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SOIL SURVEY GRID - FIELD PROCEDURE.

The Strip Lines.

To be laid out with a compass and chain in prescribed pattern or where none has been prescribed, use 20 chain grid with lines running across the main topography.

Each line should be tied at both ends to the next in order to get a rigid framework, and then the whole traverse tied to reliable theodolite surveys in as many places as possible. The use of a base line to which all lines are tied is desirable.

A 10 or 20 scale plot of the traverses should be prepared for the soil surveyor showing miscloses, and topo. detail along the lines - especially gradients and slope lines.

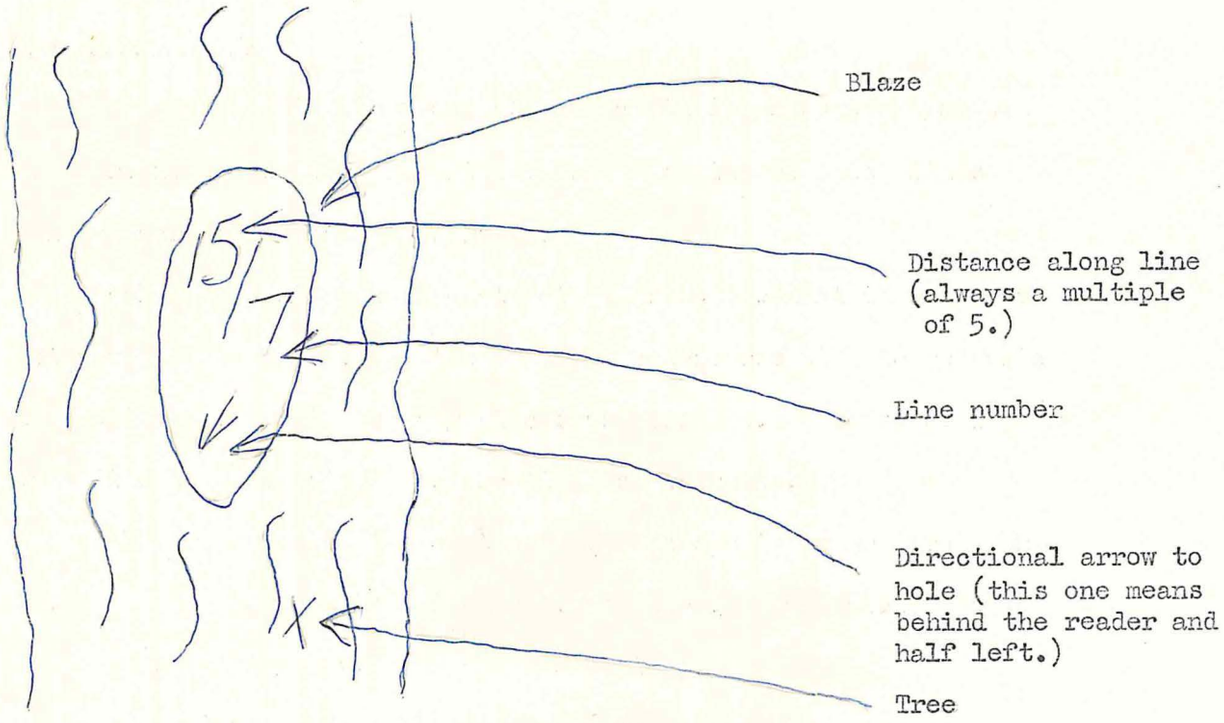
Holes to at least 12" should be opened every 5 chains (in most surveys deeper borings will be needed every 5 chains, but the Soil Surveyor will attend to these.

Slope Correction. In rough, steep country all slopes over 5° should be corrected for, taking a mean value for each 5 chains with working shown in field books - a slope correction table is attached.

Compassing. Foresights only, with frequent back-check for alignment.

Blazing.

