

DEPARTMENTAL ARBORETA
IN SOUTH WESTERN AUSTRALIA
(Compiled by SILVIC. A. HART)
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FRONTISPICE

(Species code number key to all arboreta sketch plans included in this booklet, by numbers).

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SPECIES CODE NUMBER INDEX
FOR ALL ARBORETA

CODE NO.	SPECIES	CODE NO.	SPECIES	CODE NO.	SPECIES
1.	Euc. marginata	61.	Pinus pseudostrobus	118.	Arauc. angustifolia
2.	" polyanthemos	62.	Euc. triantha	119.	Abies religiosa
3.	" blakelyi	63.	Callitris intra-	120.	Pinus eldarica
4.	" longifolia		tropica	121.	Thuja occidentalis
5.	" triantha	64.	Pinus taeda	122.	Pinus douglasiana
6.	" tereticornis	65.	Euc. astringens	123.	" torreyana
7.	" camaldulensis	66.	" astringens x	124.	Pseudotsuga menziesii
8.	" globulus		wandoo	125.	Pinus flexilis
9.	" resinifera	67.	" gardneri	126.	Cedrus deodora
10.	" paniculata	68.	" baxteri	127.	Picea pungens
11.	" goniocalyx	69.	" botryoides	128.	Abies concolor
12.	" viminalis	70.	" fastigata	129.	Acer rubrum
13.	" globoidea	71.	" macrocarpa	130.	Sequoia gigantea
14.	" leucoxylon	72.	" delegatensis	131.	Fraxinus americana
15.	" sideroxylon	73.	" laevopinea	132.	Platanus occidentalis
16.	" redunca elata	74.	" gigantea	133.	Ulmus pumila
17.	Pinus nigra	75.	" robertsoni	134.	Thuja orientalis
	calabrica	76.	Larix leptolepis	135.	Populus nigra
18.	Euc. haemotoxylon	77.	Syncarpia laurifolia		(Budded)
19.	" scabra	78.	Pinus luchensis	136.	Liriodendron tulipifera
20.	" sieberi	79.	Euc. melliodora	137.	P. radiata (cambrina)
21.	" marginata	80.	" punctata	138.	P. radiata (Guadel)
22.	" pilularis	81.	Taxodium distichum	139.	P. radiata (Cedros)
23.	Cupress. torulosa	82.	Pseudotsuga	140.	P. radiata (Anonuevo)
24.	" lusitanica		taxifolia	141.	Pinus rigida
25.	Callit. calcarata	83.	Cedrus atlantica	142.	" virginiana
26.	" glauca	84.	Libocedrus decurrens	143.	" roxburghii
27.	" robusta	85.	Pinus lambertiana	144.	Picea sitchensis
28.	" propinqua	86.	" banksiana	145.	Pinus greggii
29.	Pinus patula	87.	" jeffreyi	146.	" pseudostrobus
30.	" carabaea	88.	" sylvestris	147.	" coulteri
31.	" elliottii	89.	" massoniana	148.	" montezumae
32.	" insularis	90.	" echinata	149.	" leiophylla
33.	Euc. hemiphylloia	91.	" palustris	150.	" brutia
34.	" muelleriana	92.	Picea Smithiana	151.	" pinea
35.	" "c"	93.	Tsuga heterophylla	152.	" contorta
36.	" robusta	94.	Pinus tabulaeformis	153.	" thombergii
37.	" obliqua	95.	Larix decidua	154.	" palustris
38.	P. ponderosa	96.	Pinus densiflora	155.	Virgilia capensis
39.	Euc. bosistoana	97.	Callit. rhomboidea	156.	Fraxinus excelsior
40.	P. muricata	98.	Syncarpia Hillii	157.	Liquidambar styrac
41.	" laricio	99.	Callit.	158.	Hymenos. flavum
42.	Euc. bicostata		cupressiformis	159.	Koelhaedia paniculata
43.	Pinus elliottii	100.	Angophora	160.	Cinnamomum camphora
	densa		intermedia	161.	Quercus lusitanica
44.	" canariensis	101.	Euc. patens	162.	Rhus succedanea
45.	" oocarpa	102.	Tristania conferta	163.	Salix babylonica
46.	" longifolia	103.	Euc. citriodora	164.	Salix spp.
47.	Juniperus procera	104.	" ficifolia	165.	Salix caprea
48.	Pinus pinaster	105.	Pinus clausa	166.	Populus deltoides
49.	Sequoia sempervirens	106.	Cupress. macrocarpa	167.	Euc. oreades
50.	Pinus radiata	107.	" knightii	168.	Acacia spp.
	(Monterey)	108.	Euc. gunnii	169.	Euc. calophylla rosea
51.	Euc. saligna	109.	" corymbosa		(Wann.)
52.	" microcorys	110.	Pinus halepensis	170.	Euc. calophylla rosea
53.	" maculata	111.	Euc. guilfoylei		(Collie)
54.	" cladocalyx	112.	Pinus khaysa	171.	Euc. calophylla rosea
55.	" gomphocephala	113.	" serotina		(Manjimup)
56.	" delegatensis x	114.	" nigra	172.	Euc. calophylla rosea
	macrorr.		austriaca	173.	Cas. equisetifolia
57.	" diversicolor	115.	" nigra	174.	Cup. sempervirens
58.	" alba		corsicana	175.	Pinus muricata
59.	P. carabaea (Bahamas)	116.	Arauc. cunninghamii		remorata
60.	Cupressus arizonica	117.	" excelsa	176.	Pinus sabiniana
				177.	" glabra

CODE NO.	SPECIES	CODE NO.	SPECIES	CODE NO.	SPECIES
178.	Pinus michoacana				
179.	" ayacahuite				
180.	" tenifolia				
181.	" greggii				
182.	" serotina				
183.	" rudis				
184.	" pinea				
185.	Euc. accedens				
186.	" falcata				
187.	Ac. pycnantha				
188.	Pinus attenuata				
189.	Euc. corymbosa				
190.	Acacia melanoxylon				
191.	Euc. botryoides x saligna				
192.	" maideni				
193.	" stuartiana				
194.	" regnans				
195.	" grandis				
196.	" gummifera				
197.	" propinqua				
198.	Pinus murrayana				
199.	Agathis australis				
200.	Ilex sp.				
201.	Juniperus virginiana				
202.	Betula alba				
203.	Euc. punctata				
204.	P. pinaster var. leiria				
205.	Euc. dives				
206.	" grandis x saligna				
207.	" rostrata				
208.	" amplifolia				
209.	" brevistylis				
210.	" pilularis pyriformis				
211.	" acmenoides				
212.	" nitens				
213.	Pseudotsuga Douglasiana				
214.	Quercus serris				
215.	Juglans regia				
216.	Euc. torquata				
217.	" erythrocorys				
218.	" cloeziana				
219.	Cas. frazeriana				
220.	Euc. caesia (Lge)				
221.	" cornuta				
222.	" cypellocarpa				
223.	" preissii				
224.	" tetraptera				
225.	Robinia pseudoacacia				
226.	Euc. orbifolia				
227.	Q. robur				
228.	Euc. kruseana				
229.	" desmondensis				
230.	Carya sp.				
231.	Euc. forrestiana				

GENERA AND SPECIES		CODE NO.	ARBORETA INDEX NO.
<u>ABIES</u>			
	concolor	128	10.3, 10.1
	religiosa	119	10.3, 9.5, 10.1
<u>ACACIA</u>			
	melanoxylon	190	7.4
	pycnantha	187	10.2
	spp.	168	10.3
<u>ACER</u>	rubrum	129	10.3, 10.1
<u>AGATHIS</u>			
	australis	199	8.1
<u>ANGOPHORA</u>			
	intermedia	100	1.5, 2.1
<u>ARAUCARIA</u>			
	angustifolia	118	10.3, 10.1
	cunninghamii	116	10.3, 9.5, 10.1
	excelsa	117	10.3, 9.5, 10.1
<u>BETULA</u>	alba	202	8.1
<u>CALLITRIS</u>			
	calcarata	25	(3.1, 3.3, 3.4, 9.1, 9.5, 10.2, 10.3
	cupressiformis	99	9.1
	glauca	26	3.1, 3.3, 1.6, 3.4, 10.1
	intratropica	63	3.1
	propinqua	28	3.4
	robusta	27	3.1, 3.4
	rhomboidea	97	9.1
<u>CARYA</u>	sp.	230	10.3
<u>CASUARINA</u>			
	equisetifolia	173	10.3
	frazeriana	219	9.5
<u>CEDRUS</u>	atlantica	83	9.1
	dedora	126	8.1, 10.3, 10.1
<u>CINNAMOMUM</u>			
	camphora	160	10.3, 10.1
<u>CUPRESSUS</u>			
	arizonica	60	3.1, 10.2, 10.3, 10.1
	knightii	107	5.1
	lusitanica	24	(1.6, 1.4, 3.1, 3.4, 5.1, 10.3, 10.1
	macrocarpa	106	5.1, 10.3, 10.1
	sempervirens	174	8.1
	torulosa	23	3.4
<u>EUCALYPTUS</u>			
	accedens	185	10.2
	acumenioides	211	9.5
	alba	58	3.4
	amplifolia	208	8.1
	astringens	65	1.2, 1.1
	astringens x wandoo	66	1.2, 10.2
	baxteri	68	1.2, 7.2, 9.5
	bicostata	42	(1.2, 1.5, 1.4, 2.1, 3.1, 3.4, 7.2, 9.5, 10.2,
	blakelyi	3	3.1
	bosistoana	39	1.2, 3.1, 3.4, 7.2, 8.1
			9.5

GENERA AND SPECIES	CODE NO.	ARBORETA INDEX NO.
<u>EUCALYPTUS</u> (CONT'D)		
botryoides	69	{ 1.2, 1.5, 1.1, 2.1, 5.1, 9.5, 10.2, 10.3
botryoides x saligna	191	7.2
brevistylis	209	9.5
"C"	35	3.1, 3.4
caesia (Large)	220	9.5
calophylla rosea	172	9.5, 10.3
" " " (Wann)	169	10.3
" " " (Collie)	170	9.5, 10.3
" " " (Manj)	171	9.5, 10.3
camaldulensis	7	{ 1.1, 3.1, 3.4, 5.1, 7.2, 9.5, 10.3
citriodora	103	{ 1.6, 1.1, 4.1, 5.1, 7.4, 8.1, 9.5, 10.2
cladocalyx	54	{ 1.2, 1.5, 2.1, 3.1, 3.4, 5.1, 6.1, 7.2, 7.4, 10.2, 9.5
cloeziana	218	9.5
cornuta	221	9.5
corymbosa	189 } 109 }	5.1
cypellocarpa	222	9.5
delegatensis	72	1.2, 7.2, 9.5
delegatensis x macrorrh.	56	3.4
desmondensis	229	10.3
diversicolor	57	{ 1.1, 3.1, 5.1, 7.2, 9.5, 10.3
dives	205	8.1
erythrocorys	217	9.5
falcata	186	10.2
fastigata	70	1.2, 7.4, 9.5
ficifolia	104	1.1, 5.1, 7.2
forrestiana	231	10.3
gardneri	67	1.2, 1.1, 10.2
gigantea	74	1.2, 6.1, 10.3
globoidea	13	3.1, 3.4
globulus	8	{ 1.2, 1.5, 1.1, 2.1, 3.1, 3.4, 4.1, 5.1, 7.2, 7.4, 8.1, 9.5, 10.3
gomphocephala	55	1.6, 3.1, 3.4, 7.2, 10.3
goniocalyx	11	{ 3.4, 5.1, 7.2, 7.4, 9.5, 10.3
grandis	195	7.2, 9.5
grandis x saligna	206	8.1
guilfoylei	111	5.1, 9.5
gunnii	108	5.1
gummifera	196	7.2, 9.5
haemotoxylon	18	3.4, 9.5
hemiphloia	33	3.1, 3.4
kruseana	228	10.3
laevopinea	73	1.2
leucoxylon	14	3.1, 3.4
longifolia	4	{ 3.4, 6.1, 7.2, 7.4, 8.1, 9.5
maculata	53	{ 1.5, 1.6, 2.1, 3.1, 3.4, 4.1, 5.1, 7.3, 8.1, 9.1, 9.5, 10.2
macrorrhyncha	71	1.2, 3.1, 6.1, 7.2, 9.5
maideni	192	7.2, 8.1, 9.5
marginata	1	1.4, 3.1, 3.4
melliodora	79	5.1, 8.1, 10.2
microcorys	52	{ 1.2, 1.5, 2.1, 4.1, 6.1, 7.2, 9.1, 9.5, 3.1, 3.5, 3.4
muelleri (ana)	34	{ 1.2, 3.1, 3.4, 7.2, 9.5, 10.2, 10.3

GENERA AND SPECIES	CODE NO.	ARBORETA INDEX NO.
<u>EUCALYPTUS</u> (CONT'D)		
nitens	212	9.5
obliqua	37	{1.2, 3.1, 3.4, 7.2, 8.1, 9.5, 10.1
orbifolia	226	10.3
oreades	167	9.5, 10.3
paniculata	10	{3.1, 3.4, 4.1, 5.1, 6.1, 7.2, 7.4, 8.1, 9.1, 9.5
patens	101	1.6, 9.5
pellita	21	1.6
pilularis	22	{1.2, 3.1, 3.4, 6.1, 7.2, 7.4, 9.1, 9.5
pilularis pyriformis	210	9.5
polyanthemos	2	3.4, 9.5
propinqua	197	7.2, 9.5
preissii	223	9.5
punctata	203 } 80 }	8.1, 9.1
redunca elata	16	2.1, 3.1, 3.4, 10.2
regnans	194	7.2, 9.5
resinifera	9	{1.6, 1.1, 3.1, 3.4, 4.1, 7.2, 9.1, 9.5
robertsoni	75	2.1
robusta	36	{1.5, 1.6, 2.1, 6.1, 7.2, 7.4, 3.1, 3.4, 5.1, 9.5
rostrata	207	8.1
saligna	51	{3.1, 3.4, 4.1, 7.2, 7.4, 1.5, 1.6, 2.1, 5.1, 6.1, 8.1, 9.1, 9.5
scabra	19	2.1, 3.1, 7.2, 9.5
sideroxylon	15	2.1, 3.1, 3.4, 5.1, 6.1
sieberi	20	{2.1, 3.1, 3.4, 6.1, 7.2, 7.4, 9.5, 8.1
stuartiana	193	7.2
tereticornis	6	1.4, 3.1, 3.4, 8.1
tetraptera	224	9.5
torquata	216	9.5
triantha	62 } 5 }	3.1, 3.4
viminalis	12	3.1, 3.4, 4.1, 9.5, 5.1, 6.1, 7.2
<u>FRAXINUS</u>		
americana	131	10.3
excelsior	156	10.3
<u>HYMENOSPORUM</u>		
flavum	158	10.1
<u>ILEX SP.</u>	200	8.1
<u>JUGLANS</u>		
regia	215	9.5
<u>JUNIPERUS</u>		
procera	47	3.1, 3.4, 6.1
virginiana	201	8.1
<u>KOELREUTIA</u>		
paniculata	159	10.3
<u>LARIX</u>		
decidua	95	9.1
leptolepis	76	9.1, 10.2
<u>LIBOCEDRUS</u>		
decurrens	84	9.1

GENERA AND SPECIES	CODE NO.	ARBORETA INDEX NO.
<u>LIQUIDAMBER</u>		
styraciflua	157	10.3
<u>LIRIODENDRON</u>		
tulipifera	136	10.1
<u>PINUS</u>		
attenuata	188	10.2
ayacahuite	179	10.2
banksiana	86	9.1
canariensis	44	3.1, 3.5, 5.1, 6.1, 7.4, 8.1, 9.1, 9.5, 10.2, 10.3, 10.1
carabaea	30	3.1, 3.4, 6.1, 8.1, 9.1, 9.5, 10.3, 10.1
carabaea (Bahamas)	59	3.1
clausa	105	5.1, 10.3
contorta	152	9.5, 10.3
coulteri	147	10.2, 10.3
densiflora	96	5.1, 6.1, 9.1, 10.3
douglasiana	122	10.3, 10.1
echinata	90	5.1, 6.1, 8.1, 9.1
eldorica	120	9.5, 10.3, 10.1
elliottii	31	{ 3.1, 3.4, 3.5, 10.3, 10.1 5.1, 9.5, 10.2
elliottii densa	43	3.4, 10.5
flexilis	125	10.3, 10.1
glabra	177	10.3
greggii	{ 145 181	9.5, 10.5, 10.1
halepensis	110	5.1, 7.4
halepensis brutia	150	9.5, 10.5, 10.1
insularis	32	3.1, 3.4, 9.5, 10.3, 10.1
jeffreyi	87	8.1, 9.1, 10.3, 10.1
khaysa	112	10.3, 10.1
lambertiana	85	8.1, 9.1
laricio	41	3.5, 5.1, 6.1, 8.1, 9.1, 9.5, 10.2, 10.3
leiophylla	149	10.3
longifolia	46	3.1, 3.4, 6.1, 9.1
luchensis	78	6.1, 9.1
massoniana	89	7.4, 8.1, 9.1
michoacana	178	
montezumai	148	10.3
muricata	40	3.5, 5.1, 6.1, 8.1, 9.1, 10.5, 10.1
muricata remorata	175	10.3
murrayana	198	8.1
nigra calabrica	17	3.1, 3.4, 9.5, 10.3, 10.1
nigra austriaca	114	9.5, 10.3, 10.1
nigra corsicana	115	9.5, 10.3, 10.1
ocarpa	45	3.1, 3.4, 9.5, 10.3, 10.1
palustris	{ 154 91	5.1, 6.1, 9.1, 10.3, 10.1
patula	29	{ 5.1 1.4, 3.1, 3.4, 6.1, 9.1, 9.5 10.2, 10.3, 10.1
pinea	{ 151 184	7.4, 10.3, 10.1
pinaster	48	{ 1.1, 3.1, 3.5, 6.1, 7.4, 8.1 9.1, 9.5 3.4, 10.2, 10.3, 10.1
pinaster Leira	204	8.1
ponderosa	38	3.1, 3.4, 6.1, 9.1, 9.5, 10.2, 10.3, 10.1
pseudostrobus	{ 61 146	3.1, 10.3, 10.1
radiata (monterey)	50	1.1, 3.5, 6.1, 7.2, 7.4, 8.1, 9.5, 10.2, 10.3, 10.1

