CONTROLLED BURNING IN THE KARRI FORESTS AND THE USE OF BULLDOZERS IN PREPARATIONS

by Frank G. Quicke.

Controlled burning in spring and autumn seasons is an important means of preparing the forest to combat severe summer fires which regularly ravage portions of our State Forests.

An appreciable amount of difficulty is encountered in attempting to carry out burning during the seasons considered suitable for this operation.

Because of the dense nature of the undergrowth scrub and its lush nature we find it extremely difficult to burn any appreciable area in the spring or autumn.

The chief reason for this is that the scrub, being lush green and shaded from the sun by heavy forest, will burn at the desired rate for only a short period in the day and on a limited number of days during the controlled burning season.

This means that an effective burn may travel only two chains from the point of lighting before conditions prevent it from burning any further.

In Jarrah forests further north due to the more zerophytic nature of the scrub, measures must be taken to prevent burns becoming too hot, and in achieving this a gang

of men strip out the area by spotting fires as they walk through the forest. In this manner large areas can be burnt at a moderate temperature.

In the Karri forests it is almost impossible for a man to walk anywhere in the forest except along roads and tracks. If by some means we could open up the undergrowth in the Karri so that men could walk easily, it would then be easier to light up greater areas at any one time.

Figures show that controlled burning as carried out at the present time in this type of forest, is limited to 30 to 40 acres in any one day and this area is nearly always bounded by a road or track on one side and a "five chain break" on the other so that the area burnt is only 5 chains wide after lighting from the road and the "five chain break".

Very often the burning is completely successful in these "five chain break" areas if carried out during the time of good burning conditions, but lighting along both sides of the area, the fires link up on their own accord.

This is achieved no doubt because from one side the fire travels 3 chains with the wind and on the other side, 2 chains against the wind. Burning is also helped because of the opening made in the forest by the road and the "five chainer" and having been open enough to allow sunlight to penetrate and dry out ground litter to allow it to burn.

This brings me to my main point of these notes.

The use of Bulldozers in Controlled Burning in the Karri Forests

The idea would be to open up lanes in the scrub several weeks before burning was due, to let in sunlight to dry out adjoining undergrowth and ground litter along the lanes.

To do this a bulldozer could be used in the following manner:

1. Decide in which direction the lanes should be made.

2. A heavy bulldozer TD18 or D7 should be used, because a machine of this size could work at a good speed and make a sufficiently wide lane.

3. Travel the machine with the blade just clear of the ground to knock down scrub, without digging up any earth which would mix with the scrub.

4. Lanes should be made at 5 chains intervals and parallel to one another.

5. A man using a prismatic compass follows behind the bulldozer to maintain direction of travel and pace off the 5.00 chain wide strips.

The battered scrub on these lanes will quickly dry in the sun and standing scrub on either side of the lane will in turn benefit from the extra sunlight, in drying out floor litter exposed.

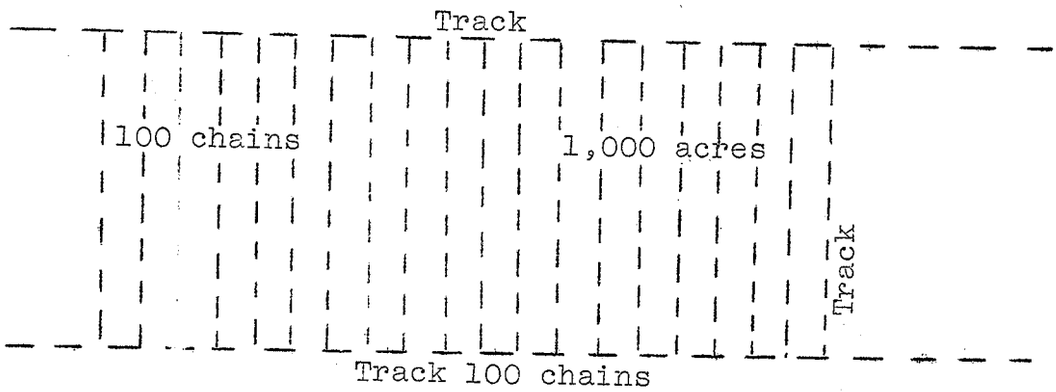
Burning:

Gangs burning the area now have prepared lanes along which to walk in reasonable comfort when lighting up. Each man would take one lane to proceed along and set fires in the dry scrub in the middle of the lanes, that is the scrub that has been knocked down.

From experience in burning five chain breaks, the added heat from the dry lane, and with the help of the drying out effect in the standing scrub, the fire from one lane should link up with the fire from the lane parallel to it.

In this way it should be possible for a six man gang to burn 1,000 acres of prepared country in one day.

Figures and Costs:



In an area of 1,000 acres, say 100 chains by 100 chains, would require 20 lanes 100 chains long. That is 25 miles of lanes plus 200 chains travelling between lanes.

Say a total of 28 miles.

T18 or D7 should be able to work at 4 miles per hour for this type of job. Therefore, time to strip the area would be roughly 8 hours.

Cost at £4 per hour £32.

With a six man gang to strip burn the area, each man would have to walk 3 lanes, i.e. approx. 4 miles.

Therefore the gang could strip the area in one day.

Costs:

Preparing lanes with Dozer

TD18 or D7 8 hours @ £4	32. 0. 0.
Transport or Travel the machine	3. 0. 0.
Pilot for Dozer	3. 0. 0.

Burning:

6 man gang 8 hours approx.	18. 0. 0.
Transport for gang, say 30 miles @ 1/6d.	2. 5. 0.
Heavy Duty 30 miles @ 3/3	4.17. 6.
Wages H.D. crew	6. 0. 0.
Total	£68. 2. 6

Say £70.

If the total cost did not exceed £70 then the cost per acre would be roughly 1/6d.

From records of costs of control burning in Karri forests it is interesting to note the following:

These costs include all classes of burning and all forest types - also expenditure in assisting settlers to burn dangerous areas - also patrols and mopping up:

1958/59	7,805	acres	£3,090
1957/58	14,948	"	2,767
1956/57	19,557	"	1,904
1955/56	26,900	"	3,087
1954/55	36,750	"	1,938
	105,960	"	£12,786

Wages only.

= 2/4d. per acre.

add mileage

say 3/-d. " "

This compares with 1/6d. per acre with the possibility of a more thorough burn.