

REPORT ON SOMERVILLE FIRE OF WEDNESDAY JANUARY 31st 1968.

1. SUMMARY.

Somerville Tower reported a smoke at 1405 hours to F/R Bukelis who on arrival found about $\frac{3}{4}$ acres alight in the partly planted swampy area in the plantation south of Cpt. 5A. The northern part of the fire was in 12 year old *P. radiata* while a few chains south and across swampy ground it was either in or very near to a $1\frac{1}{2}$ acre plot of 100 ft. *P. caribea*.

F/R Bukelis immediately called for help from Como, Wanneroo and Melville Fire Brigade. The sum total of attendance was 4 heavy and 4 light water trucks, 2 officer's vehicles and 19 men.

The running fire was stopped 95 minutes after the first report. Phoscheck was tried for the first time and proved successful in both light and heavy ground fuels.

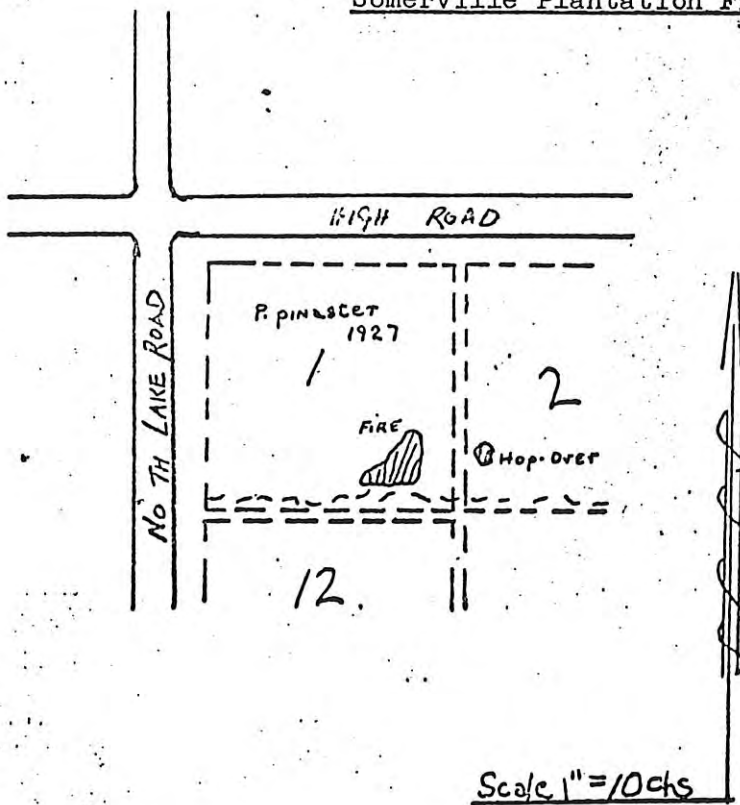
The total area burnt is 2.6 acres.

It appears that the fire had been lit in at least 2 places several chains apart. Sgt. Cameron of Brentwood Police questioned some teenagers near the fire but chances of finding the culprit are slim.