Each inspection point (i.e. each 12" hole dug with spade) should have an identifying blaze nearby. These blazes are best put on marri and may be up to $\frac{1}{2}$ chain away.. Blazes should be so placed that one faces back along the line and another faces forward. Blazes not square to line of travel are confusing. To identify an inspection point, a tree near the five-chain mark should be marked as follows:- The backward-facing blaze must show the hole number and an arrow pointing to the hole, using the highway sign convention for indicating direction.



In very thick scrub, the hole itself should be pegged and the peg should show distance and line number. A good clear line should be slashed under these conditions as for other survey lines.

In more open scrub, bushes should be pushed over and trodden on - these make good indicators and are easy to follow. Under difficult traversing conditions, blazing is often overlooked. This tendency must be watched.

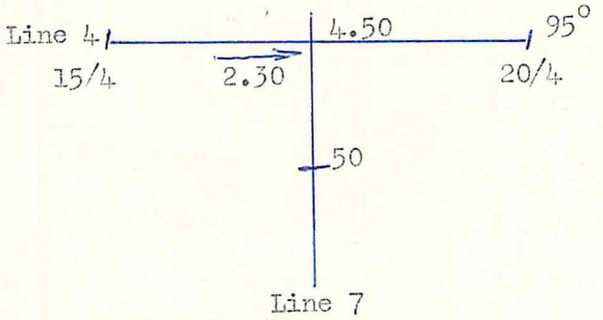
Sufficient minor blazes should be made along the line for soil surveyor to follow up.

Whenever a track is crossed, a clear blaze should be made on the side of the track showing line number. It must be placed so as to be easily seen when driving along the track.

The spade, sharpened on the sides makes a good blazing tool and saves carrying an axe. Pressed steel spades are more satisfactory then the heavier types. The sharpening bevel should be on the inside of the space.

Ties to any features are to be made by right-angle-offset method. When crossing another line, tie to it by measuring distance along current line, then indicate direction of other line and the distance

along it to the nearest inspection point i.e. Your back must show the distance along both lines from their start to the intersection point



The field book page should show:-

Side slope in gradient. thus:-

Topographical features such as rock outcrops, creeks,

granite rock

basic rock

fences

Distances along line and offset distances to important features.

Bearings of tracks, fences.

Vegetative types (overstorey and undergrowth including distribution of firewood species.)

Rough Notes on Soil - i.e. *Colour, texture, stone content, and your opinion of its suitability e.g. excellent, OK, doubtful U/S.

Ties to theodolite surveys should be shown in detail as in normal FD compass and chain traverses.

* Principal colours are shown in capitals and modifying colours in lower case e.g. reddish Brown = rB.

Abbreviations of descriptive terms and other notes are found in the Foresters Manual pamphlet No. 5 Section 3.

ADDITIONAL NOTES FOR SURVEYING P. PINASTER SITES.

At each inspection point, decide the class of soil, then make notes on the site using the following as a guide.

SAND	Colour 6" Depth to (clay (gravel, or (coffee rock Any other notes on subsoil Indicate with questionmark where uncertain
GRAVELLY SAND (Small quantities of Gravel in 0 - 10")	Rate of increase of gravel (i.e. depth to heavy gravel) Depth to clay + gravel or pan formation
GRAVELS (No boulders or iron-stone 3 probings per inspection point)	Depth to definite pan Size of gravels (Whether "buckshots" or ordinary gravels)
LATERITES (Boulders & gravels)	Note whether matrix is loamy or just sand
"SILTS" (Also loams, clay loams)	Texture of soil at 6" Colour at 6" Gravel content Depth to (clay, (pan, or (gravel
CLAY (Clay flats)	Depth of over-burden (e.g. sand) Tree species e.g. W-J-Bbt-M-F/G-Pbk Scrub species e.g. MI-Hv-Hg-Bby Ground species Rushes, Tussock grasses

N.B. Depth to a less permiable horizon is most important. In addition, at each inspection point

Indicate whether you think the site is good, poor, unsuitable. e.g. as "OK", "?", "U/S" respectively.

Note the condition and species of the upper canopy and of the ground flora, including taller scrub species (List of names attached)

Low slope gradients should be indicated as Flat, Slight, Gentle, Moderate, etc.