GENERA AND SPECIES	CODE NO.	ARBORETA INDEX NO.
<u>PINUS</u> (CONT'D)		
radiata (cambria)	137	10.3, 10.1
radiata (guadeloupe)	138	10.3, 10.1
radiata (cedros)	139	10.1
radiata (anonuevo)	140	10.3, 10.1
rigida	141	10.3, 10.1
roxburghii	143	10.3, 10.1
rudis	183	10.3
sabiniana	176	10.3
serotina	182	9.5, 10.5, 10.1
	113	
sylvestris	88	9.1
tabulaeformis	94	9.1
taeda	64	1.4, 3.1, 5.1, 6.1, 8.1, 9.1, 9.5, 10.5
tenuifolia	180	10.2
thunbergii	153	10.3, 10.1
torreyana	123	9.1, 10.3, 10.1
virginiana	142	10.3, 10.1
<u>PICEA</u>		
pungens	127	10.3, 10.1
sitchensis	144	10.1
smithiana	92	9.1
<u>POPULUS</u>		
deltoides	166	
nigra (budded)	135	9.5, 10.1
<u>PLATANUS</u>		
occidentalis	132	10.1
<u>PSEUDOTSUGA</u>		
douglasiana	213	9.5
menziesii	124	10.3, 10.1
taxifolia	82	9.1, 10.2
<u>QUERCUS</u>		
lusitanica	161	10.3
robur	227	6.1, 10.3
serris	214	9.5
<u>RHUS</u>		
succedanea	162	10.3, 10.1
<u>ROBINIA</u>		
pseudoacacia	225	7.4
<u>SALIX</u>		
babylonica	163	10.1
caprea	165	10.1
spp.	164	10.1
<u>SEQUOIA</u>		
gigantea	130	10.1
sempervirens	49	{ 3.5, 3.4 7.2, 8.1; 9.1, 9.5, 10.3, 10.1
<u>SYNCARPIA</u>		
Hilli	98	9.1
laurifolia	77	4.1, 5.1, 9.1
<u>TAXODIUM</u>		
distichum	81	9.1, 9.5
<u>THUJA</u>		
occidentalis	121	10.3
orientalis	134	10.1
<u>TRISTANIA</u>		
conferta	102	1.6, 3.5, 5.1, 7.2, 7.4, 10.
<u>TSUGA</u>		
heterophylla	93	3.1, 9.1

GLENEAGLE ARBORETUMS - KELMSCOTT DIVISION

ESTD: 1963, 1964, 1965 & 1966

LOCATION:

To the north of the old Gleneagle settlement on the Albany Highway (currently used as a picnic spot). (Map Reference: BO 70 1.1 (1964 area)).

SOILS & TOPOGRAPHY

Rather gentle lower slopes of north eastern aspect adjacent to a small drainage channel and gully flats area.

Soils generally of two types:-

- (a) on lower slopes, pale Y/Br sandy gravels of poor fertility of shallow depth to rather impermeable layers
- (b) pale white yellow sandy loams and silty clays of the drainage channel area, frequently waterlogged in winter and extremely dry in summer & clothed in hardy ground covers and shrubs, which offer high level competition for available moisture.

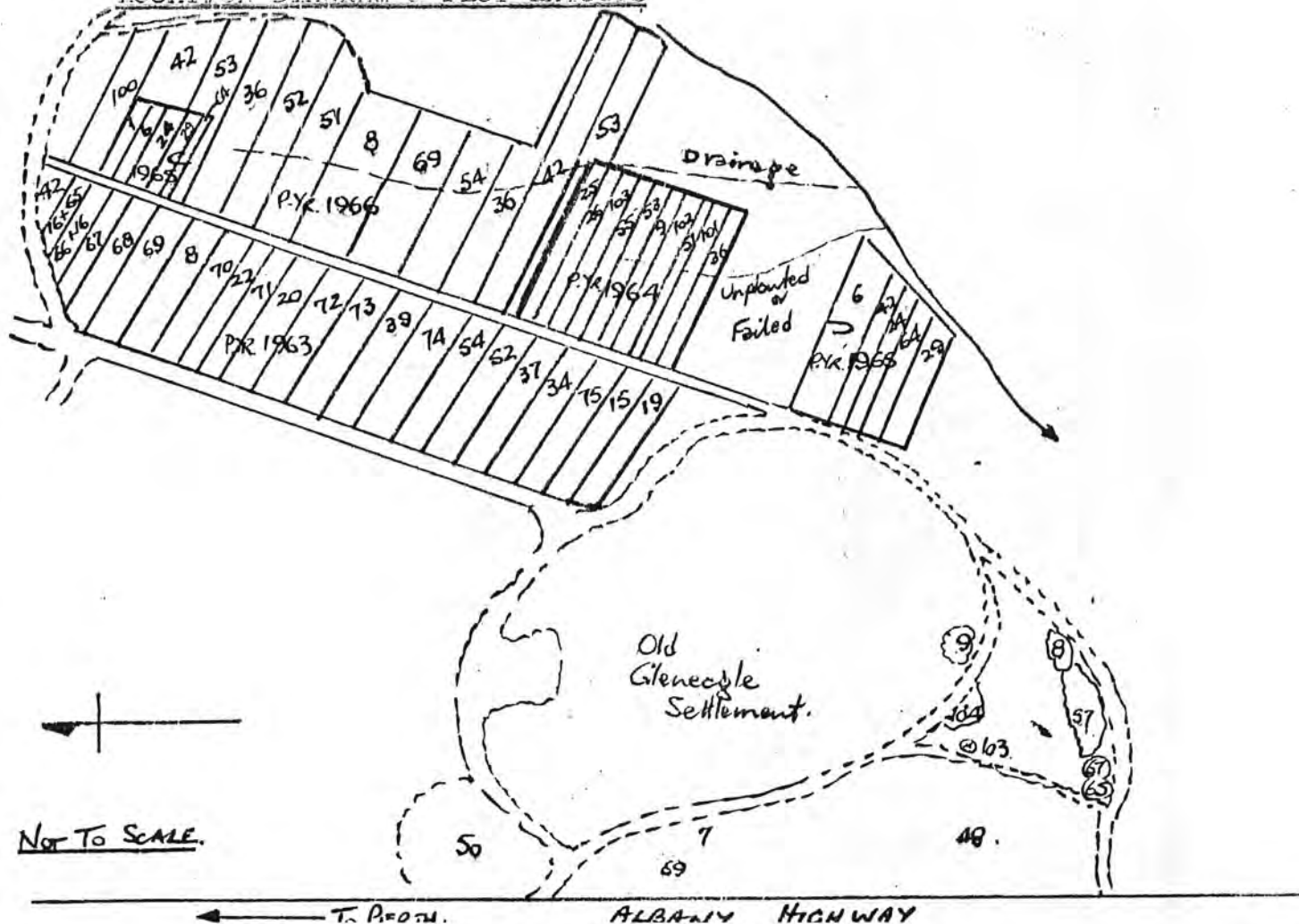
GENERAL:

Initial plantings were mostly unsuccessful, except on higher ground until mound plowing was used. Despite this, plantings of 1965 were almost a complete failure, due to waterlogging, die back and scrub competition.

The age of these arboretas is now such, that their continued performance can be followed with interest due to the limiting nature of this vigorous site.

It is of interest, that Euc.marginata was replanted in the 1965 section on some rather stony (lateritic) country, on slightly higher ground and appears thrifty at present and developing well.

LOCATION DIAGRAM & PLOT LAYOUTS



EUCALYPT SPP

SPECIES	AREA (ha)	SURV. %	NON ASH BED					ASHBED					COMMENTS
			MEAN DBHOB.	MEAN HT	M.A.I. (DBHOB)	M.A.I. HT(m)	COMMENTS	MEAN DBHOB	MEAN HT	M.A.I. DBHOB	M.A.I. HT(M)	% SURV	
Euc. astringens	0.05	?	6.05"	10.50m	0.46"	0.80m	V. GOOD						
" baxteri	0.2	45.5	F 4.82	A I L E D	0.42	0.67	1/2 Plot Supered						
" botryoides	0.2	96.0	4.90	8.69	0.43	0.75	Supered	NO OBSERVATIONS					
" bosistoana	0.2	90.00	2.79	4.66	0.242	0.405	Non Super						
" cladocalyx	0.2	97.50	4.80	11.07	0.417	0.96	Fair	3.85	5.00	0.335	0.435		
" delegatensis	0.2		5.21	9.60	0.45	0.83	Good-V. Good	5.78	10.64	0.50	0.925		
" fastigata	0.2	43.5	F N/Av	A I L E D			Fair	F A I L E D					
" gigantea	0.2	9.5	F 4.39	A I L E D				F A I L E D					
" gardneri	0.13	?	F 3.69	A I L E D				NO OBSERVATIONS					
" globulus	0.2	83.00	4.59	7.90	-	0.66m	Good	NO OBSERVATIONS					
" laovopinea	0.2	75.00	3.52"	5.15	0.40	0.45	Supered	NO OBSERVATIONS					
" macrocarphyncha	0.2	50.00	F 3.52"	A I L E D			Non Supered	3.84	7.93	0.335	0.69		55 Survivor
" microcorys	0.2	78.00	4.75	9.13	0.38	0.80	Fair	NO OBSERVATIONS					
" muelleri	0.2	54.5	5.13	6.80	0.32	0.59	Supered	NO OBSERVATIONS					
" obliqua	0.2	68.00	5.38	8.91	0.47	0.78	Fair Thrift	3.95	7.14	0.345	0.62		Supered
" pilularis	0.2	69.00	4.81	8.75	0.445	0.76	Supered	NO OBSERVATIONS					
" robertsoni	0.2	49.00	4.45	10.50	0.417	0.91	Not Supered	4.24	6.72	0.37	0.585		Very fair
" siderocylon	0.2	58.5	5.67	6.60	0.49	0.57							thrift
" sieberi	0.2	31.5	5.07	6.58	0.44	0.57	1/2 Supered						
" scabra	0.2	67.00	F 4.15	A I L E D			1/2 Not Supered	NO OBSERVATIONS					No. Survivo
" wandoo	0.07	?	4.03"	7.0ap	0.33	0.58	Fair to Good	7.46	13.65	0.65	1.16		Likely to f
							Fair	4.71	5.25	0.41	0.46		
							+Super Good						
							(Thrift)						
							2.5Y 8/2 Soil	6.61	7.50	0.575	0.65		Fair to Goo
							Type						Thrift
						</							

GLENNEAGLE ARBORETUM - (1963) & (1964)

MEASUREMENTS FOR COMPARISONS OF THINNING EFFECTS (26/3/76).

SPECIES	THINNED PLOTS				UNTHINNED PLOTS			
	POST THINNING (MEANS)				DBHOB	BOLE	T/HT	THRIFT
1. <i>Euc. robusta</i> <i>xpellita</i> (1964)	11.68 cm	3.41	7.13	Good	14.23	4.7	9.11 (6.40) includes <i>Euc. robusta</i> types	Fair-Good
2. <i>Euc. microcorys</i> (1963)	14.07	2.7	7.35	Fair	16.47	3.7	10.1 (8.75)	Fair
3. <i>Euc. pilularis</i> (1963)	19.04	6.40	12.18 (Mound Planted)	Good- V.G.	16.06	4.89	10.88 (10.50)	Fair-Good Scrub Comp ⁿ .
4. <i>Euc. globulus</i> (1963)	12.24	2.7	9.68	Fair- Good <u>U/S</u>	15.42	3.50	11.90 (9.13)	Fair
5. <i>Euc. botryoides</i> (1963)	13.53 cm	2.25	7.30	Good	12.64	3.00	7.33 (8.69)	Fair to Good

NOTE: (1) See field notebook for rows measured in each plot.

(2) Ht in parenthesis are best mean heights from samples of 5 trees in 1975 assessments.

GLENEAGLE ARBORETUM (1965 PLANTINGS)

1975 REMEASUREMENTS

NEARLY ALL PLANTINGS FAILED WITH THE FOLLOWING EXCEPTIONS:

- (1) *Euc. marginata* - best stems 7.0m tall, multistemmed, coppice like
- (2) " *tereticornis* - best stems 8.0m thrift Very fair
- (3) *Cupressus lusitanica* - best stems 2.6m - all poor development
- (4) *Pinus patula* - best stems 6.25m tall, 3.86" DBHUB, least ht. 1.5m
- (5) *Pinus taeda* - best stems 6 to 10m tall, DBHUB 5.51" (5 stem sample)
UNIFORMITY C-B

GLENEAGLE ARBORETUM (1966 PLANTINGS)

1975 REMEASUREMENTS

SPECIES	AREA	% SURV. ESTD.	DBHOB				T/HT (M)				THRIFT	UNIFORM	COMMENT
			MEAN A/B	N/AB	M.A.I. A/B	N/AB	MEAN A/B	N/AB	M.A.I. A/B	N/AB			
Angophora intermedia	0.08	25.0		F A I L E D				F A I L E D					
Eucalyptus costata	0.10	31.0		2.25"		0.45"		4.73m		0.53	Poor	D-C	Best 7.0m tall F- Thrift 'C'
" botryoides	0.30	85.0		3.64"		0.43		5.15		0.61	Fair	C	Partially failed
" cladocalyx	0.70	83.0		3.72"		0.44		4.26		0.50			2.5YR8/3 Low grow
" globulus	0.15	52.0		3.60"		0.43		6.75		0.79	Fair - Good	C-B	2.5YR8/3
" maculata	0.19	75.0		4.36"		0.51		7.21		0.85			10YR8/4
" microcorys	0.48	95.0		5.67"		0.67		10.48		1.24	Good		2.5YR8/4
" robusta	0.24	76		3.42"		0.40"		7.25		0.85	Fair		10YR8/4
" saligna	0.11	88.0		2.94"		0.35		5.75		0.68	Good	B-A	
				4.77"		0.56"		8.80		1.04	Fair	B	2.5YR8/4
				4.24"		0.50		7.20		0.85	Fair - Good	B	10YR8/3
				4.43"		0.52		5.40		0.64	Fair	C-B	2.5YR8/4
				4.55"		0.54		5.90		0.69	Fair - Good	B	10YR8/3
				5.01		0.60		9.00		1.06	Fair - Good	B	2.5YR8/4
				3.55		0.42		6.72		0.79	Fair - Good	B	10YR8/3

9

GLENLEAGUE ARBORETUM (1964 PLANTINGS)

1975 REMEASUREMENTS

SPECIES	AREA (HA)	% SURV (ESTD)	DBHOB"		T/HT (M)		THRIFT	UNIFORM	COMMENT
			MEAN	M.A.I.	MEAN	M.A.I.			
• Callitris calcarata	0.11	29			FAI L E D				
• Callitris glaucæ	0.11	35			FAI L E D				
• Euc.citriodora	0.11	11			FAI L E D				
• Euc. gomphocephala	0.11	81	3.69"	0.35	5.35	0.51	V.Fair-Fair	C	
• Euc.maculata	0.11	94	3.57"	0.34"	7.29	0.69	Fair	C-B	
• Euc.resinifera	0.11	95	4.76"	0.45"	7.47	0.71	F-Good	B	
• Euc.saligna	0.11	68	3.10"	0.30"	7.84	0.75	Fair	C	
• Euc.patens	0.11	43	5.97"	0.57	7.64	0.73	V.Good	C	Failed towards wettest areas of gully
• Euc.robusta (& x pellita)	0.11	79	4.23 4.40	0.40 0.42	6.05 6.40	0.57 0.61	Good F-Good	B -- B --	Supered Non Supered
10. • Tristania Conferia	0.11	89	N/AVAIL.		2.27	0.22	Good	B-A	Stunted, but th heavy scrub competition

COOKE 9E ARBORETUM - KELMSCOTT DIVISION

LOCATION: Adjacent to the Albany Highway on the east side
at Map Reference BW 74 4.2

SOIL TYPE & TOPOGRAPHY

Situated generally in a drainage channel flat, which flows south easterly and subjected to partial waterlogging in the lower areas of the plot.