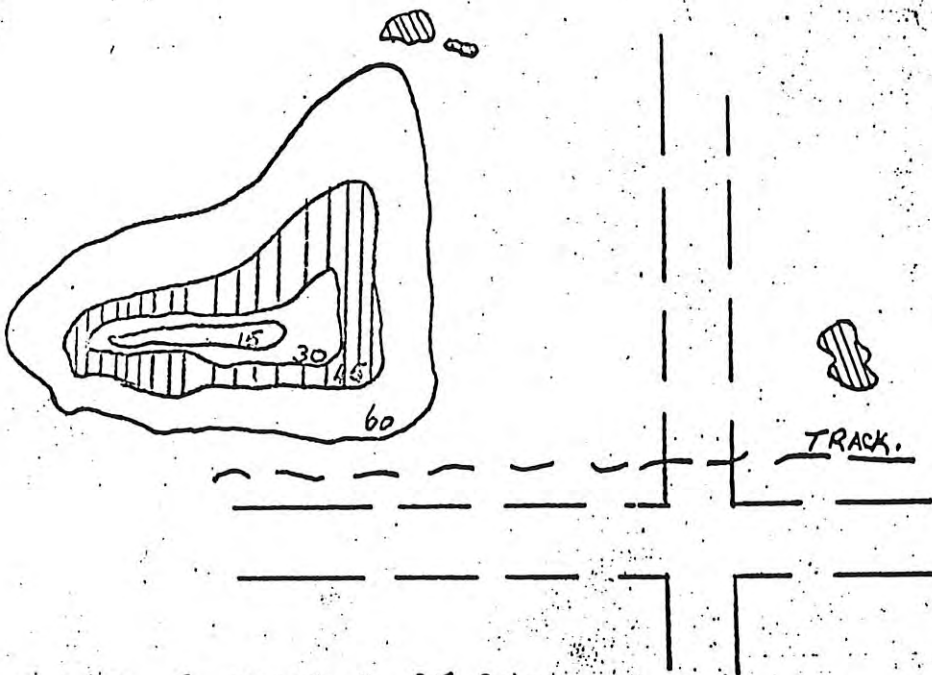
2. SEQUENCE OF EVENTS.

- 1405 Towerman reports smoke on 59° indirect view, appears outside pines. Has obtained areas from Jandakot Airport on 325° who can see 3 separate smokes.
- 1406 Crossbearing plots in "Old H.Q. Site" south of Cpt. 5A.
- 1409 F/R Bukelis leaves H.Q. in light water truck and while travelling asks O/S Boyd with one man to go to fire in H/D (from Cpt. 48) and remaining 2 men at H.Q. to prepare to mix Phoscheck if needed.
- 1417 Bukelis arrives at fire(s) and asks Towerman to get help as follows : H/D with Phoscheck plus 1 H/D each from Como and Wanneroo, also Melville Fire Brigade.
- 1420 A/F Watson at Como notifies Brentwood Police.
- 1421 O/S Boyd arrives with H/D and attacks fire in SE, Bukelis in NE. Visability poor but both fires appear joined.
- 1422 H/D with one man leaves Wanneroo.
- 1425 Police arrive.
- 1427 2nd Somerville H/D leaves H.Q. with Phoscheck.
- 1432 Inspector Lejeune and For/Kesners leave Wanneroo.
- 1435 H/D leaves Como and L/D a few minutes later.
- 1437 2nd Somerville H/D and Melville Fire Brigade arrive H/D crew to lay Phoscheck on north flank, fire brigade to watch for spot fires.
- 1448 North flank and NE head under control, E flank troublesome but expect to hold with existing forces and those which are on the way. Eastern running fire about 4 chains wide.

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R.O.S. from 1450 - 1550 hrs



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0.4 P. radiata and the remainder unplanted. The burnt section of the P. caribea plot contains about 100 large trees estimated 35 years old. Of these some 30 or 40 are scorched to their entire height of 100 feet while some have only moderate butt damage and little crown scorch. Butt blackening ranges from 5 to 35 feet. There are also many saplings most of which are totally scorched. The average height of the P. radiata is 35 feet. An estimated 20 of these are scorched beyond survival but nearly all show signs of butt damage.

5. FUEL TYPES.

In the plot of P. radiata there was a 1 inch layer of needles plus light pruning slash. In the unplanted areas there was green grass in the swamp and dry grass on higher ground with clumps of ti-tree and scattered self-sown pines. Under the caribea canopy there was a 9" to 12" layer of needles plus patches of a loosely-packed mixture of swamp grasses and pine needles. Under this there is a dense moist mat of roots which did not burn but made mopping up difficult.

6. WEATHER CONDITIONS.

Forecast : Mod. - 73° - 45%.

L.F.D.I. (predicted) Jarrah - Low Green.
Pine - Blue.