GENERAL NOTE ON EQUIPMENT

(See also on page with Slope Corrections)

VEHICLE OUTFIT Should include:

Spare wheel	Emergency rations
Equipment for changing wheel	Fire fighting tools in season
Spade or shovel	First aid outfit - bandages etc.
Axe	Tow rope
Other de-bogging equipment where necessary	Water bag Water drum emergency petrol

PERSONAL EQUIPMENT

Raincoat, extra jacket, gaiters, leggings, rubber boots, etc. kept in a strong box are often invaluable also matches, torch

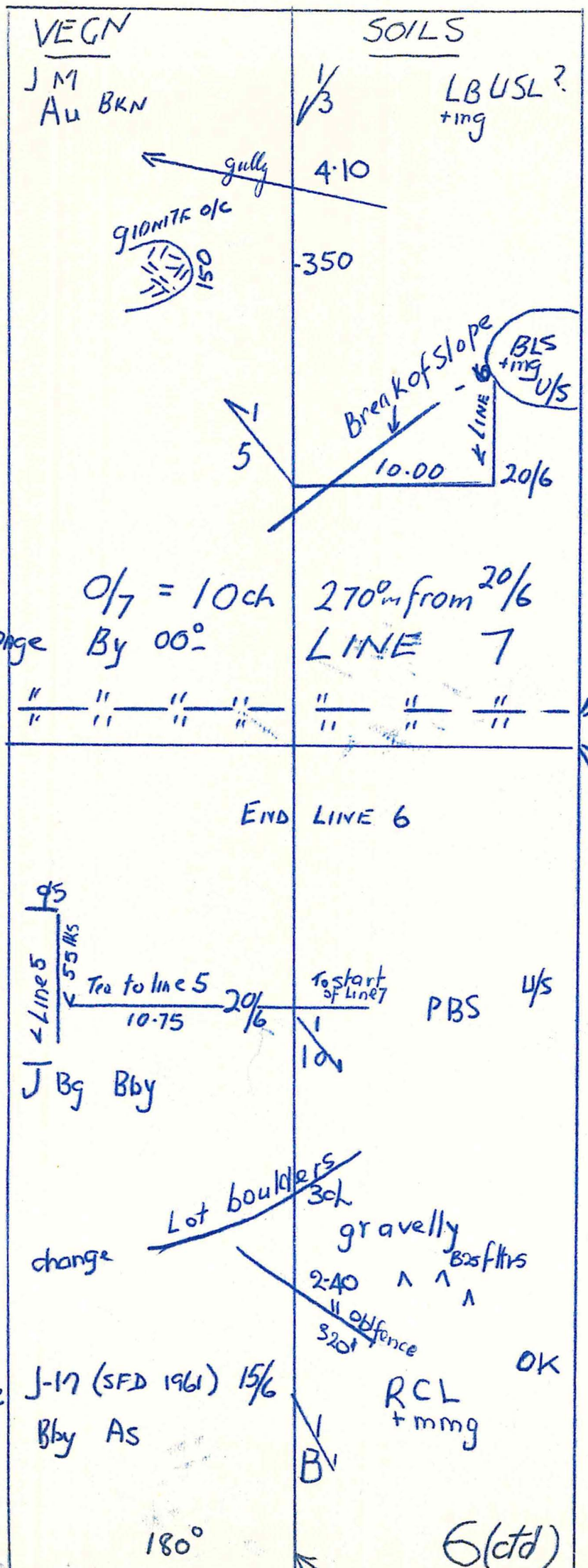
LIST OF IMPORTANT NATIVE PLANTS

Soil survey officers should know the following plants.

