cable was burnt out, and several hundred metres of M245 conveyor belting and control wiring were destroyed by the fire. Further spread of the fire along the belt was mitigated by using a dozer to break through and separate the continuous conveyor belt. By about 1700 hours, the danger situation to this dredger appeared to be under control by personnel continuously hosing throughout the machine.

By about 1530, in spite of the extensive number of personnel now on site, the fire had spread to the lower levels of the open cut. 19 and 21 Dredgers were now both under threat, and spread of the fire to all conveyor plant on the Eastern and Southern batters appeared imminent.

19 Dredger was completely surrounded by fire around its crawler system, around its ladder on the face, and fires broke out in the buckets, chutes and conveyors. The fire in this area was held at bay only by assiduous fire fighting for several hours, with the adjacent coal face in flames and frequent spot fires throughout the machine.

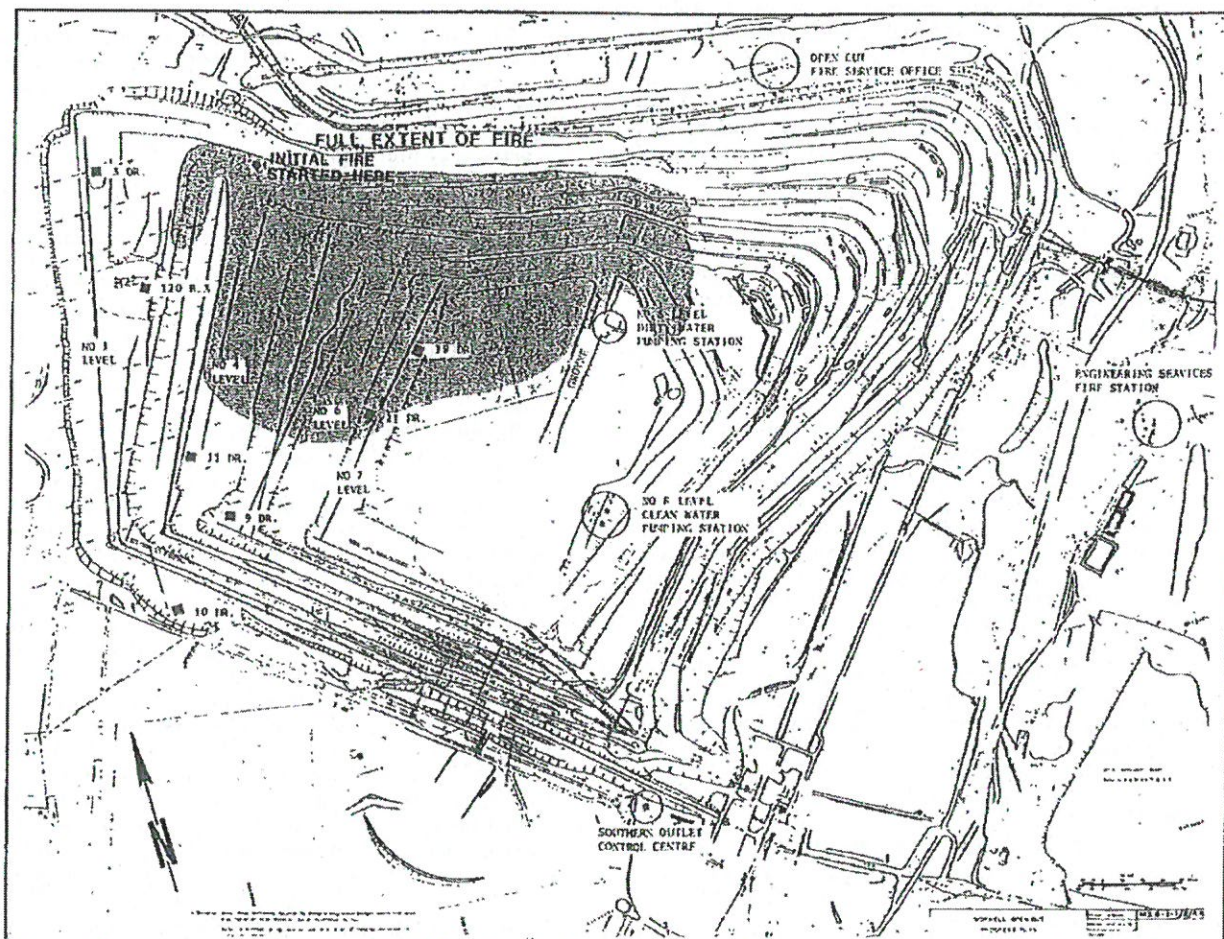
21 Dredger was probably the most highly threatened, as ignited coal particles from the bench above the dredger and from the adjacent coal face initiated many small fires in coal dust on the exposed structure and conveyors. Critical fire fighting on and around this dredger continued under extreme threat until 1900 hours with up to 50 men with tanker support located at the machine.