		1400	1500	1600	Peak of Day
Met. Bureau	{ Temp.	73.5	73.7	73.3	78.4 at 1315
	{ R/H	58%	58%	56%	75% at 0200
	{ Wind D and S	SSW 13 kn.	SSW 15 kn.	SSW 14 kn.	SSW 33 at 1555
Somerville Tower - Wind		SW 15-20	SW 25-30	SW 25-30	
L.F.D.I. for Jarrah (from Met. Bureau figs.)		1.3	1.4	1.4	7.5

7. FIRE BEHAVIOUR.

Rates of spread were not measured. An estimate for the NW flank can be given as 1½ feet per minute. Maximum flame height seen was about 20 feet in the P. caribea where there was possibly a junction of two fires. Some 8 to 12 spot fires occurred in the P. caribea up to 6 yards from the head fire. The only other spot fire occurred 10 hours later and 9 chains NE of the main fire. Apparently a spark had landed on some dry rotted Banksia in the swamp and this was ignited by an east wind at 1 or 2 a.m.

8. OBSERVATIONS.

(a) There is little doubt that a detection delay occurred and this was due to two reasons: firstly, wind prevented smoke from rising above the pine canopy, and, secondly, tree top level in the fire area is hidden from the towerman's view by a hill. A detection test (in winter) showed that it took the

- 1450 Como crews arrive.
- 1505 Somerville h/D starts laying Phoscheck on east flank. Wanneroo H/D arrives.
- 1510 Canning Volunteer Brigade arrive in 4 x 4 Toyota.
- 1517 Messrs. Lejeune and Kesners arrive.
- 1528 Only one chain of running fire remains.
- 1530 Inspector Lejeune sets up control point and instructs Bukelis to remain Fire Boss. Pony radios put to use. Inspector van Noort arrives.
- 1540 Inspector Lejeune to all units: running fire stopped. No further help needed.
- 1547 Melville Fire Brigade leave.
- 1600 Canning Volunteer Brigade leave.
- 1740 Mr. van Noort leaves.
- 1803 Messrs. Lejeune and Kesners leave.
- 1835 Somerville gang and Wanneroo H/D leave.
- 1905 Collier forces leave.
- 2000 O/S Boyd returns to take up patrol till 2 a.m. when relieved by H. Wilkes.
- 2010 F/R Bukelis leaves.

3. SUPPRESSION AND MOPPING UP.

When suppression started the 2 spots had apparently joined and the long axis of the fire lay in a N-S direction. The wind was from SW.

Due to uneven fuels the northern section was spreading NNE while the southern headed eastwards and both were under pine canopy. At the NE perimeter it was burning less fiercely amongst clumps of ti-tree.

The N and NE was attacked with the light pumper while the 1st H/D unit commenced on the SE corner and worked northwards through the plot of P. caribea. This latter section proved difficult because of heavy ground fuel and several spot fires, which, however, only reached up to 6 yards from the main fire.

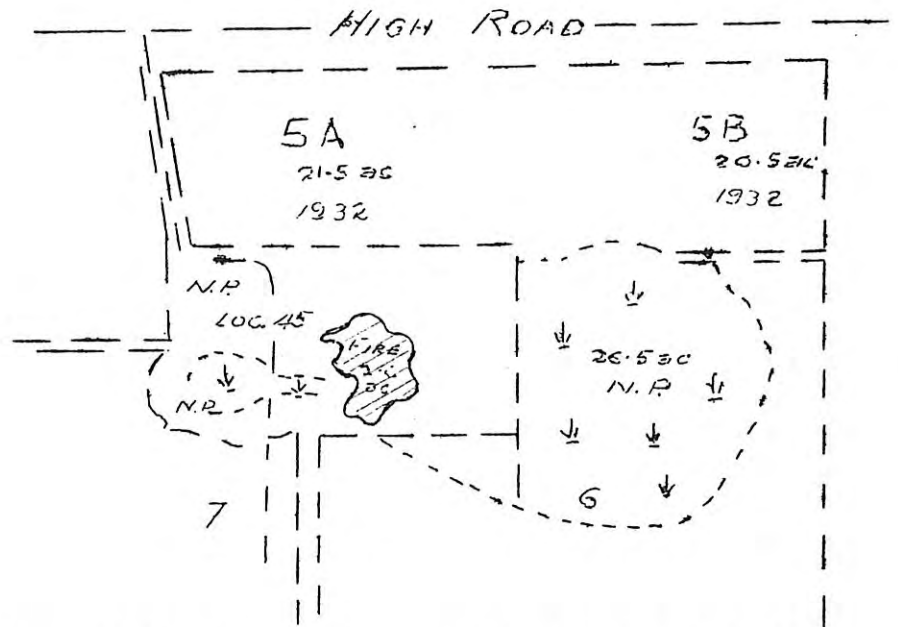
When the truck with Phoscheck arrived it was first used to secure the remaining 4 chains of fire in the plot of P. radiata and then moved to the P. caribea where a further $3\frac{1}{2}$ chains was laid after 2 H/Duties had slowed down the head fire here. The phoscheck stopped the running surface fire and mopping up was then commenced. The western tail fire presented no difficulty at any time. Most of the suppression and mop-up effort was directed at the persistent fire in the plot of P. caribea. An all-night patrol was maintained (2 shifts of one man each) and this paid off when a "sleeping" spot fire came to life at 2 a.m.