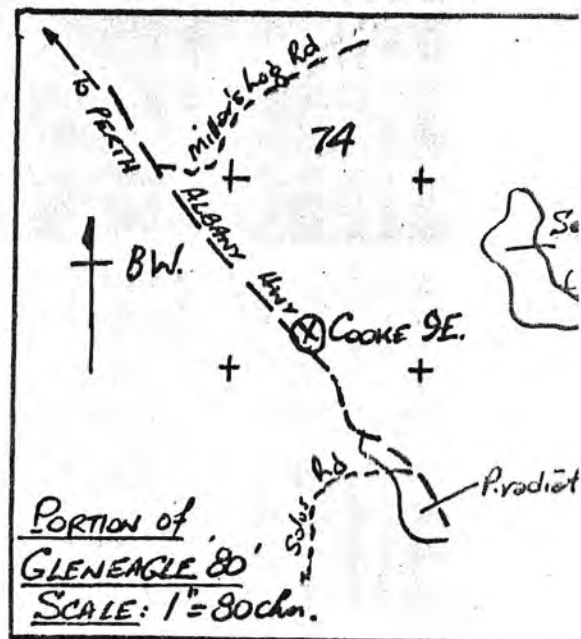
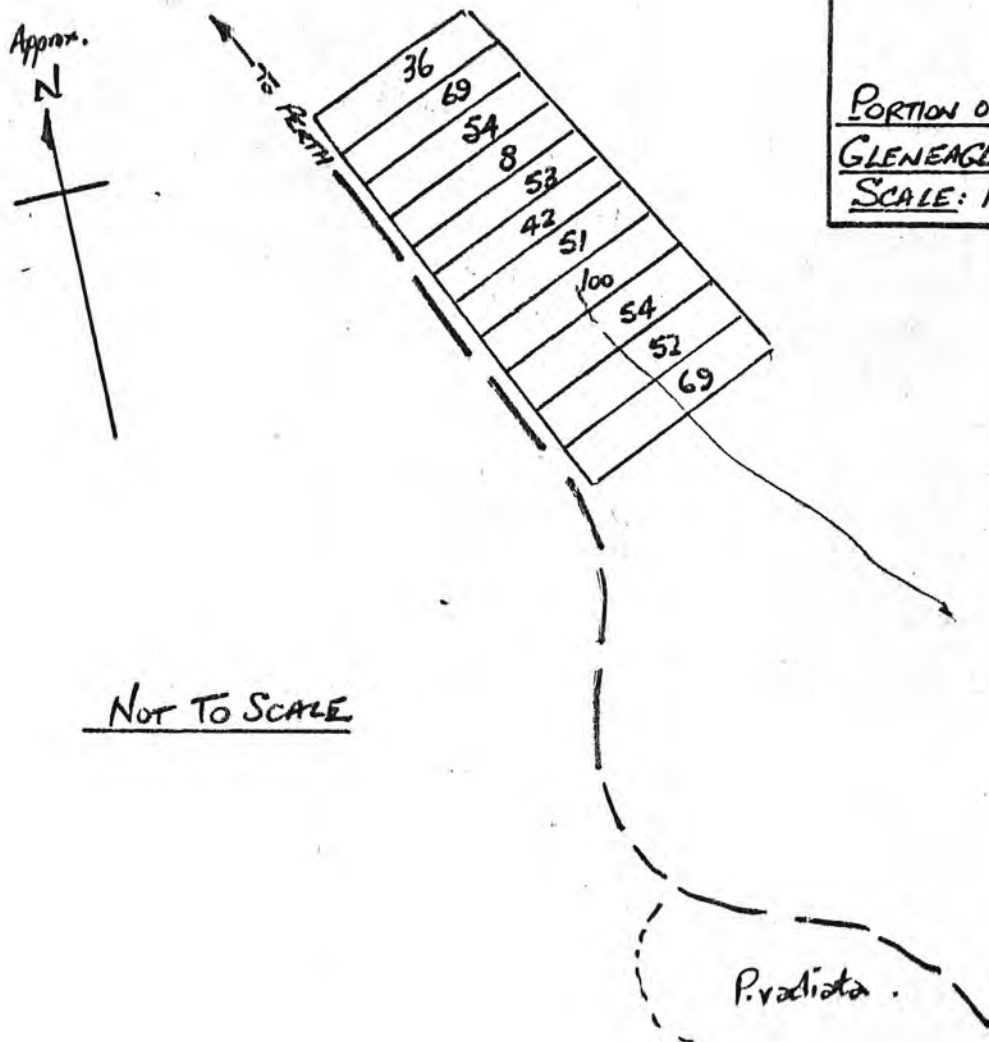
Soils essentially pale yellow brown fine silty clay loams with some gravel included. Aspects southerly and north easterly, position being lower slopes and gully bottoms.

GENERAL:

The area used was heavily attacked by die back and rehabilitation followed rapidly in 1966. Plantings suffered from waterlogging and extreme dryness in 1969-70 droughts, scrub competition and die back, plus frosting being a low lying area.

Species under test here have been exposed to some of the worst conditions to be found in the northern Jarrah forest regions, so that results should be quite precise in terms of capabilities.

LOCATION DIAGRAM & PLOT LAYOUT



COOKE 9E (13/2/75)

SPECIES	SOIL CODE	% DEATHS	MEAN A	DBH N/A	MAI A	DBH /NA	MEAN A	HT N/A	MAI A	N/A	THRIFT	C/W	UNIT	REMARKS
1. Euc.robusta	7.5YR7/4	3.5	-	4.19	-	0.49	-	4.50	-	0.53	F	3.5	B	Appear under str but good survival
2. " botryoides	" 7/6	7.8	3.56	2.45	0.42	0.285	5.3	5.0	0.62	0.59	F-G	4.0	B	
3. " cladocalyx	" 7/4	19.7	3.66	2.58	0.43	0.305	6.5	5.0	0.76	0.59	F-G	2.75	B-A	
4. " globulus	" 7/4	14.7	3.44	2.84	0.405	0.33	5.09	7.0	0.59	0.83	V.F.	2.0	C-B	Heavily infested with Hardea comptonian most which has died - soils seem suite
5. " maculata	10YR8/6	20	4.58	3.76	0.54	0.445	6.20	8.40	0.72	0.99	F-G	2.0	B	
6. " bicostata	" 8/3 8/4	6.8	4.36	2.78	0.51	0.327	7.27	5.25	0.86	0.62	"	2.9	C-B	
7. " saligna	" 8/3	17.6	4.47	4.09	0.525	0.48	8.10	8.73	0.95	1.03	"	3.25	C-B	Some of the best stems seen on fl silty sand loams prob. overlying clays
8. Hvy. intermedia	" "	46.5	-	7.02	-	0.83	-	3.42	-	0.40	V.Fair	2.6	C	
9. Euc.cladocalyx	10YR7/1	25.7	-	3.13	-	0.36	-	6.20	-	0.73	F-G	2.75	C-B	
10. " microcorys	"	40.7	-	4.09	-	0.48	-	5.66	-	0.665	F	4.5	"	Fair only on thl site
11. " botryoides	7.5YR7/2	16.6	-	3.55	-	0.42	-	4.44	-	0.52	F-G	4.0	"	

TEESDALE ARBORETUM - DWELLINGUP (ESTD. 1965-6)

MAP REFERENCE: CU 58 1.10 SPACED 8'x7' FERTILIZER: NPK:2ozs (3:6:1/2)/tree * = 1971 Meast.

SPECIES	ARBORM. PLAN PLOT No.	P.YR	1968				1970			1975						COMMENT
			% SURV.	TOTAL HT		M.A.I. 100spa	TOTAL HT		M.A.I. 100spa	TOTAL HT(m)		DBHOB(cm)		M.A.I.		
				100spa	40spa		100spa	40spa		100spa	40spa	100spa	40spa	T/HT 100spa	DBHOB 100spa	
EUCALYPTS																
" blakelyi	13	1965	94	2.44	2.74	0.81	3.67	4.20	0.73							6/70 - 12% D/B affected. S/N3244 Ex N.S.W.
" bosistoana	41	1966	78	0.88	0.94	0.44	4.18	4.85	1.04							
" bicostata	45	1966	92	1.19	1.31	0.59	3.57	4.11	0.89	5.48	6.19	8.6	10.2	0.61	0.96	
" camaldulensis	7	1965	88	4.28	4.75	1.43	6.50	7.58	1.30							S/N3040 ex A.C.T. A/B 8% D/B affected 1970 Seed ex TANZANIA S/N3227 - NGN
" "C"	40	1967	N/Av	1.77	2.07	1.77	1.83	2.16	0.61							
" cladocalyx	47	1966	85	2.02	2.16	1.01	5.85	6.40	1.17	9.68	10.55	13.4	13.8	1.07	1.49	
" gomphocephala	42	1966	89	2.0	2.19	1.0	4.44	5.09	1.11	6.90	7.50	9.7	10.2	0.77	1.08	
" gonioalax	6	1965	78	3.29	3.60	1.09	4.91	5.32	0.98	8.02	8.67	13.59	13.97	0.80	1.36	Few D/B deaths Seed Ex N.S.W.
" globoidea	9	1965	78	3.26	3.44	1.09	5.16	5.55	1.03							S/N3042 ex TAS.
" globulus	1	1965	51	7.0	7.71		10.50	11.13		16.18	16.70	20.7	21.8	1.62	2.07	7/70 - 27 Stems thinned
" hemiphloia	46	1966	87	0.88	1.31	0.44	1.86	2.07	0.46							S/N3358 ex N.S.W.
" leucoxyton	10	1965	94('65)	2.44	2.99	0.81	3.50	3.94	0.70							S/N3248 - 1970 4% killed by D/B
" longifolia	12	1965	84(?)	3.50	3.84	1.17	5.60	6.25	1.12	8.35	9.37	13.3	15.9	0.84	1.33	
" maculata	48	1966	87	1.22	1.31	0.61	4.15	4.54*	0.81	6.10	6.47	6.7	8.8	0.68	0.74	2.8% D/B killed
" marginata																
" microcorys	43	1966	91	1.49	1.62	0.74	4.75	5.12	0.95	8.15	8.62	11.8	11.0	0.91	1.31	1% D/B killed 2% affected
" muelleri	49	1966	69	1.83	1.86	0.91	3.99	4.94	0.99	7.5	8.57	12.7	15.49	0.83	1.41	S/N3624 & 3451 ex VIC. 24.7% killed by D/B
" obliqua	33	1966	75	1.98	2.34	0.99	5.56*	6.52	1.11							Mixed S/N
" paniculata	3	1965	95	3.14	3.44	—	5.22	5.75	1.00spa	9.12	10.65	13.3	15.7	0.91	1.33	S/N3243 few D/B deaths
" pilularis	32	1965	79	4.11	4.75	1.37	7.10	7.73	1.42	13.26	14.50	20.6	21.6	1.33	2.06	S/N2886 Kempsey NSW
" resinifera	2	1965	95	4.66	4.85	1.55	7.59	7.72	1.52	11.11	12.07	17.6	17.6	1.11	1.76	S/N2881 Glen Innes NSW
" robusta	17	1966	78	1.53	1.83	0.77	4.73*	5.64	0.95	8.67	9.69	16.7	19.7	0.96	1.86	
" sieberi	5	1965	83	5.15	5.73	1.72	6.39	7.30	1.28							S/N3282 36% killed by D/B
" scabra	15	1965	52	4.05	4.78	1.35	4.23	4.86	0.85							
" saligna	44	1966	67	2.16	2.62	1.08	6.58	7.47	1.65	10.15	11.56	13.8	13.9	1.13	1.53	Local seed. No D/B effects seen
" sideroxylon	11	1965	74	2.55	2.68	0.85	4.15	4.98	0.83							
" tereticornis	8	1965	99	3.30			4.75			6.89	7.6	6.86	7.54	0.69	0.69	S/N2770 ex VICTORIA A/B effects
" triantha	14	1965	91	2.62	2.77	0.87	3.59	3.79	0.72							S/N2889 N.S.W.
" viminalis	4	1965	75	1.92	2.07	0.64	2.91	3.48	0.58							S/N3242 A/B effects S/N2890 Nundle S.F.
" wandoo	15	1965	72(66)	2.25	2.53	0.84	3.76	4.02	0.75	6.02	6.40	10.6	11.20	0.60	1.06	N.S.W. S/N2352 NGN 'poor' plants used
									0.48 0.70							

SPECIES	ARBORM. PLAN PLOT NO.	P.YR	1968				1970			1975						COMMENT
			% SURV.	TOTAL HT		M.A.I. 100spa	TOTAL HT		M.A.I. 100spa	TOTAL HT (m)		DBHOB (cm)		M.A.I.		
				100spa	40spa		100spa	40spa		100spa	40spa	100spa	40spa	T/HT 100spa	DBHOB 100spa	
PINUS																
" canariensis	24	1965					3.24	3.54	0.65							5cwt/ac R/Phosph. 2/69
" carabaea (Bah)																No information available
" carabaea (Hon)	21	1965	N/Av	1.55	1.80	0.52	3.60	3.92	0.72							S/N3279 ex Br. Honduras
" elliotii	20	1965	94	1.86	2.04	0.62	3.49	3.69	0.69							Stock O/R 5cwt R/Phosph. 2/69 No D/B symptoms No information available
" " var.densa																
" insularis	22	1965					3.72	4.17	0.74							5cwt/ac R/Phosph 2/69
" nigra calabrica	18	1965	N/Av	0.34	N/Av	0.11										S/N3222 ex Italy
" oocarpa																No information available
" patula	25	1965	N/Av	1.74	1.89	0.58	3.35	3.58	0.71							S/N3101 5cwt/ac R/Phosph. 2/69
" ponderosa																No information available.
" taeda	23	1965	100	2.16	2.53		4.41	4.67								Trayed stock 5cwt/ R/Phosph. 2/69
CALLITRIS																
" calcarata	28	1965	89	2.29	2.44	0.76	3.85	4.19	0.77							Trayed stock
" glauca	30	1965	95	1.77	1.83	0.59	3.35	3.52	0.67							S/N3048
" robusta	29	1965	99	1.80	1.86	0.60	2.82	2.99	0.56							S/N3171
CUPRESSUS																
" tusitanica	26	1965	N/Av	1.67	1.86	0.56	2.15	2.57	0.43							S/N3266 Trayed
" torulosa	27	1965	70	0.52	0.61	0.17	0.70	0.76	0.14							S/N3234
JUNIPERUS																
" procera																No observations available

INGLEHOPE ARBORETUM

LOCATION: Dwellingup Division, east along Maradong Road to Inglehope (Map reference CX 69 6.9)

SOIL TYPE & TOPOGRAPHY

Essentially consists of Y/Br lateritic sandy gravel on a low ridge of N.W. aspect.
Rainfall is considered to be 1125mm.
Soils possibly have clays at a shallow depth than usual and appear devoid of the rather impervious lateritic cap rock as such.

GENERAL: The original arboretum (as per Page 1) was established during 1928-29 essentially *Pinus* spp.

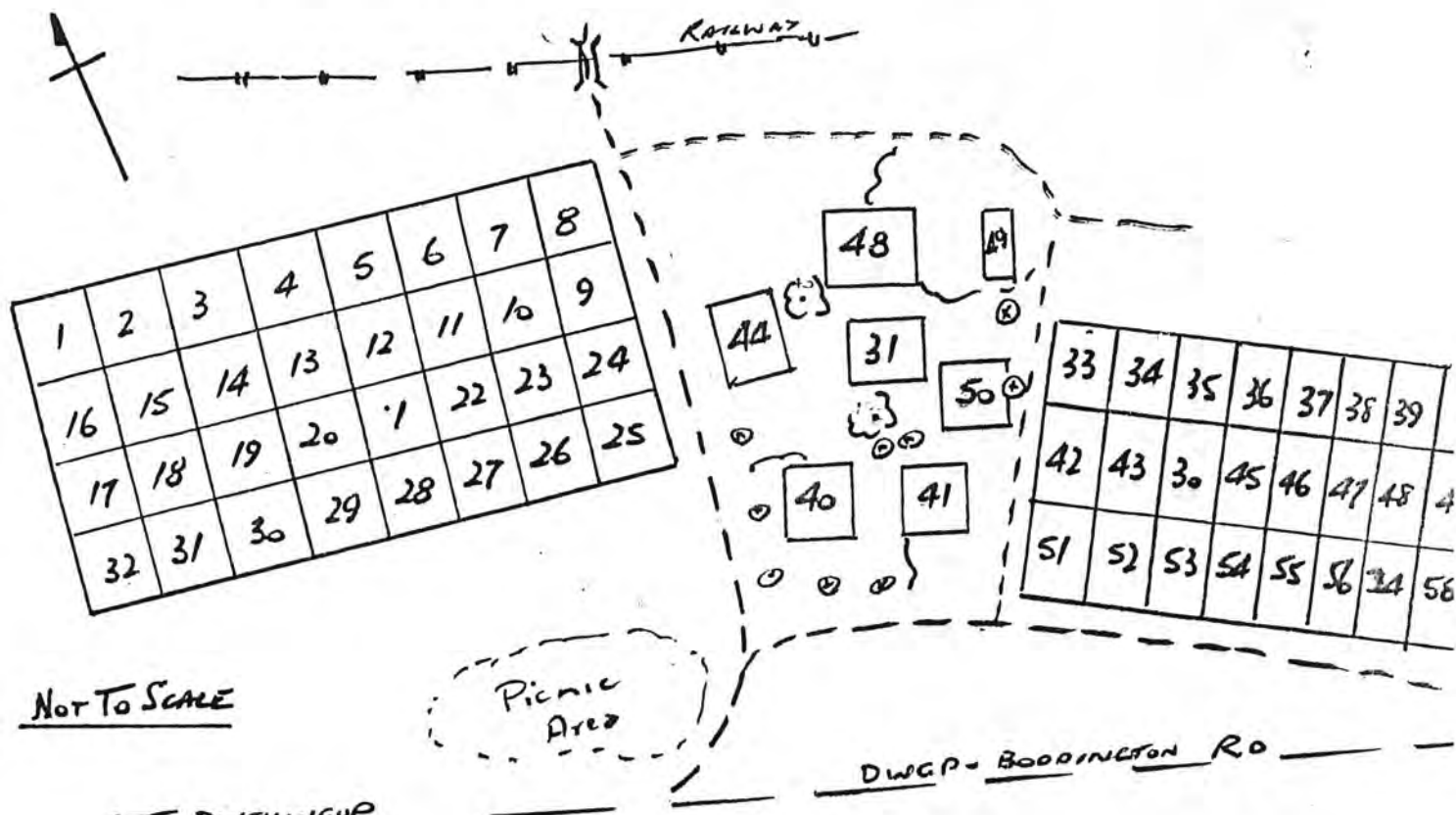
Severe fire damage in the 1960/61 fire destroyed most of the original plantings. Some escaped, to which this data refers.