From about 1555 hours, almost coincident power supply failures to major pumping stations occurred due to power cables being burnt both by the fire, and by lightning strikes in the turbulent storm conditions.

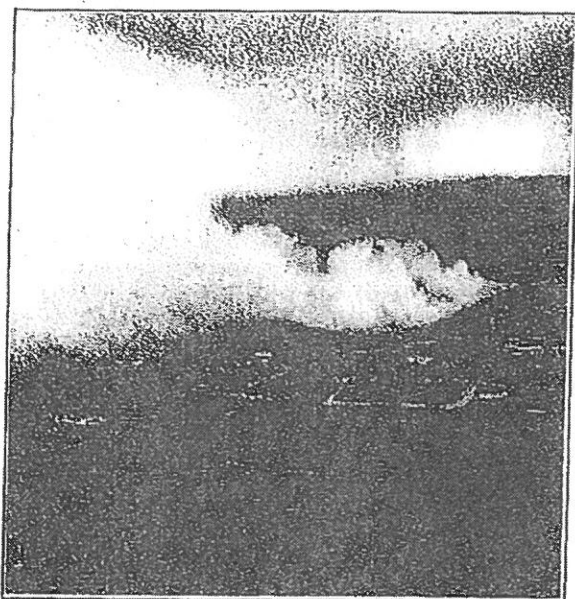
By about 1630 hours, the fire had spread eastwards along all northern coal batters below No 2 level, had caused burning of further power cables with resultant power outages.

By about 1830 hours, there were about 600-700 personnel directly involved in fire fighting within the open cut.

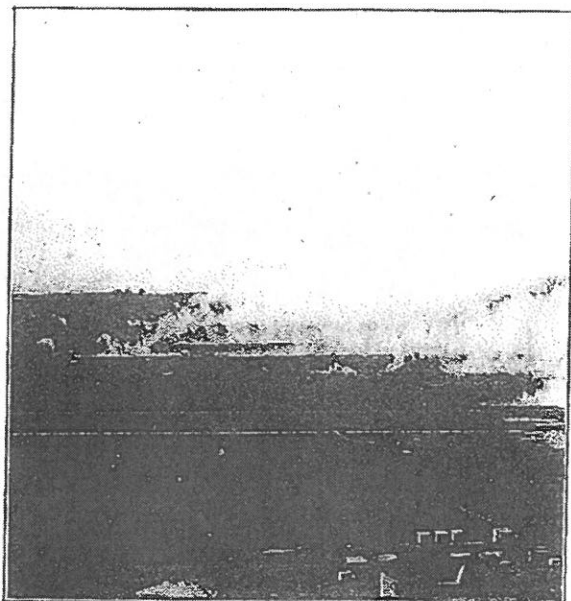
At about 1830 hours, a wind direction change occurred which temporarily relieved the emergency before reverting



Drawing 11.8.14/1 — Morwell Open Cut major fire — 4-6 November 1977. Extent of fire.



11.8.14/1 — Morwell Open Cut major fire — 4-6 November 1977. Aerial view looking West. Wind is now more northerly, driving fire along working faces and down to lower levels. Morwell Briquette and Power Installation in centre foreground.



11.8.14/2 — Morwell Open Cut major fire — 4-6 November 1977. View from within the Open Cut looking West, after wind changed to the South. No. 21 Dredger is still threatened by fire on level above while fire has burnt past No. 19 Dredger.

back some two hours later to its original North West direction but with abated strength.

Fire fighting continued throughout the night. Light rain and reduced wind strength reduced the hazard by 1000 hours on the following day but with many areas still on fire and susceptible to further spread if strong winds re-occurred.

By 1800 hours on Saturday, the activity had changed to one of continuous patrol and the extinguishing of small fires as the effect of initial water suppression wore off.