VERNACULAR NAME	Botanical Name	Field Book Symbol
Jarrah	Eucalyptus marginata	J
Marri	" calophyila	M
Blackbutt	" patens	Bbt
Bullioh	" megacarpa	Boh
Wandoo	" redunca	W
Flooded Gum	" rudis	F/G
Firewood Banksia	Banksia menziesii	
Swamp Banksia	" littoralis	BL
Sand Banksia	" attenuate	
Paperbark	Melaleuca parviflora	Pbk
Sheoak	Casuarina frazeriana	Cf
Clay hakea	Hakea varia	Hv
Robin Red Breast Bush	Melaleuca lateritis	Ml
Swamp Peppermint	Agonis linearifolia	Al
" "	Leptospermum ellipticum	Le
" "	Hakea Glabella	Hg
White Myrtle	Hypocalymma angustifolia	Hya
Blue Boy	Stirlingia latifolia	Sl
" "	Dryandra armata	Dya
Bitter Pea	Daviesia incrassata	Di
Tussock Grasses		Tg
Rushes	Juncaceae	Rj
"	Adenanthos obovata	Ao
"	Adenanthos barbigara	Ab
Black Gin	Kingia australis	Ka
Black Boy	Xanthorrea preissii	Bby
Bull Banksia	Banksia grandis	Bg
River Banksia	" verticillata	Bv
Bracken	Pteridium esculentum	Bkn
Soft leaved Wattle	Acacia strigosa	As
Broad leaved Wattle	" urophylla	Au
Prickly Moses	" pulchella	Ap
Winged-stem Wattle	" alata	Aa
Shark-tooth Wattle	" divergena	Ad
Spindly Wattle	" trigonophylla	At
Tree Wattle	" cyanophylla	Ac
Gum-leaf Wattle	" myrtifolia	Am
Karri Wattle	" pentadenia	Akw
Snoddy gobble	Persoonia longifolia	Pl
Netic	Bossia aquifolium	Ba
Green Bottlebrush	Albizzia lophantha	Alb
Tree Hovea	Hovea elliptica	He

