

FIRE REPORT - SOMERVILLE.

18.12.66.

Attached is a report on a recent fire at Somerville Plantation.

Experience at this fire underlines the nature of

- (a) Winter Burning in the pines.
- (b) Red Action Procedures.

The area had a light Control Burn last winter.

If the area had not been burnt I am confident that this would have developed into a major fire.

17.1.67.

Mr. Meacham.

Mr. Beggs.

SOMERVILLE PLANTATION FIRE 18TH DECEMBER, 1966.

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REPORT ON SOMERVILLE FIRE - COMPT. 27.

18/12/66. (Sunday)

1. SUMMARY:

A smoke was reported by Somerville Tower in Compt. 27 Somerville at 1606 hours and Red Action was put into operation.

The forecast hazard for the day was High Summer for the Jarrah Forest but the maximum temperature was only 79.2 and minimum R.H. was 50% which gives an actual hazard for the day of 5.8 Moderate Summer.

When the fire was first observed it consisted of three spots spread over three to four chains which indicated that the fire was deliberately lit.

Compt. 27 was planted in 1931 with P. pinaster and had been reduced to approximately 100 stems per acre at the time of the fire. The thinning debris had been control burnt in winter 1966 which had only removed the flash fuel. The estimate in fuel reduction of the winter burn was from 17 tons per acre to 12 tons per acre.

The running fire was stopped and the Red Action called off at 1655 hours. The size of the fire was one acre.

There appears little doubt that without the control burn in winter this would have developed into a major fire.

## 2. DIARY OF EVENTS.

- 1606 Somerville Towerman observed smoke and started siren which instigated the local Red Action procedure.
- 1608 Red Action Somerville Compt. 27 was put over the V.H.F. and acknowledged by the Gnangara Tower.
- 1610 Gnangara Headquarters and Wanneroo were notified of the Red Action. This was then passed on to Mundaring Weir and Gleneagle Divisions from Wanneroo through Dale Tower.
- In the meantime Somerville Towerman continued with his phone notifications.
- 1612 Somerville gang arrived at the fire with 1 light duty outfit, 2 Heavy Duties. On the way to the fire Mr. Bukelis asked for Soltoggios Scoop.
- 1620 Melville Fire Brigade arrived with three men and assisted with hand tools.
- 1625 S.F.C.F. Ashcroft arrived and took charge of the fire.
- 1635 Collier Gang arrived with H.D. and Light Duty (O/S + 2 men).
- 1645 Soltoggios Payloader arrived and was immediately put to scraping around fire .
- 1650 G. Reynolds and D. Walton arrived at Fire.
- 1655 Fire under control and Red Action called off except for Wanneroo Division assistance being still required.
- 1658 Gnangara Gang arrived with Heavy Duty, Light Duty and six men.
- 1700 Wanneroo Heavy Duty arrived with three men.
- 1705 D.F.O. Quain arrived.
- 1710 Wanneroo Light Duty with B. Forster arrived.
- 1715 Forest Ranger H.E. Quicke arrived with two men.
- 1730 D.F.O. Hewett and A.D.F.O. Robley arrived.
- 1725 Inspector van Noort arrived.
- 1735 Fremantle Police arrived - the local police being unavailable.
- 1830 Wanneroo and Gnangara Gangs began returning to Headquarters.
- 1930 Somerville Gang and Forest Ranger Bukelis were left to complete the mop up and patrol for the day.

### WHEN RED ACTION WAS CALLED OFF AT 1655 HOURS:

The Mundaring crew which consisted of Gang Truck 4 x 2 and Heavy Duty 6 x 6 with six men turned back at Bell Bros. Guildford. The estimated time of arrival of this group of men and equipment at the fire would be 1730 hours.

Carinyah Crew which consisted of one officer and three men were within two miles of the fire and the estimated time of arrival at the fire would be 1700 hours.

Jarrahdale Gang with Overseer and five men were near Byford when called back which would give their estimated time of arrival at the fire of 1720 hours.

### 3. SUPPRESSION AND MOPPING UP PATROL:

The initial attack concentrated on holding the head fire and dangerous flank with water from two heavy duties and a light duty until further assistance arrived. With the arrival of the Collier heavy duty the running fire was stopped and a track put around with Soltoggios Scoop.

Numerous spot fires occurred within one and a half chains of the fire under the influence of the strong South West wind. These spot fires developed only slowly in the previously burnt duff and were extinguished with knapsack and shovel; mainly by the three Melville Fire Brigade men. Patrols were carried out as far as Compt. 26 for spot fires but none were found. Occasional spots occurred until 2230 hours and one was picked up the following day. With the arrival of additional forces mopping up proceeded until it was completed and the main gangs left the fire.

The Somerville crew patrolled the fire until 2315 hours that day and returned 0530 hours on the 19th December. Intermittent patrols were then carried out over the next four days. The heaps on the fire edge from previous bulldozing work were found to be still burning after this period and were spread out and watered down.