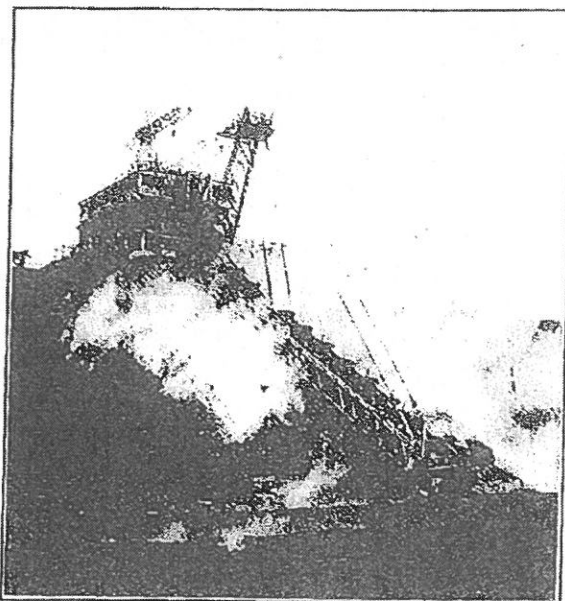
Over 1400 SEC personnel were directly involved in the fire activity during the fire period. The CFA tankers

withdrew progressively from 1330 hours on Saturday with five units remaining overnight until early Sunday morning.

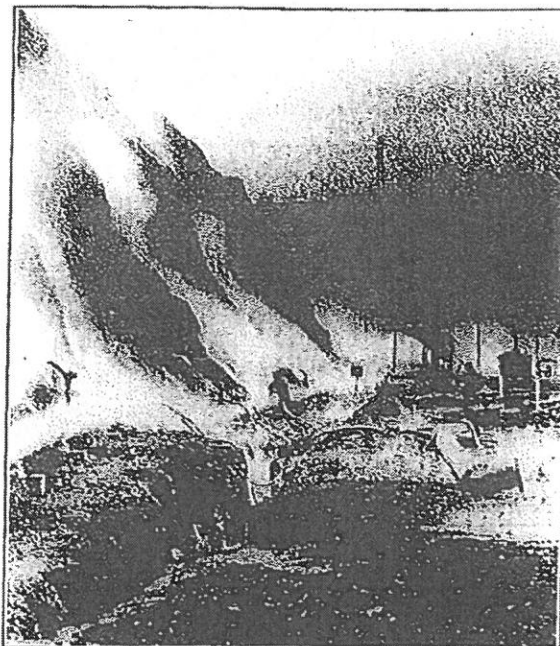
All APM tankers withdrew progressively between 0940 hours and 1700 hours on the Saturday.

The major RAAF force withdrew at about 1700 hours on the Saturday, while the RAAF fire units withdrew at 0700 hours on Sunday 6th.

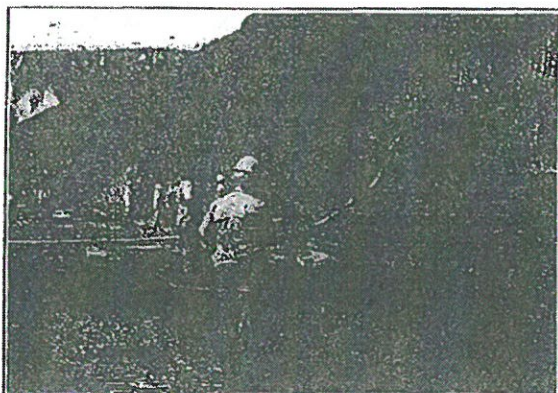
Throughout the fire emergency, overall management of the fire fighting and allocation of fire fighting resources was carried out by the senior management staff of Coal Production Department with the willing and effective co-operation of all the various parties involved. Fire fighting



11.8.14/3 — Morwell Open Cut major fire — 4-6 November 1977. Fire threatens No. 19 Dredger. The working face below the dredger is well alight.



11.8.14/4 — Morwell Open Cut major fire — 4-6 November 1977. Fire fighting on northern batters. Sprays and hydrants in use with personnel using hoses from toe and top (top left hand corner) of batter and E.P.V.



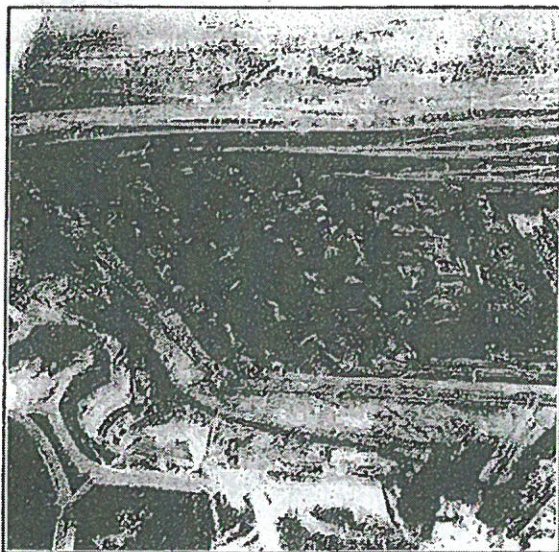
11.8.14/5 — Fire suppression on the coal batters. Clean-up after November 1977 fire.