4. AREA BURNET.

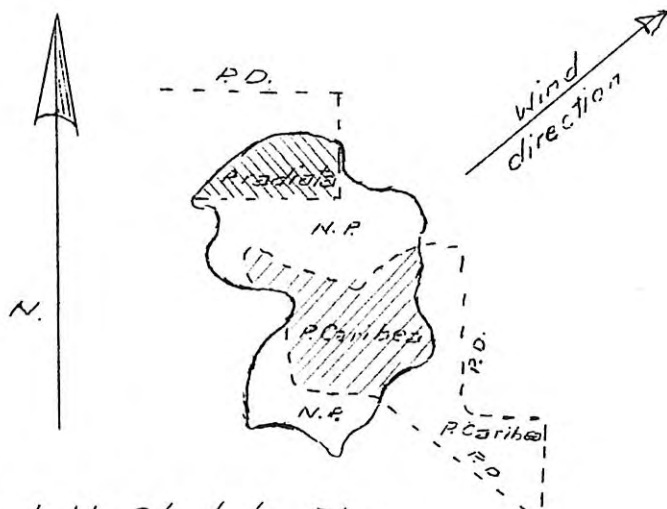
Total burnt is 2.6 acres of which 1 is P. caribea

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(a) Locality Sketch - 10 chains to 1 inch



(b) Detail Sketch Plan.
4 chains to 1 inch.

towerman 6 minutes before he could see black smoke from a large paperbark lit by the writer in this area.

- (b) Out of 7 plantation fires in Somerville this season this is the only one which occurred in an area where no winter burning had been done. The largest of the other six burnt 1/20 of an acre and caused no damage.
- (c) Phoscheck works well in heavy ground fuels by stopping the rapidly moving surface fire. The deeper needlebed fire then slowly tunnels underneath the layer of Phoscheck.

9. RECOMMENDATIONS.

More winter burning for fuel reduction with research on effect this has on growth rates.

10. APPENDICES.

- (a) Plans -- 10 chain and 4 chain scale (attached).
(b) Costs (including patrol and mop-up).

	<u>Wages.</u>	<u>Plant.</u>	<u>Total.</u>
Somerville	\$ 87.10	37.56	124.66
Wanneroo	9.33	34.08	43.41
Como	50.00	17.80	67.80
Phoscheck - 650 lbs.			

(Signed) N. BUKELIS.

NB/ML
15th February 1968.

FOREST RANGER.

Comments by Inspector Lejeune.

1. F/R ^{Bukelis} did not call a "Red Action", the reason for this was that there was only about $\frac{3}{4}$ ac. of previously unburned pine in the path of the fire, i.e. beyond the point where the fire was stopped. Apart from very small pockets the fire was surrounded by 1967 control burning of pine or other fuel. He stated at the time that he was confident local forces could control it and this judgment proved correct. He estimates from past experience that a Red Action call would have added at least \$300 to the cost.
2. The fire area and surrounds contained an unusually large range of fuel types which to a Fire Boss without local knowledge would have resulted in some valuable time making an accurate assessment and deciding on the correct action. F/R Bukelis was able to decide to perform useful suppression work as soon as he arrived at the fire.