The newer portions, mainly *Eucalypt* species, were established during the period 1965-66-67. Other plantings have been made around the arboretums later again.

This arboretum now contains some of the best examples of species as shown in the Dwellingup division and possibly the northern Jarrah forest areas.

Thinnings have been carried out twice in some species, so that useful data is continuing to build up from this arboretum.

LOCATION DIAGRAM & PLOT LAYOUT



INGLEHOPE EUCALYPT & PINE ARBORETUM (1965-66)

* = 1971 Measurements

Spacing: 7'x7' Fert: N.P.K. 3:6:3 @ 2ozs Map Ref. CX 69 6.9

SPECIES	ARBOR ^m . PLOT NO.	P.YR	% SURV.	1968			1970			1975		
				TOTAL HT (m)		M.A.I.	TOTAL HT		M.A.I.	TOTAL HT		DBHOB
				100spa	40spa		100spa	100spa		40spa	100spa	
o EUCALYPTUS												
" alba	58	1967	80	0.91	1.22							
" blakelyi	3	1965	97	3.26	3.96	1.62	5.64	7.05	1.41			
" bosistoana	39	1966	84	3.38	3.81	1.69	9.57*	11.22	2.39	15.92	17.86	17.0
" bicostata	42	"	81	3.63	3.93	1.81	11.19*	11.77	2.79	16.96	17.83	20.6
" camaldulensis	7	1965	95	5.15	5.36	1.72	8.30	8.90	1.66	13.50	14.50	15.1
" cladocalyx	54	1966	92	2.55	2.74	1.28	7.85*	8.02	1.96	13.64	14.80	15.27
" "C"	35	"	75	2.47	2.59	1.24	6.03*	6.43	1.51			
" delegatensis x macrorrhyncha	56 5	1966	77	2.60	2.93	1.30	8.90*	9.57	2.23	13.96	14.57	22.7
" goniocalyx	11	1965	83	5.24	5.70	1.78	8.53	9.03	1.71	13.62	14.93	16.45
" gomphocephala	55	1966	65	2.77	3.08	1.39	8.95*	9.39	2.24	13.94	14.4	19.6
" globulus	8	1965	77	7.04	7.47	2.35	11.70	12.11	2.34	18.88	20.4	21.6
" globoidea	13	"	77	4.14	4.51	1.38	6.61	6.98	1.32	10.4	11.3	16.3
" hemiphloia	33	1966	92	1.46	1.52	0.73	5.09*	5.88	1.27			
" longifolia	4	1966	82	5.30	5.73	2.65	8.40	8.97	2.10	12.58	13.25	17.0
" leucoxydon	14	1965	N/A	2.41	2.83	1.20	4.14	4.51	0.83			
" maculata	53	1966	93	2.08	2.26	1.04	7.1*	7.98	1.77	12.39	13.2	15.1
" marginata	21	1965	92	1.52	1.62	0.51	3.80	4.38	0.76			
" microcorys	52	1966	56	2.10	2.55	1.05	8.2*	8.8	2.05	15.34	16.35	18.08
" muelleri	34	1966	90	2.90	3.44	1.45	8.93*	9.42	2.23			
" obliqua	37	1966	32	2.38	2.87	1.19	10.70*	12.40	2.67	18.56	19.95	23.9
" paniculata	10	1965	92	3.02	3.38	1.01	5.75	6.0	1.15	8.64	10.75	12.27
" polyanthemom	2	1965	62	1.83	2.13	0.61	2.94	3.41	0.59			
" pilularis	22	1965	62	4.15	5.30	1.38	8.0	8.05	1.60	15.95	17.12	18.27
" resinifera	9	"	92	4.69	5.0	1.56	7.80	8.40	1.56	11.10	12.12	15.8
" robusta	36	1966	37	1.80	2.13	0.90	6.1*	6.64	1.22	10.97	12.17	17.3
" saligna	51	"	88	3.06	3.50	1.53	11.63*	12.40	2.91	17.56	18.92	20.2
" scabra	19	1965	82	3.81	3.93	1.27	6.71	7.16	1.34			
" sideroxylon	15	1965	78(?)	2.83	3.14	0.94	5.61	6.27	1.12			
" sieberiana	20	1965	92	6.80	7.32	2.27	10.15	10.80	2.03	16.10	16.3	19.2
" tereticornis	6	1965	95	4.4	4.88	1.47	7.70	8.60	1.54	13.32	13.69	14.13
" triantha	5	1965	95	2.50	2.62	0.83	3.90	4.17	0.78			
" viminalis	12	1965	93	3.99	4.75	1.33	6.00	7.10	1.20			
" wandoo	16	1965	95	2.92	3.32	0.97	4.95	5.41	0.95	9.05	10.37	11.26

INGLEHOPE EUCALYPT & PINE ARBORETUM (1965-66)

Spacing: 7'x7' Fert: N.P.K.3:6.2 @ 2ozs Map Ref. CX 69 6.9

1968			1970			1975			1975			COMMENT
TOTAL HT (m)		M.A.I.	TOTAL HT		M.A.I.	TOTAL HT		DBHOB (cm)	M.A.I.			
100spa	40spa	100spa	100spa	40spa	100spa	100spa	40spa	100spa	40spa	HT 100spa	DBHOB 100spa	
0.91	1.22											S/N3858 Heavy frost damage 9/73
3.26	3.96	1.62	5.64	7.05	1.41							S/N3244 Ex N.S.W.
3.38	3.81	1.69	9.57*	11.22	2.39	15.92	17.86	17.0	18.9	1.77	1.89	S/N3010 Frost damage 9/73 light
3.63	3.93	1.81	11.19*	11.77	2.79	16.96	17.83	20.6	20.6	1.88	2.29	S/N3612 8/11/71 43 Stems removed average ht. 7.47m
5.15	5.36	1.72	8.30	8.90	1.66	13.50	14.50	15.1	16.5	1.35	1.51	S/N3040 12/71 thinned by 538 stems Av.Ht. 6.02m Diam.19.08cm
2.55	2.74	1.28	7.85*	8.02	1.96	13.64	14.80	15.27	16.5	1.52	1.70	S/N3227 11/71 thinned by 51 stems Av. Ht.= 5.22m
2.47	2.59	1.24	6.03*	6.43	1.51							Ex Tanzania - 1971 Measurements not 1970
2.60	2.93	1.30	8.90*	9.57	2.23	13.96	14.57	22.7	24.4	1.55	2.52	Seed ex Prof. Pryor ACT 12/71 Thinned by 24 stems Av.Ht. = 3.41m
5.24	5.70	1.78	8.53	9.03	1.71	13.62	14.93	16.45	18.1	1.36	1.65	S/N3263
2.77	3.08	1.39	8.95*	9.39	2.24	13.94	14.4	19.6	20.9	1.55	2.18	S/N2166 Light frost damage 9/73 Thinned 11/71 by 24 Stems
7.04	7.47	2.35	11.70	12.11	2.34	18.88	20.4	21.6	26.2	1.89	2.16	Coppice bashed 6/73 Early losses due to stem twistings off. 1966 Refilled windthrow damage 22/6/67 Thinned 10/71 - 7/70 by 43 stems total.
4.14	4.51	1.38	6.61	6.98	1.32	10.4	11.3	16.3	17.7	1.04	1.63	S/N3245 (1971 assessments not 1970) Mod. frost damage 1971 - 48 Stems thinned. Av.Ht.= 6.60m
1.46	1.52	0.73	5.09*	5.88	1.27							
5.30	5.73	2.65	8.40	8.97	2.10	12.58	13.25	17.0	16.8	1.40	1.89	
2.41	2.83	1.20	4.14	4.51	0.83							
2.08	2.26	1.04	7.1*	7.98	1.77	12.39	13.2	15.1	14.3	1.38	1.68	Local Seed (?) Plot 1 - spaced 4'x3'6" as seedlings
1.52	1.62	0.51	3.80	4.38	0.76							S/N1889 ex Kirup Block as seedlings 11/71 Thinned by 36 Stems Seed local Willowdale. Light frost damage 9/73
2.10	2.55	1.05	8.2*	8.8	2.05	15.34	16.35	18.08	18.27	1.70	2.00	S/N3457 ex Victoria - Briggalong Road 12/71 30 stems thinned Av. Ht. = 4.63m Frost damage 9/73 - moderate
2.90	3.44	1.45	8.93*	9.42	2.23							Mixed S/N - frost damage 9/73 + windthrow
2.38	2.87	1.19	10.70*	12.40	2.67	18.56	19.95	23.9	25.9	2.06	2.65	S/N3243 9/75 Thinned Av.Ht.= 3.80m S/N3208 8/70 Thinned by 20 Stems Av. Ht. = 5.36m
3.02	3.38	1.01	5.75	6.0	1.15	8.64	10.75	12.27	13.55	0.86	1.23	S/N2881 A/B effect +ve 9/71 Thinned by 54 stems Av.Ht.=6.40m
1.83	2.13	0.61	2.94	3.41	0.59							Local seed Local seed 11/71 Thinned by 56 stems Av.Ht.= 7.68m One windthrow 6/73
4.15	5.30	1.38	8.0	8.05	1.60	15.95	17.12	18.27	19.9	1.6	1.83	S/N2883 S/N2770 Ex Bendigo 1961
4.69	5.0	1.56	7.80	8.42	1.56	11.10	12.12	15.8	16.4	1.10	1.58	S/N3282 selected trees Mullagong Crk. 6/72 - Coppice bashed 10/71 Thinned by 46 Stems Av.Ht.=5.35m
1.80	2.13	0.90	6.1*	6.64	1.22	10.97	12.17	17.3	16.7	1.22	1.92	S/N3242 Frost damage moderate 1/75 46 Stems removed T/HT = 5.78m
3.06	3.50	1.53	11.63*	12.40	2.91	17.56	18.92	20.2	21.7	1.95	2.24	S/N2890 Ex Glen Innes N.S.W. Local seed. Low branches & buds badly scorched 9/73
3.81	3.93	1.27	6.71	7.16	1.34							
2.83	3.14	0.94	5.61	6.27	1.12							
6.80	7.32	2.27	10.15	10.80	2.03	16.10	16.3	19.2	20.3	1.61	1.92	
4.4	4.88	1.47	7.70	8.60	1.54	13.32	13.69	14.13	15.3	1.33	1.41	
2.50	2.62	0.83	3.90	4.17	0.78							
3.99	4.75	1.33	6.00	7.10	1.20							
2.92	3.32	0.97	4.95	5.41	0.95	9.05	10.37	11.26	12.7	0.91	1.13	

* = 1971 Measurements

SPECIES	ARBORM. PLAN NO.	P.YR	% SURV.	1968			1970			1975			COMMENT			
				TOTAL	HT	M.A.I.	TOTAL	HT	M.A.I.	TOTAL	HT	M.A.I.				
				100spa	40spa	100spa	100spa	40spa	100spa	100spa	40spa	100spa		40spa	T/Ht	DBHOB
Araucaria bidwillii	48	1966														
Araucaria excelsa	40	1967														S/N3497 ex N.S.W. S/N3720 ex Esperance
PINUS																
" carabaea var. hondurensis	30	1965	61(?)	1.83	2.04	0.61	3.63	3.96	0.72 *							5cwt/ac Rock phosp. 2/69 S/N3279 ex Balaze of Br. Honduras
" carabaea var. bahamensis	44	1966	41	0.52	0.61	0.26	3.02*	3.29	0.60 *							Vorox AA 7/69 for grass control O/R S/N BA4/64 ex Bahama Island S/N3237 O/R 5cwt/ac Rock Phosp. 2/69
" elliotii	31	1965	82	2.13	2.29	0.71	4.65	4.91	0.93*							S/N3353 ex Georgia U.S.A. Vorox AA for grass control 7/69 5cwt Rock Phosp./ac 2/69 S/N3308 ex Phillipines - Baguia City - Tray stock S/N3499 ex Dehra Dun India Trayed S/N23 from Br. Honduras Vorox AA 7/69
" " var. densa	43	1966	64	0.70	0.91	0.35	3.53*	3.81	0.88 *							Trayed Stock Stunted plants: deficiency suspected. S/N3222 ex Mt. Sila, Sth. Italy. Trayed 5cwt/ac Rock Phosp. broadcast S/N3101 ex Pechey, QLD. 5cwt/ac Rock Phosp. 2/69 O/R stock O/R Stock 5cwt/ac Rock Phosp. broadcast. S/N3265 Trayed stock
" insularis	32	1965	79	2.16	2.38	0.72	5.03	5.33	1.01*							
" longifolia	46	1966	81 (1967)	0.34	0.40	0.17	1.80*	1.92	0.45*							
" oocarpa	45	1966	42	0.52	0.61	0.26	2.96*	3.50	0.74 *							
" nigra var. calabrica	18	1965	91	0.33	0.40	0.11	NO OBSERVATIONS									
" nigra var. calabrica	17	1965	N/Av	0.49	0.58	0.16	1.29	1.58	0.26 *							
" patula	29	1965	82 (1966)	2.44	2.83	0.81	5.50	6.11	1.10*							
" ponderosa	38	1966	47				0.58*	0.76	0.12 *							
" taeda	18	1965	86	2.35	2.68	0.78	5.05	5.43	1.01*							
CALLITRIS																
" calcarata	25	1965	67	2.56	2.65	0.85	4.55	4.63	0.91 *							
" glauca	26	1965	93	1.83	1.92	0.61	3.63	3.77	0.72 *							
" propinqua	28	1965	85	1.92	2.13	0.64	3.66	4.06	0.73 *							
" robusta	27	1965	93	2.29	2.38	0.76	3.66	3.92	0.72 *							
CUPRESSUS	24	1965	98	2.87	3.20	0.96	4.12	4.55	0.82 *							
" tusitanica	57(?)															
" torulosa	23	1965	43	0.70	0.82	0.23	1.32	1.54	0.26 *							
JUNIPERUS																
" procera	47	1966	N/Av	1.37	1.62	0.68	4.18*	4.75	0.83 *							
																Ex Tanzania Cpr 1/3 Tonga

INGLISHOPE (DYLLINGUP) ARBORETUM (PINETUM)
ESTABLISHED 1928/29 AS AT 3/6/75

SEVERELY FIRE DAMAGED IN PARTS - 1960/61

(REVISED COPY)

SPECIES	AREA (Ha)	No. STEMS	MEAN DBHOB/ STEM	MEAN B.A. Cft	MEAN Ht(m)	TOTAL PER Cft.	VOLUME TREE M ³ .	TOTAL VOLUME PER PLOT M ³	M.A.I. Ht(m)	M.A.I. VOL. (M ³ /ann./TREE)	FORM	COMMENT
Pinus canariensis	0.001	11	17.88	1.745	31.32	60.0	17.0	187	0.67	0.36	Good overall	No appar. FD.
P. eliotii	0.001	12	18.39	1.840	30.03	61.0	17.2	205	0.64	0.38	Good to V.Good	" Impre plot
P. laricio	0.001	5	16.27	1.44	26.25	47.0	13.3	66.25	0.56	0.28	FAIR to Good	"
P. muricata	0.001	2	20.54	2.30	23.60	53.5	15.1	30.25	0.50	0.32	"	Some
P. pinaster	0.001	5	24.18	3.18	27.00	71.5	20.25	101.25	0.57	0.43	Poor to Fair	Some on bo.
P. radiata	0.001	2	22.39	2.73	26.25	64.5	18.25	36.50	0.56	0.39	Good	Sever. F'd, twice boles
Sequoia sempervirens	-	5	-	-	-	-	-	-	-	-	Virtually no development as yet	Best heigh. 6.5m

NOTES: (1) Rather uniform M.A.I. for Height seems to indicate top height was reached at or prior to 1960/61 fires with evidence of continuing height growth in the first two species listed.
(2) Considerable natural regeneration has ensued from P.muricata and P.pinaster particularly, and to a lesser extent from P.radiata.
(3) The "on site" species would appear to be P.eliotii, P. canariensis and P.pinaster.
(4) Volumes determined by the Formula $V = \frac{1}{3} B.A.xHt$.