### 4. AREA BURNT:

The area burnt was one acre in Compt. 27 which contained 70 trees of P. pinaster thirty five years old. The stand was Site Quality 1 and 2 and was up to 80' high. It is anticipated that up to 90% of these stems will require removal mainly because of butt and bole damage.

It is estimated that 50 loads of timber are involved which will all be salvaged.

### 5. FUEL TYPE:

The fuel in Compt. 27 consisted of a heavy continuous layer of twigs and needles to six inches deep with scattered heaps of old thinning slash up to two feet high.

Last winters control burn removed only the fine flash fuels from the slash heaps and forest floor.

On the access tracks and open patches dry grass was present which was too green to burn when the area was control burnt. This dry grass assisted the rate of spread of the fire.

6. WEATHER CONDITIONS:

Weather data from the Perth Met. Bureau for 18th December 1966. The maximum temperature was 79.2°F the minimum relative humidity 50% while the fire hazard was moderate 5.8.

<u>TIME</u>	<u>TEMP.</u>	<u>RH%</u>	<u>WIND DIRECTION</u>	<u>WIND STRENGTH</u>
1600	73.4	53	SW	10 - 15
1700	71.5	68	SW	10 - 15

Gusts from  
18 - 22 knots.

7. FIRE BEHAVIOUR:

(a) GENERAL:

The headfire was intense and burnt all available fuel leaving the ground bare. The crown scorch varied from nil up to 90% of crown depending on position of the tree in the fire. The blackening of stems took place up to twelve feet.

(b) RATE OF SPREAD:

The fire did not run for sufficient time to enable any rates of spread to be obtained but it was assisted by the dry grass fuels in the area and the open country on the windward side of the Compt. Also the fire direction took it up the slope.

(c) FLAME HEIGHT:

Reports give flame heights of four feet at the headfire and it is considered that these would have been higher had the flash fuels not been removed.

(d) SPOTTING:

This was confined to one and a half chains from the head-fire and the spots developed only slowly.

8. COMPARISONS AND OBSERVATIONS:

To substantiate the final paragraph in the summary it is necessary to critically examine the weather and fuel conditions with the resulting fire behaviour at this fire as compared with previous fires in Somerville on 7th February, 1965 and January 28th, 1964.

<u>DATE OF FIRE.</u>	<u>Max.Temp.</u>	<u>Min.R.H.</u>	<u>Wind Strength + Direction</u>	<u>Flm.Ht.</u>
18/12/66	79.2	50%	SW 10-15 Gusts to 22 knots	4'
7/ 2/65	79.5	52%	SSW 10-22 No gusts recorded	8-10'
28/ 1/64	81.0	55%	SW 12-14 No gusts recorded	8-10'

<u>Date of Fire</u>	<u>Spotting Distance</u>	<u>Area Burnt.</u>
18/12/66	1½ chains	1 acre
7/ 2/65	5 - 25 chains	112 Acres
28/ 1/64	4 - 10 chains	20 acres

This reduction in fire intensity was a direct result of the winter control burn and was discussed and noted by the experienced gang members from all centres.

The flame height and spotting distance was obtained from the personnel at the fire before it was brought under control and the previous fires behaviour was obtained from the reports on these fires.

The comparison with the fire on 28/1/64 is ideal because the weather and fuel conditions apart from the control burn were similar. Also the development of the fires were much the same and the discussion on the fire on 28/1/64 states "It would be difficult to envisage a more efficient attack on these fires." Therefore the major alteration in fire intensity reduced size and cost must be attributed to the fuel reduction brought about by the control burn in Compt. 27 during the winter.

This being the first fire in the Metropolitan Plantations since the adoption of the "Red Action Dispatch System" it gives an indication of the improvement in dispatching assistance from outside Divisions.

Within one hour of the first sighting of the smoke from the tower outside assistance arrived or would have arrived at the fire from three centres. Within an hour and a half assistance would have arrived at the fire from five centres. On studying reports of previous fires in the Metropolitan Plantation no assistance arrived at the fire from outside Divisions within an hour of the first sighting of the smoke.

Although many minor problems were shown up at different centres the "Red Action" worked surprisingly well.

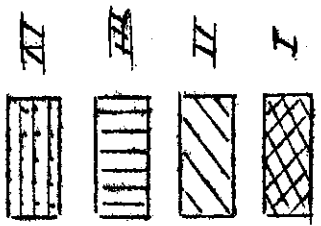
An obvious weakness is shown up in that men only with hand tools are available from the neighbouring Jarrah Divisions because their light and heavy duty units cannot negotiate the sand. The Carinyah crew were one of the three groups who would have arrived at the fire in less than an hour from first sighting.

The lack of manpower in the early stages of the fire was again evident; and had it not been for the Melville Fire Brigade there would have been no one available to control the spot fires; without undermanning the pumper units.