personnel were supplied by all SEG Latrobe Valley departments. Services from transport, stores, catering and security groups from these departments were of invaluable assistance during the fire fighting and monitoring stages. In particular, the mobile tankers of the CFA, APM, RAAF and those of all the Latrobe Valley open cuts and the Engineering Services Department Fire Services group were essential fire fighting units as power outages reduced the reliability of pumped water supplies throughout the open cut.

A review committee was established by the Commission with Jack Vines as Chairman, and Ray Greenwood and Harvey Norris as members, to review aspects of the outbreak and control of the fire and to make recommendations. The committee submitted its report in June 1978.

The committee considered that the fire had arisen from the passage of a vehicle over the coal level. The strong winds combined with the dry condition of the coal bench due to lack of water spray coverage caused the rapid and extensive spread of the fire. Pipe reticulation of fire prevention water had not been kept up with progress of operational faces during the prolonged industrial bans and strikes from mid 1977 and significantly reduced fire protection as well as fire fighting capabilities.

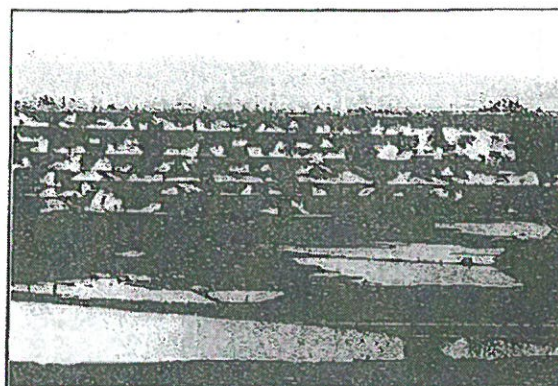
Major recommendations included restrictions on the use of some makes of vehicles on coal levels, modification



11.8.14/6 — Fire Service Spray Pattern — 17 November, 1978. Deficiency of spray coverage on Level 4.

to vehicle exhausts for travel permits on coal levels, more and better mobile tankers, provision of an emergency mobile communications unit, and amplification of fire service reticulation, spray manifolds and equipment. The overall concepts of fire protection and fire fighting arrangements as previously established were accepted as satisfactory.

During the fire fighting activities of this incident, the Coal Production Superintendent, Ian Runge, received dedicated support from all sections of his operations and maintenance personnel, with supervisory personnel taking appropriate initiatives with respect to fire fighting application and plant damage prevention as each emergency arose in scattered locations throughout the open cut. Excellent co-operation from large numbers of personnel in fire fighting and support activities from Engineering Services Department, Area Administration Department and shift personnel from Power Generation Department was effectively utilised. The CFA, RAAF, APM fire fighting resources backed by the Police and State Emergency Services organisations in response to requests for support were promptly and assiduously applied in successfully combating the fire without significant plant damage or major loss of generation. No significant personnel injuries occurred during the fire fighting activities over the two day period when large numbers of personnel inexperienced in open cut conditions were handling the emergency. Some minor burns, cuts and bruises; many incidents of treatment for dust and ash particles in eyes; and one incident of a fall down a coal batter but without broken limbs resulting were recorded by ambulance and first aid attendants at the site.



11.8.14/7 — Spray pattern — 23 November, 1982.

11.8.15 Use of 120B3 on No 3 Clay Hole - 1977-78

In May 1978, the excavation by the 120B3 dragline of No 3 clay hole material from No 2 Level down to No 3 Level grading, as referred to in Chapter 11.8.4(f) was terminated, largely due to wet weather conditions. Only approximately 20 000 m³ remained in the faces above No 3 Level. All hired plant was returned in April 1978. 10 Dredger had also been involved in excavating this clay below No 2 Level and 11 Dredger had also excavated waste coal on the edges of the clay hole excavation. Clay had also been excavated by auxiliary plant to a depth of 1-2 metres below No 3 Level. Backfilling with road making material and consolidation was used to permit travel of 11 Dredger across this clay hole below No 3 Level. Approximately 200 000 m³ (loose) of clay hole material below No 2 Level had been excavated by 120B3 to haul trucks during this operation.