WILLOWDALE ARBORETUM

LOCATION: Situated adjacent to a creek on upland scarp site at old Willowdale settlement - (Map Reference DK 62 1.2).

SOIL TYPE & TOPOGRAPHY

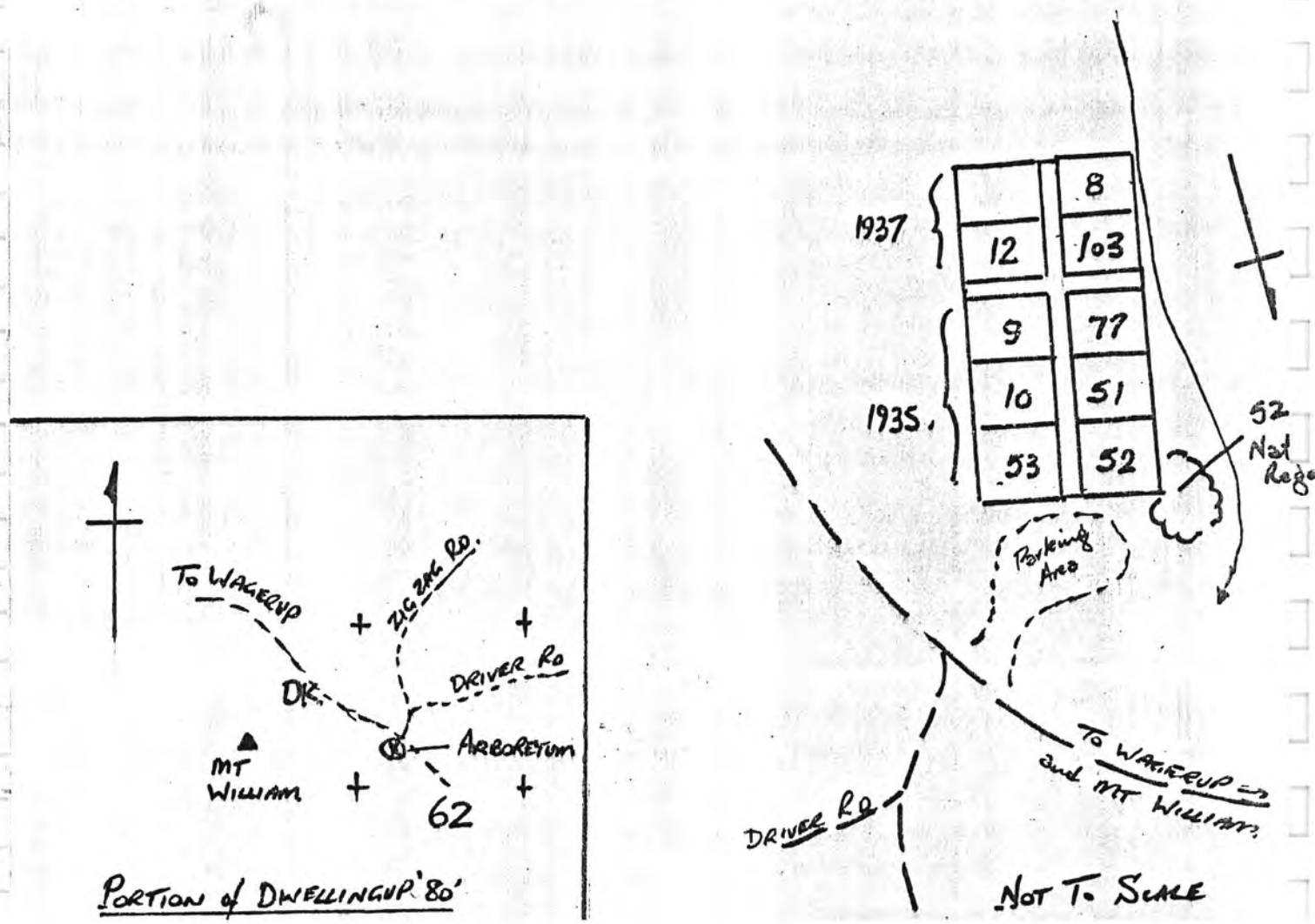
Soils consist of red brown clay loams with the southern portion changing to gritty yellow grey gravelly clays. Topography is of lower slopes adjacent to the creek with an inclination of 3-4% approx. Aspects are westerly.

GENERAL:

The arboretum was established in the years 1935 and 1937. The latter section on the south side and mainly of the gravelly clay soil types, has not been successful, possibly due to soil type and early maintenance from encroaching gully type shrub species.

The early portion is successful and reflects the favourable site chosen. It has been used as a seed source for Hamel nursery for some years, particularly Tallowwood and Euc.saligna and Euc.resinifera to a lesser extent. Thinnings were made in Euc.saligna about 1966-68 while other species were thinned at times to get seed supplies.

LOCATION DIAGRAM & PLOT LAYOUT



WILLOWHATZ ARBOR VITAE PLANTED 1935 AND 1937 - PLANTED 5-8/11/74 (AGE 39 & 37 YEARS)

ORIGINAL PLANTING - 72/SPACING SPACING 6' x 6'

SPACING	PLOT AREA (HA)	TOTAL WILLOWHATZ SPACING	AV. HT (ft)	AV. DBH (in)	STOCK VOL TB/PIOT (m ³)	STOCK VOL TB/HA (m ³ /ha)	AV. STOCK VOL. TB/SPC (m ³)	N.A.I. HT (ft/ANNU)	N.A.I. VOL. (m ³ /HA/ANNU)
1. W. Saligna	0.05	21	37.40	0.464	64.80 (123.53) -	1280 (2160)	3.36	1.05	27.78 (55.40)
2. W. Microcorys	0.06	21	37.02	0.385	43.58 (37.00) -	725 (1450)	2.07	1.00	18.68 (37.20)
3. Resinifera	0.05	34	20.04	0.252	15.67 (33.34) -	278 (556)	0.49	0.513	7.12 (14.24)
4. Gynocarpus laurifolia	0.05	53	20.70	0.251	27.10 φ	452	0.43	0.560	12.2
5. Tenuiculata	0.05	34	20.21	0.158	11.39	198	0.32	0.57	5.08
6. Maculata	0.05	31	22.0	0.218	10.50	176	0.34	0.589	4.5
7. Globulus	0.05	25	29.17	0.451	9.35 *	153	1.07	0.788	42.0
8. Viminalis	0.06	22	17.28	0.279	3.30*	55	-	-	-
9. Clitrodora	0.06	17	26.60 (Tallest)	0.245	- +	-	-	-	-
10. S. Pelliodora	0.06	-	Felled	-	-	-	-	-	-
TOTAL	0.60	-	-	-	-	-	-	-	-

* Best of 5 trees.
+ Best tree left.
- Estimates of total volume removed per plot including thinning (stems reduced from 65%/plot).
φ Based on 5 best trees, therefore somewhat high assessment. Volumes derived from "Cubic Contents of Hardwood Logs" 1974.

COLLIE ARBORETUM

LOCATION: On the eastern bank of the Collie River in the town of Collie - Map Reference ED 69 9.5

SOIL TYPE & TOPOGRAPHY

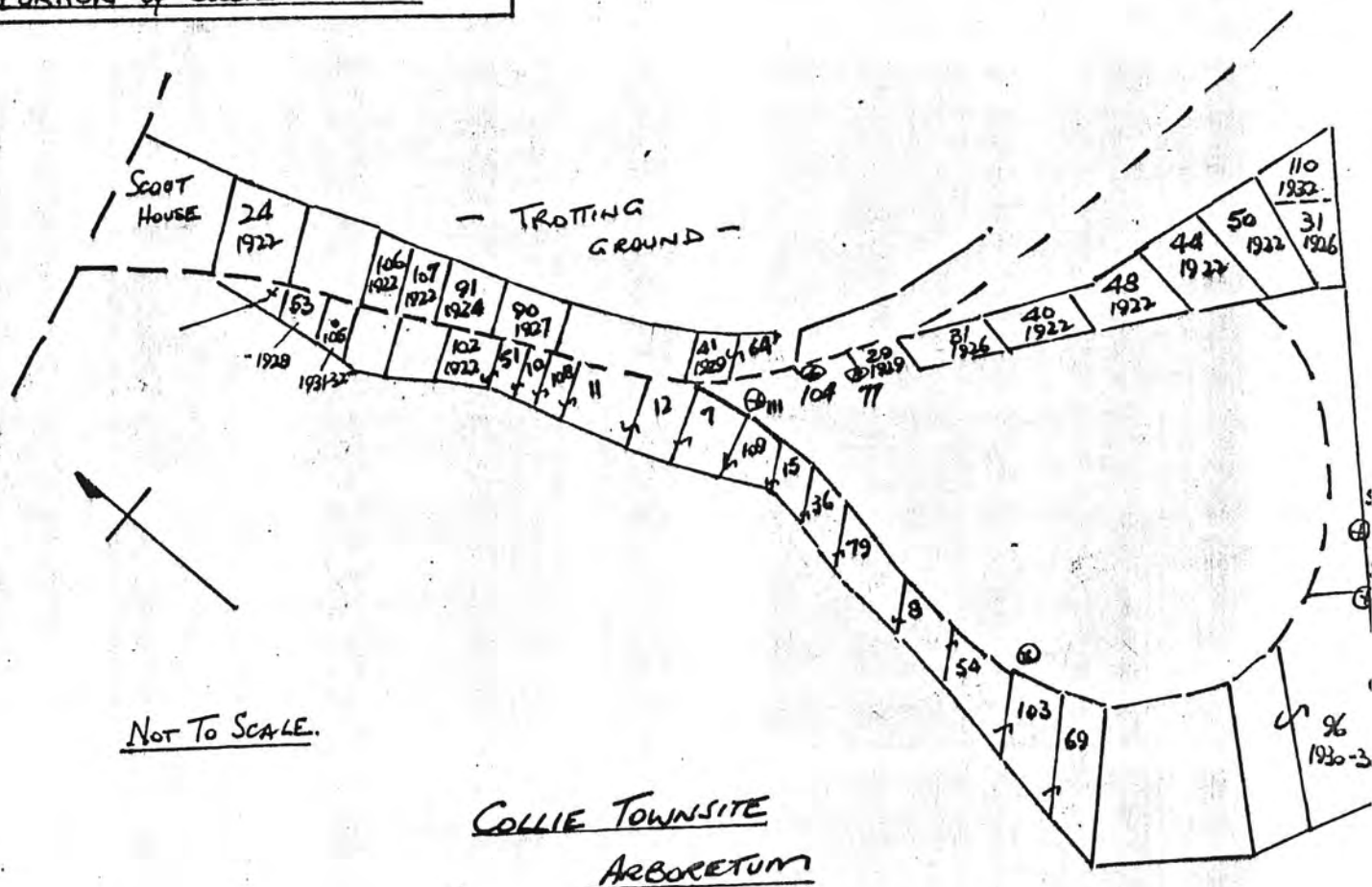
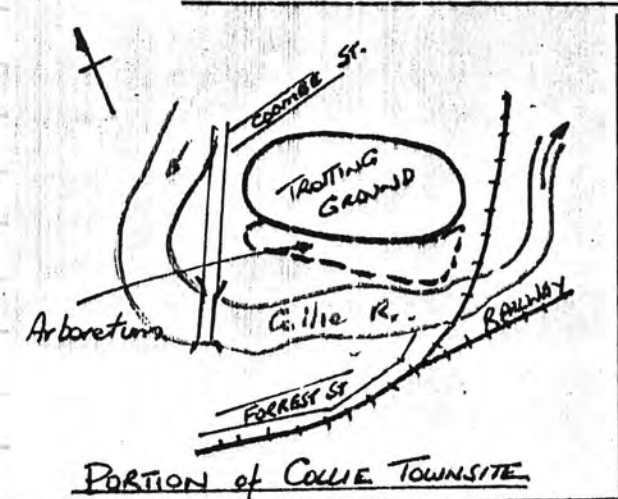
Red brown sandy silts and clay silts of the river frontage and river flat. Aspect S.W. and South.

GENERAL:

This arboretum was established initially in 1922 on this very favoured site, so that results from it are somewhat misleading as regards species performance on sites away from this type.

It emphasises the potential of some species on areas of good fertility and productivity.

The attenuated nature of the land area has possibly prevented some species from doing better.

LOCATION DIAGRAM & PLOT LAYOUT

(Eucalypts)

Data ex G. Brockway 1965 and D.H.Q. Collie

Species	Stocking		Area of (ac) plots	Av Ht			Merch		Av merch Vol ub/ tree (m ³)	MAI Ht (m ² /ann)	MAI Vol (m ³ /ha/ ann)	MAI 1965	DBHOB 1974	Bole Hts (m) 1974 (assumed to be $\frac{T}{ht} \times 0.5$)
	Orig No. (?)	Dec 1974		(m) 1974	(cm) 1965	(cm) 1974	Vol ub/ha (m ³ /ha)	Vol ub/ha (m ³ /ha)						
E. diversicolor (age 30 years)	1	1 (1935)	-	40.0	86.00	104.3	-	-	6.80	1.08	0.172	2.68	2.55	19.0
E. maculata	7	(1928)	0.18	39.0	60.00	70.5	21.84	485.0	3.12	0.84	0.067	1.62	1.52	18.5
E. sieberi	All dead by flooding of Collie River													
E. cypellocarpa	8	8 1922	0.033	36.0	73.20	47.0	9.92	120.5	1.24	0.69	0.024	1.72	0.89	17.0
E. viminalis	8	8 1922	0.012	37.0	48.6	45.0	9.52	316.0	1.19	0.705	0.023	1.13	0.855	17.5
E. gomphocephala	1	1 1935		34.8	66.2	79.8			3.37	0.88	0.114	2.21	2.02	16.4
E. botryoides	17	17 1922	0.046	37.0	62.0	67.0	43.75	381.0	2.59	0.94	0.049	1.44	1.70	17.5
E. globulus	16	16 1922	0.034	40.00	57.50	54.8	30.00	221.0	1.88	0.76	0.036	1.35	1.04	19.0
E. cladocalyx	7	7 1922	0.018	33.5	55.30	59.8	12.25	64.8	1.75	0.635	0.033	1.29	1.14	15.5
E. camaldulensis	2	2 1922	0.011	26.0	74.0	68.6	3.86	76.5	1.93	0.655	0.037	1.72	1.74	12.5
E. Saligna	8	8 1922	0.02	40.2	84.10	62.0	18.64	468	2.33	0.77	0.044	1.96	1.18	19.1
E. robusta	10	10 1922	0.008	23.00	55.65	29.6	2.80	140	0.28	0.437	0.005	1.29	0.56	10.5
E. citrodora	9	9 1922	0.023	29.5	38.00	36.8	5.84	114	0.66	0.56	0.0012	0.88	0.70	14.0
E. sideroxylon		1922	0.005	16.5	49.0	34.7			0.29	0.315	0.005	1.44	0.66	7.25
E. paniculata	8	8 1922	0.020	32.4	49.0	37.0	5.68	142	0.71	0.615	0.0013	1.14	0.70	15.0
E. corymbosa	2	1922		N/A	23.20	N/A	Specimens removed from Arboretum					0.54		
E. melliodora	12	12 1922	0.024	25	42.20	36.7			0.47		0.97	0.70		

(1922) = Date of original plantings.