Section of Somerville Plantation.

Appendix 1.

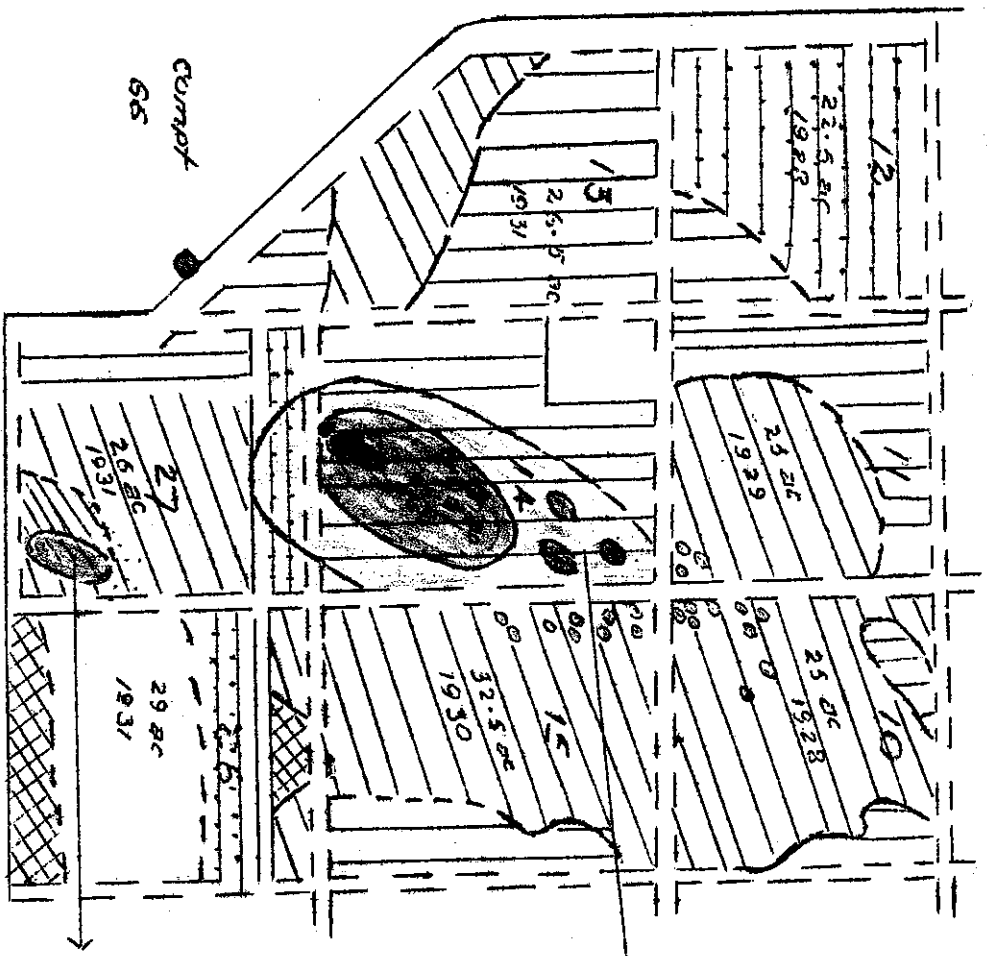
Site Quality



Scale: 10 chains = 1 inch

Legend

- ... Spot Fires
- Fine size of Ashes on 28th 68
- ▨ " " " 28th " " "
- ▧ " " " 18/30 " " "
- ▩ " " " 18/12/68



Fire 68  
28/11  
Site 2a

Fire 68  
18/12/68  
Site 1a



RECOMMENDATIONS.

1. Obtain more manpower locally for weekend stand-by.  
Try (a) Contacting ex Departmental Employees living adjacent to the plantations who would be willing to co-operate.
2. Establishment of a Field Control Centre during the early stages of the fire to handle the communications and ensure the guiding of incoming gangs to the fire.
3. The pony radios should be sent to all plantation fires and be left at the field control centre.
4. Replace existing Heavy Duties at Carinyah and Jarrahdale with 4 x 4 units.
5. Helmet lights for use of the night crews should be available in the Metropolitan Area for use at fires.

S. J. QUAIN.

A. J. ASHCROFT.

APPENDIX 2.

Summary of Costs - Fire No. 88 - Somerville.

18/12.1966.

<u>Plantation.</u>	<u>Wages.</u>	<u>Vehicles.</u>	<u>Total.</u>
Somerville	57.00	11.20	68.20
Collier	15.00	9.60	24.60
Gnangara	53.93	63.60	117.53
Wanneroo	18.60	47.54	66.14
Mundaring	19.15	13.52	32.67
Gleneagle	24.00	12.06	36.06
Hired Scoop - Soltoggios		12.00	12.00
TOTAL COST	<u>187.68</u>	<u>169.52</u>	<u>357.20</u>