P. Pinaster

P. Radiata



Show distance from previous station rather than cumulative distance

eg Old fence at 2·40 not 17·40 (see below on line

Start new half-page for each new Line

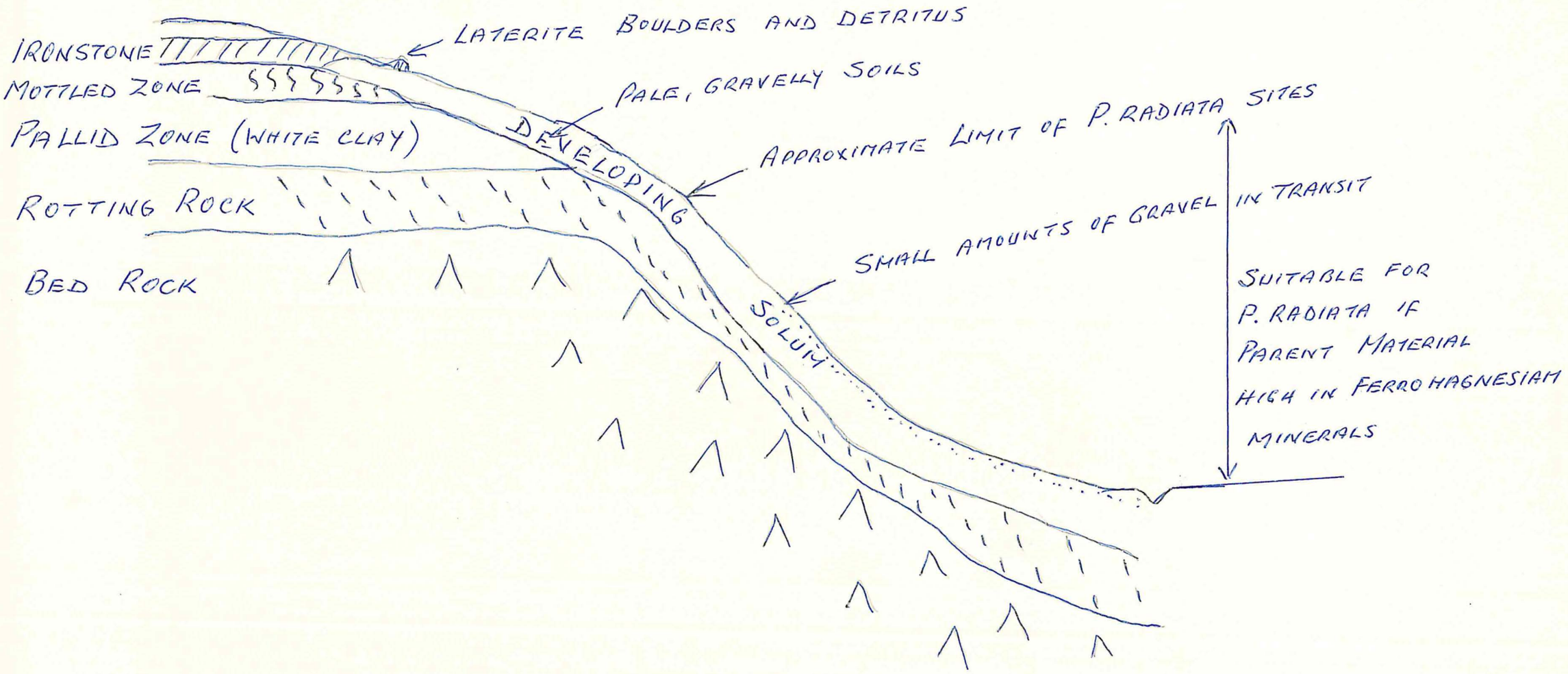
fold of book

Rule off end of Stripline

Use Field Book Type FD 469

Start at rear of book as INFORMAL Survey

APPENDIX IV



SECTION SHOWING THE EFFECT OF DOWNCUTTING BY WATERCOURSES THROUGH THE LATERITE CRUST INTO UNDERLYING ROCKS

A DEFINITE PATTERN OF SOILS IS PRODUCED. P. RADIATA SITES ARE CREATED.

SLOPE CORRECTION TABLE.

Slope Degrees	Corr. LKS/ch.	Corr. LKS/5ch.	Gradient	Slope Degrees	Corr. LKS/ch.	Corr. LKS/5ch.	Gradient
1	.01			16.	3.87	19¼	1/3½
2	.06			17	4.37	21¾	
3	.14		1/20	18	4.89	24½	1/3
4	.24		1/15	19	5.45	27¼	
5.	.38	2	1/12	20	6.03	30	
6.	.55	2¾	1/10	21	6.64	33¼	
7.	.74	3¾	1/8	22	7.28	36½	1/2½
8.	.97	5	1/7	23	7.95	40	
9.	1.23	6¼		24	8.60	43	
10.	1.52	7½	1/6	25	9.37	46¾	
11.	1.84	9¼	1/5	26	10.12	50½	1/2
12.	2.18	10	1/4½	27	10.90	54½	
13.	2.56	12¾		28	11.70	58½	
14.	2.97	15	1/4	29	12.54	62¾	
15.	3.41	17		30	13.40	67	

Abbreviations.

Bg - Banksia grandis (Bull banksia)
Bkn - Bracken
As - Acacia strigosa (Soft leaved wattle)
Au - Acacia urophylla (Broad leaved wattle)
Ap - Acacia pulchella (Prickly moses)
Aa - Acacia alata (Winged stem wattle)
Ad - Acacia decipiens (Shark tooth wattle)
Bbt - Blackbutt
Bby - Blackboy
Ka - Kingia australis (Blackgin)
Bch - Bullich
Pbk - Paperbark
F.G. - Flooded Gum
Bl - Banksia littoralis (Swamp paperbark)
Ml - Melaleuca lateritia (Red bottlebrush Teatree)
Bv - Banksia verticillata (River banksia)
Pl - Persoonia longifolia (Snoddy gobble)
At - Acacia trigonophylla (Thin leaved spindly fineweed)
Am - Acacis myrtifolia (gumleaf wattle)
Ac - Acacia cyanophylla (Tree wattle)
Ak - Acacia peutadenia (Karri wattle)
Al - Albizzia lophantha (Green bottlebrush)