COLLIE ARBORETUM - (ESTD. 1922-26-27-30) MEASUREMENT DETAILS

PINUS, CUPRESSUS AND TRISTANIA conferata (AS AT 12/74)

(REVISED COPY)

SPECIES	YEAR	AREA OF PLOT (Ha)	TOTAL STOCKING (1974)	AV. HT. (m) (1974)	AV. DBHOB (cm) 1974	B. AREA m.	AV. MERCH VOL. OB. PER TREE (M ³)	ESTD. MERCH VOL. OB. PER PLOT (M ³)	ESTD. VOLUME PER Ha (M ³)	M.A.I. HT (M/ANN)	M.A.I. VOL. (M ³ /ANN)	FORM	THRIFT
P. pinaster	1922	0.501	7	29.0	52.9	2.10	20.30	142.00	284	0.56	0.39	Poor	Average
P. radiata	"	1.280	9	41.0	86.9	5.70	78.00	702.00	550.0	0.79	1.50	Good	"
P. densiflora	1930	-	8	-	FAILED	-	-	-	-	-	-	-	-
P. canariensis	1922	0.950	16	39.0	40.45	1.25	16.30	260.0	274.0	0.75	0.313	"	Good
P. elliotii	1926	0.432	8	27.0	44.60	1.51	13.60	109.0	235.0	0.56	0.284	"	Average (Thinned 193)
P. muricata	1925	0.405	9	19.5	52.70	2.10	13.60	122.0	303.0	0.39	0.277	Poor	"
P. echinata	1927	0.405	9	19.1	40.0	1.16	7.37	66.33	164.0	0.41	0.157	Average	Good (Pruned 1933)
P. palustris	1924	0.740	18	24.5	31.0	0.73	5.95	107.00	144.0	0.49	0.119	"	"
P. Cup. lusitanica	1922	1.00	16	21.4	45.0	1.56	0.88	14.10	14.10	0.41	0.0174	Poor	Average (Thinned 193)
P. Cup. macrocarpa	"	1.18	13	16.2	38.0	1.09	0.48	6.25	5.30	0.31	0.0095	"	Poor
P. Cup. knightii	1922	0.85	22	15.6	34.0	0.875	0.37	8.15	9.60	0.30	0.0073	Average	Average (Pruned 193)
P. Tristania conferata	"	0.77	33	22.5	32.0	0.780	0.49	16.20	21.00	0.43	0.0095	Poor	Good

NOTE: (1) Volumes of pines calculated by the formula: $Vol = \frac{1}{2} B.A. \times Ht$
 (2) " of Cupressus spp calculated by converting D.B.H.O.B. to mid diam O.B. by multiplying by 0.7 and assuming bole length to equal $\frac{Ht}{2}$, then extracting volumes from "Cubic Contents of Hardwoods of W.A."

DONNYBROOK ARBORETUM

LOCATION:

This arboreta is located on the river flat to the south of the Preston River - (Map Reference FD 50 4.9) and immediately north of the Bunbury-Donnybrook Road near the western outskirts of Donnybrook.

SOIL TYPE & TOPOGRAPHY

Deep red brown silty clay loam over all the arboretum, with flat topography and Westerly aspect.

GENERAL:

This arboretum was commenced in 1923 and has similar disadvantages to Collie, Nannup and Willow Springs arboretums being on the very best sites, which are of limited forest occurrence in these areas.

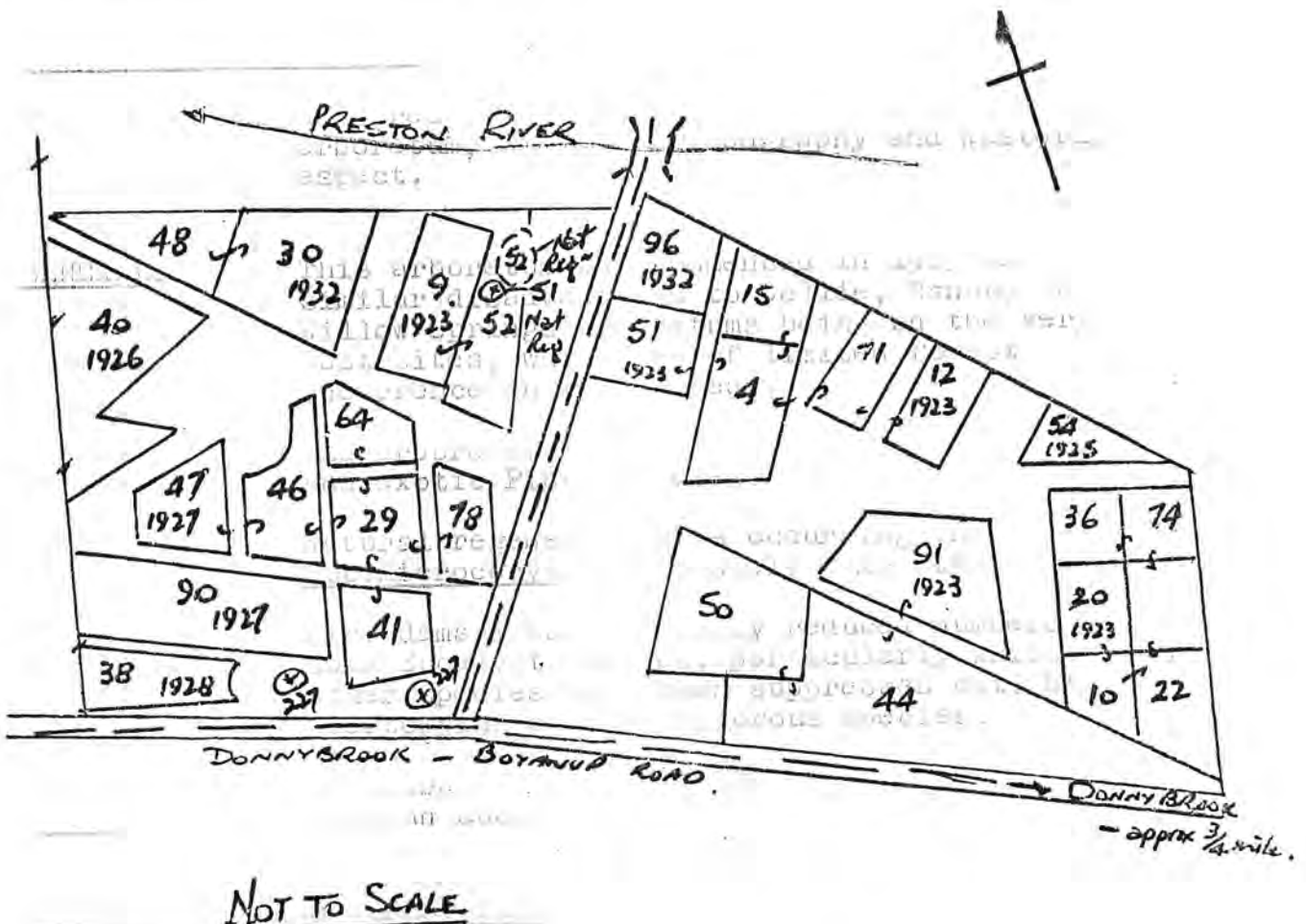
The arboretum contains both exotic Eucalypts and exotic Pinus species.

Natural regeneration is occurring in Euc.microcorys and possibly some others.

Fire damage has gradually reduced numbers of some Eucalypt species, particularly whilst other species have been suppressed out, by overtopping of more vigorous species.

It probably has more value as a Pinetum now, than an Eucalypt arboretum.

LOCATION DIAGRAM & PLOT LAYOUT



DONNYBROOK ARBORETUM - Established 1923 - 1925

PART 1

(EUCALYPTUS ONLY)

Estimated Rainfall = 39"

Measurement 25/10/74

SPECIES	Total Stocking	Plot Area (Ha)	Aver. Ht (m)	Average D.B.H.O.B (mm)	Merch. Vol. (m ³ /Plot)	Merch. Vol. (m ³ /Ha)	Aver. Merch Vol. U.B./tree	M.A.I. Ht m/ann	M.A.I. Volume m ³ /ha/ann	Bole Hts (m)	
1967	'74	(Ha)	'67	'74	'65	'74	'65	'74	'65	'74	'67
Euc. Balgama (5/765)	3	0.288	22.29.73	525 600	5.55 9.93	19.3 34.50	1.85 3.31	0.583	0.46 0.678	10 14.34	
" Plularia "	9	0.176	26 35.70	632 625	32.22 61.30	18.40 384.0	3.58 6.13	0.740	4.38 7.500	13.75 23.70	
" Merocorys "	3	0.144	20 28.97	589 1240	4.89 38.16	34.0 265.0	1.63 12.72	0.566	0.81 5.2	7 12.85	
" Resinifera "	19	0.298	23 26.00	N/A 343	N/A 28.69		1.52 0.510	0.510		1.88 12.7	19.50
" Cladoceryx "	9	0.225	27.5 39.90	563 821	37.55 83.16	167.0 370.0	4.17 9.24	0.80	4.16 7.53	20 21.28	
" Paulownia (49/765) "	2	0.144	18.3 21.72	N/A 402	N/A 2.34	16.2	1.17 0.425	0.425		0.316 8.25	11.25
" Siebelri "	8	0.144	20 24.36	609 539	16.24 23.73	114.5 165.00	2.03 3.39	0.475	2.73 3.24	8.5 17.55	
" Gigantea "	3	0.128	20 31.00	670 880	8.01 7.32	62.8 57.4	2.67 3.66	0.61	1.49 1.12	9 7.20	
" Robusta "	3	0.126	15 25.30	N/A 285	N/A 0.72	5.72	0.24 0.495	0.495		0.11 9	4.0
" Globulus "	1	1	N/A 30.60	563 679	N/A 5.77		5.77 0.602	0.602		N/A 18.90	
" Longifolia "	20	0.42	12 24.75	361 320	14.40 9.52	34.20 22.6	0.72 0.68	0.485	0.815 0.44	8.25 10.08	
" Siderophloja "	9	0.225	N/A 11.55	N/A 280	N/A 3.52	15.6	0.44 0.226	0.226		N/A 8.10	
" Macrocarpa "	5	0.144	13.75 23.28	412 320	4.10 5.88	28.5 40.75	0.82 0.98	0.456	0.679 0.80	7.5 14.40	
" Viminalis "	5	0.192	23 24.66	589 552	12.35 11.20	64.2 58.5	2.47 2.44	0.483	1.53 1.14	10.7 11.22	
" Citriodora "	1	1	N/A 19.95	N/A 232	N/A 0.45		0.45 0.390	0.390		N/A 12.35	
TOTALS	100	93	2.654								

1 fire killed

* Estimates appear somewhat at variance probably due to branching habit. 1965 data recorded by Mr. Brockway

ESTD: 1923-1932

PLANT YR.	SPECIES	AREA (ha)	MEAN DBH@100 (INS)	NO. STEMS	MEAN BA H	MEAN HT (M)	TOTAL VOL PER TREE cft.	TOTAL VOL PER TREE M3	TOTAL VOL. PER PLOT (M2)	M.A.I. Ht (M)	M.A.I. VOL. (M3/ann)	FORM	COMMENT
1923	P. radiata (T)	0.053	22.30	9	2.7123	31.00	91.0	25.6	230.0	0.56	0.495	Generally good	Crown decadence appearing "little 1. Good tree
	P. palustris (T)	0.039	12.50	13	0.8522	28.00	26.0	7.3	95.0	0.54	0.141	Variable, Fair-Very Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
1926	P. canariensis (T)	0.146	14.152	32	1.0958	27.84	33.3	9.4	302.0	0.53	0.182	Very Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
1926	P. muricata (F'd) (Green Strain)	0.081	19.20	3	2.0106	23.31	51.0	11.4	34.2	0.47	0.229	Fair	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
1927	P. coulteri (F'd)	0.0017	18.81	3	1.9277	29.28	62.0	17.4	52.2	0.39	0.365	Good as	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. echinata (T)	0.050	14.95	18	1.2109	24.65	32.3	9.1	164.0	0.51	0.190	Good to Very Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. longifolia (T)	0.0018	16.71	8	1.5211	26.22	44.0	12.4	99.2	0.54	0.26	Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. laricio (T)	0.0018	12.55	5	0.8522	17.54	16.3	4.6	23.0	0.26	0.096	Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. patula	0.0014	13.68	5	1.0058	23.00 (Est'd)	25.0	7.05	35.25	0.48 (?)	0.148	Fair only	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. taeda (T)	0.00096	14.50	7	1.1467	30.72	38.50	10.9	76.3	0.64	0.25	Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
1928	P. ponderosa (F'd)	0.0017	15.99	4	1.3789	19.18	28.6	8.1	32.4	0.45	0.174	Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
1929	P. lutchensis	0.0017	12.36	2	0.8252	22.95	20.50	5.8	11.6	0.49	0.126	Very poor	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
1932	P. carabaeae (T)	0.0027	15.74	9	1.3444	27.60	40.30	11.4	102.6	0.64	0.266	Good to Very Good	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. densiflora	0.0032	9.65	3	0.5027	17.60	9.7	2.74	5.48	0.41	0.064	Fair to Poor	Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	P. pinaster	-	(NOT MEASURED)										Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed
	TOTAL	0.469											Impressiv {still gro killed or killed as such to trees Quite impressiv tree Thrift Impressiv Failed or killed

Notes: (1) (T) - Trees measured in 1923, 1924, 1926 but not measured on each occasion.

WILLOW SPRINGS ARBORETUM

LOCATION: On the site of the old Willow Springs settlement as a replanting operation - (Map Reference GM 571 0.8).

SOIL TYPE & TOPOGRAPHY

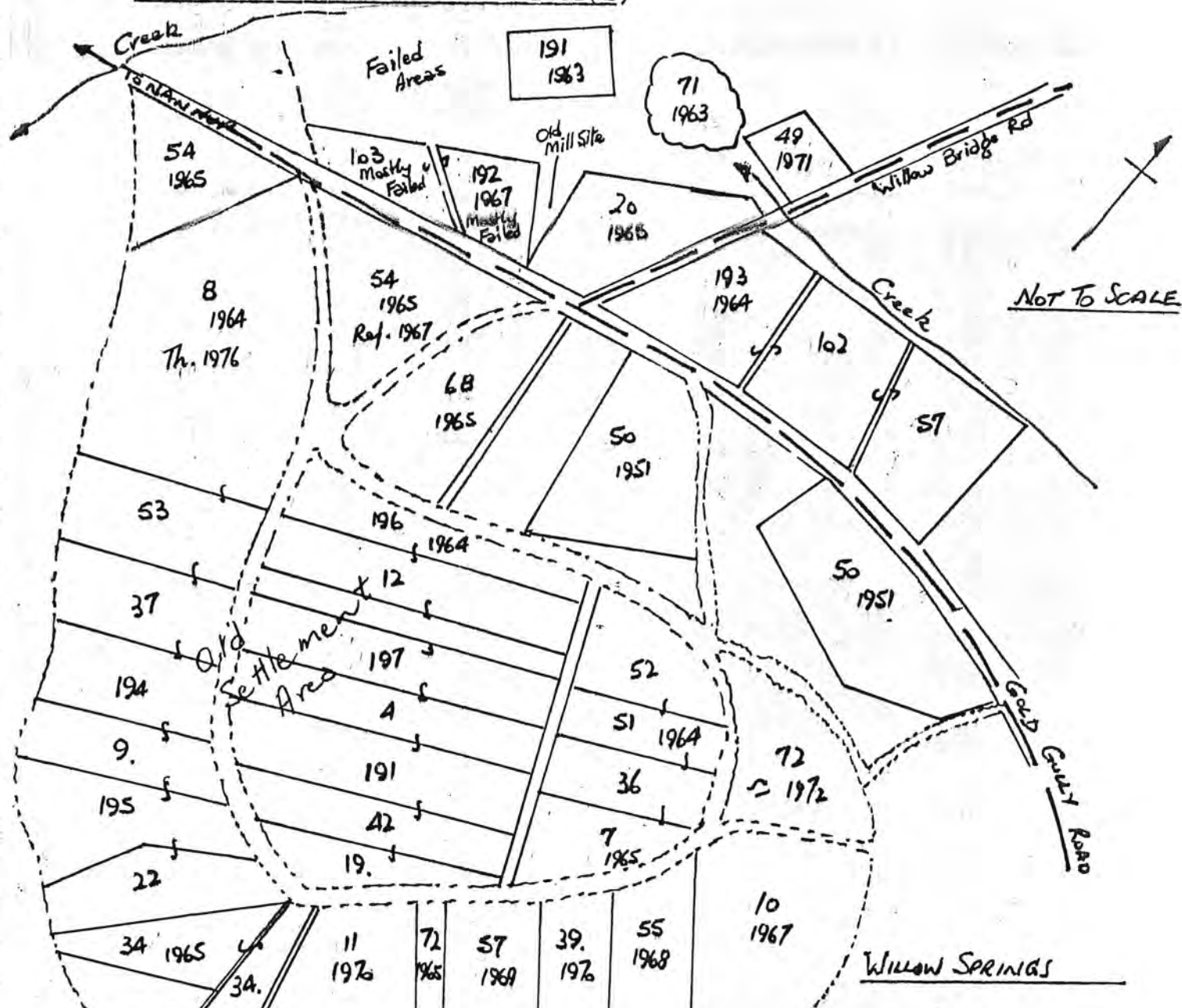
Topography is of lower to upper slopes at approx. 10-15° with north aspects on red brown Karri loam generally with gravel or small angular stones. Portions of it had been disturbed for house gardens, tennis courts etc.

GENERAL:

Established in 1964 initially, small sections to the east were added a few years later (1965-70). A separate section was established north of Gold Gully road, which runs alongside the 1964 section and this the later section was added to in 1967 and about 1969. The site here is that of the creek side flat and of greater soil depth and shelter as evidenced by the phenomenal growth of the Euc.saligna x botryoides.

This arboreta should become increasingly useful because:

- (a) it is located towards the northern extremity of Karri forest soils and occurrence
- (b) thinning has commenced in the arboreta and thus can give production trends in relation to other exotics and native Karri.

LOCATION DIAGRAM & PLOT LAYOUT(S)

WILLOW SPRINGS ARBORETUM

ESTD. 1964 - 1970 ASSESSMENT RESULTS 1975/76 - M

SPECIES	SEV NO.	P.YR	AREA (HA)	ORIG. NO. PLANTED	TOTAL STOCKING 1975	AV. HT(M)	AV. DBHOB (CM)	B.A. M2/PLOT
Euc.baxteri		1965	0.13		N/Av	-	-	FILED
" bicostata	2879	1964	0.19	275	74	24.0	24.2	2.675
" bosistoana		1970	0.08	N/AV	33	11.10	10.80	0.275
" botryoides x saligna	3013	1964	0.24	146	86	28.5	24.8	4.156
" calophylla		?	0.20	N/AV	N/Av	2.3		
" camaldelensis	3675	1965 1967- (30) 1972	0.16	N/AV	206	17.30	8.60	1.197
" citriodora	3330	1967	0.05	50	3	-	-	FILED
" cladocalyx	3227	1965 (1967 Rep = 100)	0.18	N/AV	N/AV	14.60	13.00	
" cypellocarpa		1970	0.28	"	"	15.30	12.60	
" delegatensis		1965	0.05	"	"	18.70	20.30	
" diversicolor U/S		1969	0.16	"	"	13.30	21.90	
" diversicolor L/S		"	0.09	"	"	10.10	10.50	
" globulus	3042	1964	0.32	347	135	26.10	25.0	6.629
" grandis	3068	"	0.12	161	67	26.60	25.0	3.29
" gomphocephala		1968	0.13	N/AV	N/AV	11.75	11.30	
" gummifera	3067	1964	0.08	112	"	9.60	18.70	
" longifolia	3045	1964	0.12	167	63	21.0	20.10	2.00
" maideni	3178	1967	0.06	63	7	-	-	FILED
" macrorrhyncha	3143 3016	1965 1967 Rep = 50	0.128	N/AV	N/AV	17.70	17.00	
" maculata	2714	1964	0.13	175	52	19.04	16.90	1.167
" microcorys	2885	"	0.12	162	63	19.20	18.30	1.657
" muelleri		1965	0.096	100	44	22.30	27.4	1.022
" obliqua	2877	"	0.12	135	44	20.90	23.0	1.829
" paniculata	3475	1967 (Rep = 217)	0.24	217=	N/A V	10.50	12.20	
" pilularis		1965 1967	0.19	N/AV	62	16.50	19.20	1.80
" propinqua	3803	1964	0.19	"	105	17.0	14.50	1.73
" regnans	2506	"	0.12	155	38	24.73	24.9	1.851
" resinifera	2881	"	0.06	77	29	22.00	18.30	0.763
" robusta		1965	0.15	150	79	16.00	15.30	1.453
" saligna	2888	1964	0.11	150	68	22.00	20.60	2.267
" scabra	2883	" (?)	0.16	166	48	17.30	28.30	3.02
" sieberi	3724	1965 1967 Rep = 80	0.12	200+	172	16.35	28.50	10.98
" stuartiana	3046	1964	0.14	171	120	16.80	13.10	1.618
" viminalis	2890	"	0.16	165	78	23.0	21.4	2.807
" Tristania conferta		"	0.10	100	N/AV	7.80		

- ⊕ Includes deaths since planting and previous
 * Thinned volume included is O.B.
 ⊗ Estimated total volume produced to date of
 . Estimate includes thinning estimate.
 += Approximations based on G/S left.

ANNUP DIVISION

P REFERENCE GM 5710.8 (POST THINNING)

A.A./ A	AV. BOLE (M)	ESTD. VOL/ HA (UB)	M.A.I. (HT) M/ANN	M.A.I. DBHOB CM/ANN	THINNINGS 1975				ESTD. VOL. REMOVED		TOTAL VOL.PROD. PER HA (ESTD)	P.C. SUSCEPTIBILITY
					NO. CUT	AV HT	AV BOLE	AV DBHOB	M3/ PLOT	M3/ HA		
-	-	-	-	-	F A I L E D				-	-	- *	✓
4.08	16.0	132.42	2.00	2.017	36	19.9	15.2	21.30	9.0	55.0	187.42	x
3.44	-	-	1.85	1.72	NOT THINNED				-	-	-	x
7.32	21.0	161.25	2.38	20.66	41	19.5	14.40	21.50	9.84	41.0	202.25	x
-	-	-	-	-	-	-	-	-	-	-	-	x(?)
7.48	-	-	1.57	0.78	-	-	-	-	-	-	-	x
-	-	-	-	-	F A I L E D				-	-	-	x
-	-	-	1.33	1.18	-	-	-	-	-	-	-	x
-	-	-	2.56	2.10	-	-	-	-	-	-	-	x
-	-	-	1.70	1.85	-	-	-	-	-	-	-	✓
-	-	-	1.90	3.13	-	-	-	-	-	-	-	x
-	-	-	1.44	1.50	-	-	-	-	-	-	-	x
10.72	15.27	135.0	2.27	21.70	102	21.50	13.62	21.40	22.44	72.00	347.0	x
17.42	18.0	223.33	2.22	20.80	20	23.00	16.4	21.80	5.40	45.0	278.33	x
-	-	-	1.47	1.41	-	-	-	-	-	-	-	x
-	-	-	0.8	1.56	-	-	-	-	-	-	-	? ✓
6.67	15.0	110.25	1.75	16.73	24	16.20	10.10	21.10	3.36	28.00	138.25	x
-	-	-	-	-	F A I L E D				F A I L E D		-	x F/Killed(?)
-	-	-	1.61	1.55	-	-	-	-	-	-	-	✓
8.98	6.50	28.00	1.66	1.4.70	31	15.20	5.65	19.00	2.48	18.40	46.40	x
3.82	12.00	78.75	1.60	1.5.25	99	-	-	-	-	-	157.50	x
10.64	8.7	90.54	2.18	2.67	47	22.30+	8.7+	27.0+	9.28	96.71	187.26	✓(?)
15.24	9.50	66.00	1.86	1.9.16	26	15.62	6.80	21.6	4.68	39.00	105.00	✓
-	-	-	1.17	1.35	-	-	-	-	-	-	-	x
9.48	8.0	29.54	1.5	1.75	-	-	-	-	-	-	29.54	✓
9.11	8.0	33.158	1.42	1.2.10	-	-	-	-	-	-	33.158	x
15.43	13.0	95.0	2.19	2.0.77	16	21.60	13.80	20.6	3.20	26.75	121.75	✓
12.72	11.0	62.83	1.83	1.5.25	8	16.20	9.80	18.60	0.96	16.00	94.83	x
9.69	8.0	36.87	1.33	1.2.75	-	-	-	-	-	-	36.87	x
10.61	14.0	132.91	1.83	1.7.17	34	22.0	12.60	18.80	5.10	46.5	179.41	x
8.88	-	-	1.44	2.36	DETAILS NOT AVAILABLE				-	-	-	? ✓
57.17	-	-	1.49	2.59	- NOT THINNED				-	-	-	✓
11.56	-	-	1.40	1.09	n. n.				-	-	-	x
17.54	13.0	102.38	1.92	1.7.78	87	23.0+	13.0+	21.0+	15.02	93.86	196.24	x
-	-	-	-	-	-	-	-	-	-	-	-	x

thinnings if any.
measurement.

NANNUP ARBORETUM

LOCATION:

The arboretum is located on the east bank of the Blackwood River on the west side of Nannup townsite - (Map Reference GG 48 3.4).

SOIL TYPE & TOPOGRAPHY

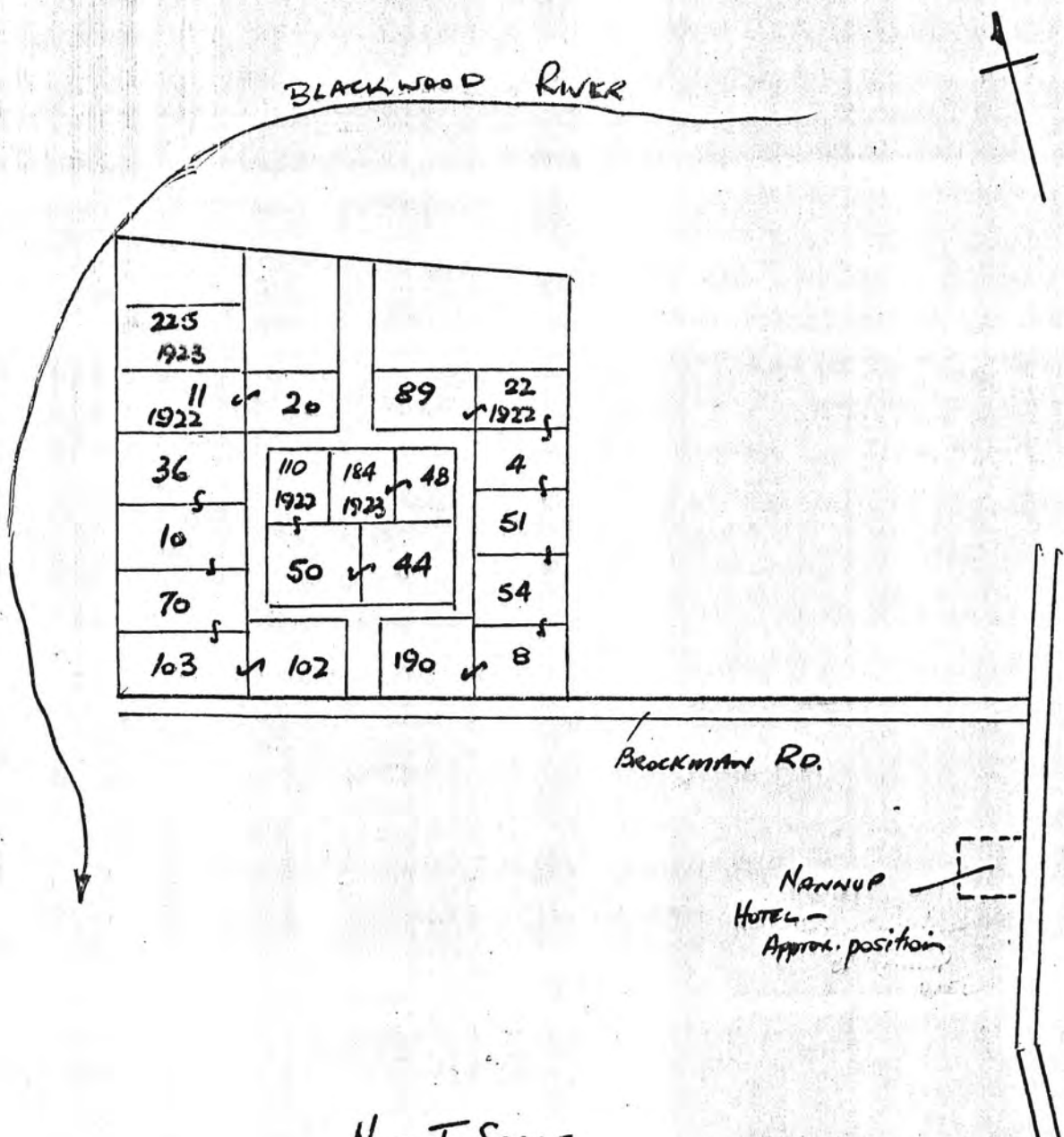
Dark red brown loams and clay loams of the river flat. Somewhat in the lee of hills to the west of the river.

GENERAL:

Establishment commenced in 1922 and has the same disadvantages to Collie, Willow Springs and Donnybrook arboretums of being on atypical sites as regards general forest sites.

It has provided useful data on wood volumes produced from such sites and thus possibly sets the optimums which can be expected from the species concerned.

LOCATION DIAGRAM & PLOT LAYOUT



SPECIES	NO. TREES (77)	PLOT AREA (HA)	AV. DBHOB (CM)	AV. T/HT (M)	AV. BOLE (M)	1977 (55YRS)		AV. MERCH VOL. (M ³)	M.A.I. HT/AN	M.A.I. VOL. M ³ /ha	AV. DBHOB (CM)	AV. T/HT (M)	1972 (50YRS)		M.A.I. HT/AN	M.A.I. VOL. HA	
						MERCH VOL. (HA)	UB						MERCH VOL. (M ³)	UB			AV. MERCH VOL. (M ³)
<u>NUCULIFERUS</u>																	
Euc. citriodora	3	0.025	27.88	22.23	14.0	121.60	0.38	0.40	2.21	N/OB	N/OB	N/OB					
" cladocalyx	3	0.02	35.0	27.57	16.5	106.5	0.71	0.50	1.94	N/OB	N/OB	N/OB					
" fastigata	3	0.02	74.85	37.96	20.6	1524	3.81	0.69	27.71	73.18	40.8	600	1.7	0.82	12.0		
" soniocalyx	12	0.024	57.30	42.63	25.75	1295	2.59	0.78	23.54	51.23	36.3	475	1.1	0.73	9.5		
" globulus	8	0.02	85.75	53.59	24.36	2260	5.65	0.97	41.09	82.09	46.1	1530	3.9	0.92	30.6		
" longifolia	11	0.022	26.32	27.68	14.80	200	0.40	0.50	3.64	N/OB	N/OB	N/OB					
" paniculata	19	0.025	38.57	28.03	17.61	631	0.83	0.51	11.47	N/OB	N/OB	N/OB					
" pilularis	12	0.024	58.68(?)	43.55	17.78	985	1.97	0.79	17.91	61.73	36.3	417	1.2	0.73	8.3		
" robusta	14	0.02	38.48	39.17	23.14	434	0.62	0.71	7.89	36.59	30.8	200	0.4	0.62	4.0		
" saligna	7	0.02	70.45	53.2	20.76	1173	3.35	0.96	21.32	65.54	41.5	970	2.4	0.83	19.4		
" steberi	11	0.022	48.79	38.73	22.60	805	1.61	0.88	14.64	46.14	32.9	241	0.7	0.66	4.8		
<u>PI NUS</u>																	
P. canariensis	3	0.02	39.00	35.5	18.77	353	0.88	0.64	6.41	36.27	29.3	185	0.5	0.59	3.7		
P. carabaeae	12	0.025	36.12	35.34	23.77	243	0.51	0.64	4.42	33.41	28.7	324	0.7	0.57	6.5		
P. radiata	9	0.02	71.38	49.21	20.2	2178	4.84	0.89	39.60	70.0	43.9	1135	2.7	0.88	22.7		
<u>OTHER</u>																	
Ac. melanoxylon	19	0.03	23.4	19.5	9.43	158	0.25	0.35	2.88	N/OB	N/OB	N/OB					
Tristania conferta	1	0.03	25.45	16.0	11.8	N/APF	0.25	0.29	N/APF	N/OB	N/OB	N/OB					

1. Hardwood Volume ex W.A. Forests Department "Cubic Contents of Hardwood Logs" with form factor of 0.7 for derivation of mid diam.
2. Pine Tree Volume to 4" U.B. (Equation 4 W.P.O. Como)
= - 1.2706 + 0.00271086 x D.U.B. BH2 x T/HT
- 0.00000000 93396 x Diam⁴ x T/HT2
3. 1972 Measurements ex. Forest Notes Vol.2 No.3

SOIL TYPE & TOPOGRAPHY

Generally a mid slope to ridge topography with yellow brown silty sandy loam over pale white pallid clays. Aspects east to south east.

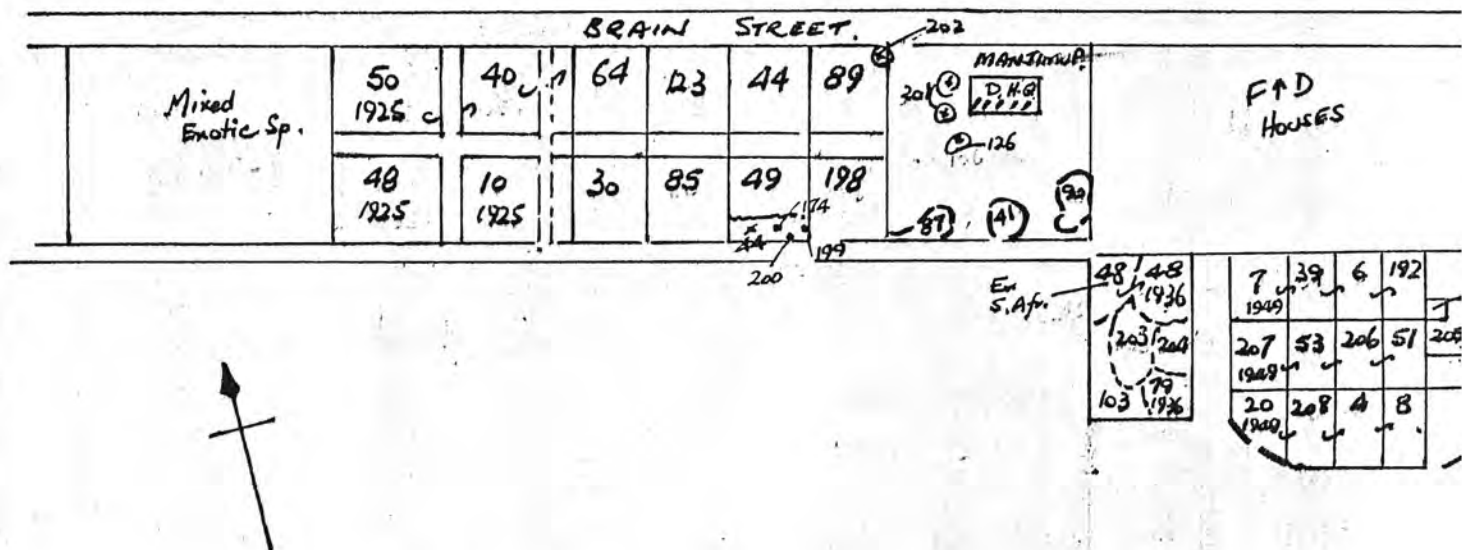
GENERAL: Initial establishment commenced in 1936 on the western side of the arboretum. Further plantings were made in 1949 the bulk of which still remain.

A further section to the south of approx. 1955/56 (including Poplar species and strains) has been almost entirely removed for housing and roads. Some odd species may remain in house yards. The possible loss here, included Euc.nutans a rather unique and rare species from the Ongerup-Pingrup area.

Thinnings and general clean up was made in 1964-66 approx. of most species and remeasurements of a detailed nature were made then, prior to thinning. Records of these are held in Research Manjimup.

The above comments do not refer to the pine arboretum established along the south side of Brain Street to the west of the existing D.H.Q. Data from that arboretum is confined to a summary of thinnings made from the arboretum in February 1960 and combined with previous thinning data, to give a total production figure as at February 1960. (Converted to metrics from original data).

LOCATION DIAGRAM & PLOT LAYOUTS



NOT TO SCALE.

MANJIMUP ARBORETUMS

28. MANIMOE ARBORIUM (LOCALITY 170/12)
 ORIGINALLY ESTD. 1936, 1949 & 1955 (LARGELY REMOVED) AT 6'x6" SPACING: THINNED 1966(?) - By A. HART

SPECIES	P.YR	AREA OF PLOT (HA)	TOTAL STOCKING (75)	AVERAGE HT(M) 1975	AVERAGE DBHOB (1975)	BASAL AREA/ PLOT (M ²)	MEAN MERCH VOL OB 1975	ESTD. MERCH VOL/HA OB.	MEAN HT OF BOLE (M)	MEAN DBHOB 1962 (PRE THIN) (INS)	M.A.I. HT(M)			M.A.I. DBH	
											1962*	1965	1975	1962*	1965
. Euc.amphifolia "Cabbage Gum"	1949	0.03	10	13.14	6.204	0.385	N.C.V.	-	N.C.V.	10.0	0.90	0.62	0.50	0.44	N/Av
. Euc.bosistoana "Bosisto's Gum"	"	0.04	15	21.08	9.31	0.650	"	-	"	14.4	1.27	1.04	0.84	0.68	0.43
. Euc.camaldulensis "River Gum"	"	"	14	22.74	10.79	0.585	0.20	70.0	6.92	12.7	1.09	1.16	0.88	0.98	0.70
			(Inc. 6 Break Trees)												
. Euc.dives "Narrow Leaf Peppermint"	1951	0.02	13	16.01	9.14	0.550	N.C.V.	-	N.C.V.	-	1.16	0.87	0.67	0.58	0.37
		(Coppice of 1960?)										Coppice Regn.(?)			
. Euc.globulus "Tasmanian Blue Gum"	1949	0.04	19	36.08	15.08	2.15	0.70	332.50	16.92	10.2	2.10	1.86	1.42	0.78	0.79
. Euc.grandis (xsaligna?) "Sydney Blue Gum"	"	"	23	28.96	10.99	1.39	0.17	97.75	13.66	16.0	1.80	1.52	1.11	1.23	0.53
. Euc.longifolia "Woollybutt"	"	"	14	20.84	8.48	0.505	0.08	28.00	8.95	5.1	1.31	1.03	0.80	0.89	0.43
. Euc.maculata "Spotted Gum"	"	"	29	16.85	6.59	0.630	0.03	21.75	5.90	4.15	0.70	0.84	0.65	0.32	0.38
. Euc.maideni "Tasmanian Blue Gum"	"	"	11	30.32	13.44	1.00	0.40	110.00	14.79	14.4	1.57	1.60	1.16	1.12	0.60
. Euc.melliodora "Yellow Box"	1936	0.012	6	21.59	12.23	0.455	0.13	65.00	6.75	-	N/Av	0.73	0.55	N/Av	0.38
. Euc.punctata "Grey Gum"	"	0.023	2	28.75	21.00	0.400	1.24	107.83	7.92	-	N/Av	0.85	0.74	N/Av	0.50
. Euc.rostrata "River Gum"	1949	0.04	25	20.10	8.83	0.978	0.12	75.00	6.57	8.00	1.19	1.02	0.77	0.61	0.40
. Euc.saligna "Sydney Blue Gum"	"	"	8	28.94	12.31	0.609	0.29	58.00	15.59	7.8	1.71	1.42	1.11	0.60	0.45
. Euc.sieberi "Silver Topped Mountain Ash"	"	0.025	2	23.43	16.47	0.258	0.58	46.40	9.83	20.0	1.63	N/Av	0.90	1.54	N/Av
. Euc.tereticornis "Forest Red Gum"	"	0.04	15	22.36	8.34	0.668	0.16	60.00	9.48	5.7	1.14	1.02	0.86	0.44	0.30

VOLUME DERIVED FROM MID DIAM. = 0.7 x BASAL DIAM.
 AND LOG VOLUME TABLES USING BOLE LENGTHS & MID DIAMS.
 * = Maximum figure.

N/Av = NOT AVAILABLE

MANJIMUP PINE ARBORETUM (ESTD. 1925 & 1939) AGE 35yrs & 21yrs

ORIGINAL SPACING: 6'x6' THINNINGS MEASUREMENT & TOTAL PRODUCTION TO 2/60

SPECIES	P.YR	AREA (Ha)	TALLEST TREE POST THIN(M)	BEFORE THINNING		AFTER THINNING			MERCHANTABLE VOLUME REMOVED (ROUND MEASURE)			TOTAL PREVIOUS		TOTAL PROD ⁿ . SINCE ESTABLISHMENT		
				NO. STEMS /Ha	B.AREA /Ha (M ²)	NO. STEMS	NO. STEMS /Ha	B.AREA Per Ha	MILL LOGS (M ³) /Ha	PEELER LOGS (M ³) /Ha	TOTAL VOLUME (M ³) /Ha	VOLUME REMOVED	M.A.I. M ³ /Ha/an	VOL. (M ³)	M.A.I. (M ³)	TOTAL VOL. IN LOADAGE /Ha
1. Pinus attenuata	34(?)	0.0072	-	555	27.64	-	Removed	-	0.726	-	0.726	-	-	0.726	0.03	0.207
2. " carabaea	25	0.04	27.43	500	47.61	12	300	5.834	95.30	1.50	96.80	269.04	7.687	365.84	10.45	104.56
3. " canariensis	25	0.04	25.91	625	57.13	13	325	5.834	163.84	100.06	263.90	272.58	7.788	536.48	15.33	153.33
4. " coulteri	39(?)	0.02	-	900	33.68	-	Removed	-	116.82	-	116.82	53.10	2.529	169.92	8.09	48.56
5. " echinata	25	0.026	16.76	1075	49.00	8	Largely Removed	20.44	133.10	-	133.10	93.46	2.67	226.56	6.47	64.75
6. " jeffreyii	25	0.04	12.50	1150	33.68	5	" "	8.59	76.29	-	76.29	12.39	0.35	88.68	2.53	25.34
7. " lambertiana	25	0.04	13.72	850	25.32	21	525	18.12	18.75	-	18.75	10.62	0.303	29.37	0.84	8.39
8. " laricio	25	0.022	19.51	773	40.88	4	Largely Removed	11.38	145.75	69.54	215.29	122.29	3.49	337.58	9.65	96.48
9. " lochensis	25	0.018	-	444	16.49	-	Removed	-	56.31	-	56.31	3.15	0.09	59.46	1.70	17.00
10. " longifolia	25	0.033	17.37	1000	45.52	3	Largely Removed	5.57	244.77	17.72	262.49	102.98	2.94	265.43	7.58	75.86
11. " massoniana	25	0.014	13.72	285	5.11	2	142	4.88	Thinned	to waste	-	-	-	-	-	-
12. " muricata	25	0.04	26.82	300	37.62	7	175	22.76	86.53	51.99	138.52	49.56	1.42	140.08	4.00	40.03
13. " murrayana	25	0.04	18.59	800	28.80	13	325	13.47	44.99	-	44.99	33.28	0.951	78.27	2.24	22.37
14. " patula	25	0.022	-	636	34.61	R E M O V E D			219.13	47.46	266.59	57.93	1.66	324.52	9.27	92.75
15. " palustris	25	0.018	18.59	1388	41.81	12	666	42.73	69.29	-	69.29	47.20	1.35	116.49	3.33	33.29
16. " pinaster	25	0.04	27.74	450	53.88	8	200	35.07	103.98	33.73	137.71	761.1	21.75	898.81	25.68	256.88
17. " " "	39	0.119	18.29	680	33.21	31	260	18.92	189.27	9.67	198.94	(See No. 16)	9.47	669.68	31.89	191.39
18. " " "	39	0.029	17.68	827	19.28	1	Largely Removed	-	52.74	-	52.74	" " "	2.51	-	-	-
19. " radiata	25	0.036	39.62	527	117.05	11	305	77.57	204.42	364.09	568.51	763.07	21.80	831.58	23.76	237.67
20. " taeda	25	0.04	22.25	575	54.58	13	325	41.34	201.39	138.61	340.30	357.54	10.22	697.84	19.94	199.44
21. " torreyana	25	0.04	26.21	550	36.93	14	350	29.50	89.92	61.89	151.81	177	5.06	328.81	9.39	73.97

BIG BROOK ARBORETUM ESTD. 1935 & 1936

LOCATION:

In Big Brook compartment Pemberton, north of old trout hatchery - (Map Reference HL 62 8.2), at the site of the old settlement, astride the road running westerly through the arboretum.

SOIL TYPE & TOPOGRAPHY

Lower and mid slopes of 5-7° slope approx. on typical Karri red brown loams and sandy loams, with harder sub soil areas with progression up the slope. Aspects easterly.

GENERAL:

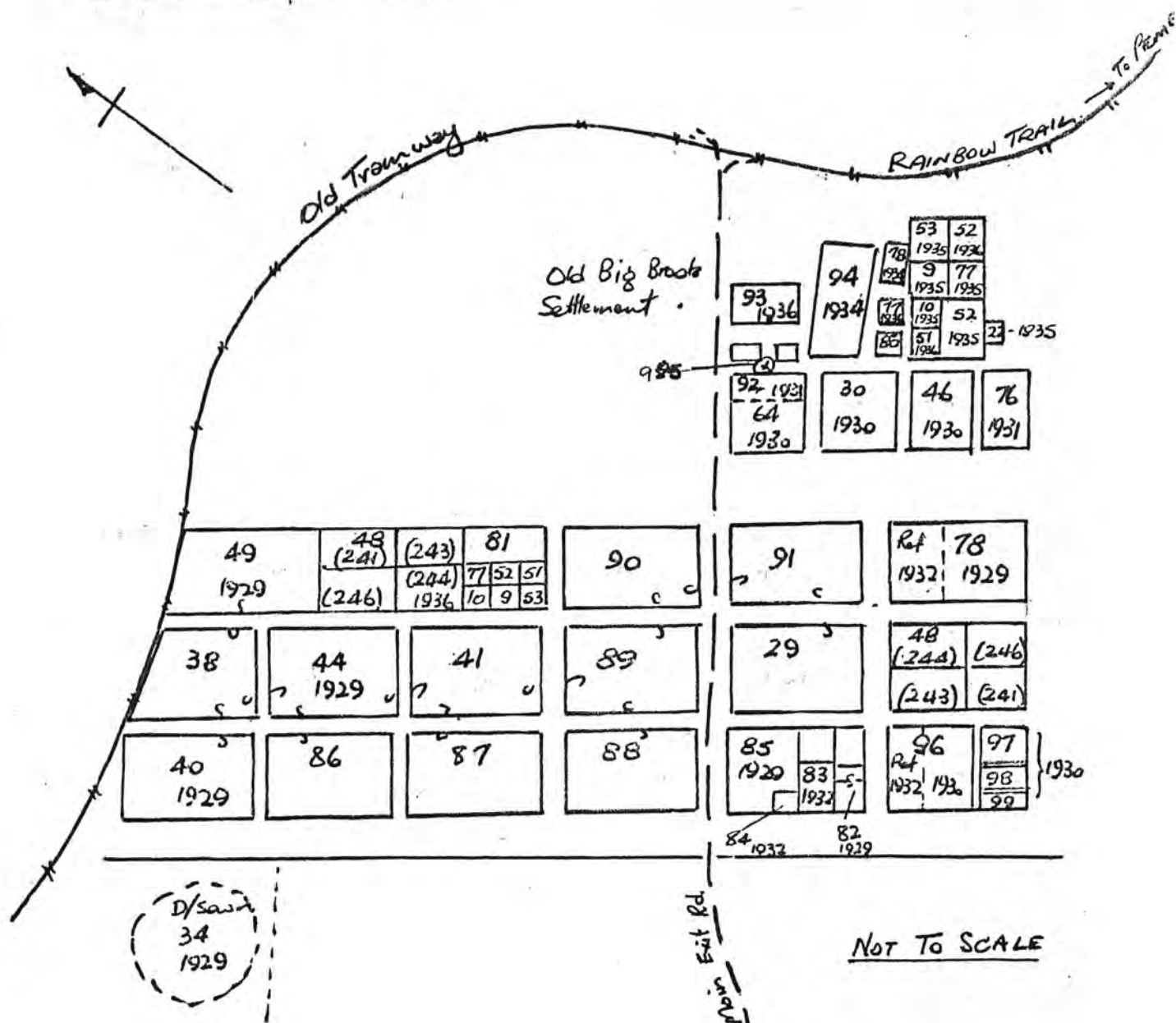
Established near the original settlement at 6'x6' spacings. The 1935 section is slightly removed from the 1936 section, which is nearer to Pemberton. At the rear of the 1936 section and east of the 1935 section, is to be found the pinus species sections of the arboretum.

Further north, plantings of Sequoia sempervirens are to be seen surrounded by a miscellanea of species of pines and other exotics.

The first direct sowings of Euc.muelleri in 1929 are located generally north west of the 1935 section, across the boundary track.

Results of various species plantings can be evidenced here in comparison to Karri of natural regeneration immediately adjacent to the 1936 sections.

LOCATION DIAGRAM & LAYOUT



REMEASUREMENT RESULTS OF BIG BROOK ARBORETUM AS AT 8/75
ESTD. 1935 & 1936 on MID & LOWER SLOPES (KARRI LOAMS & GRAVELS)

BY: A.

SPECIES	TOPOG.	P.YR	AREA OF PLOT (HA)	TOTAL STOCK 1975	AV.HT (M)	AV. DBHOB (CM)	B.AREA PLOT (M ²)	AV.MCH VOL.O.B. PER TREE (M ³)	BOLE HT (M)	ESTD.MERCH VOL. O.B. PER HA (M ³)	M.A.I. HT (M/AN)	M.A.I. DBHOB "/AN	M.A.I. VOL. M ³ /ANN	FORM	THR
. Euc.maculata	M/S	1935	0.18	13 (37%)	23.73	20.8	-	-	2.13	FAILED	-	-	-	GOOD	GOC
. " microcorys	"	"	"	21 (50%)	32.69	56.5	4.37	2.06	16.01	240.00	0.82	0.51	6.00	V.GOOD	V.G
. " paniculata	"	"	"	21 (50%)	23.85	20.75	0.59	0.20	10.48	23.25	0.595	0.205	0.58	GOOD	GOC
. " resinifera	"	"	"	23 (58%)	24.05	26.20	1.22	0.20	7.71	25.50	0.60	0.258	0.635	POOR D/L	FAI
. " saligna	"	"	"	19 (66.6%)	31.20	36.30	1.96	0.76	13.83	80.50	0.78	0.358	2.00	GOOD GENERALLY	GOC V.G
. Syncarpia Laurifolia	"	"	"	14 (25%)	18.30	21.80	-	-	6.50	FAILED OR BACKWARD & UNTHINNED			-	GOOD	GOC
. Euc.maculata	L/S	"	0.15	6	24.40	11.60	-	-	6.80	FAILED	-	-	-	POOR	FAI
. " microcorys	"	"	0.75	39	45.00	43.30	5.70	1.49	20.4	78.0	1.12	0.427	1.95	SOME POOR D/L	GOC
. " paniculata	"	"	0.23	16	21.60	17.70	-	-	13.50	FAILED	-	-	-	POOR	FAI
. " resinifera	"	"	"	18 (33.3%)	26.80	28.70	1.15	0.46	14.00 (one stem only)	36.00	0.67	0.283	0.90	GENERALLY POOR	GOC V.G
. " saligna	"	1936	0.30	17	44.10	37.60	1.88	1.25	22.73	70.80	1.13	0.383	1.82	GENERALLY GOOD	GOC V.G
. " pilularis	"	"	0.09(?)	2	39.55	49.0	0.37	1.72	18.40	38.50 (Estd.)	1.01	0.495	0.98	V.GOOD	V.G TO EXC
. " microcorys	"	"	0.15	15	34.75	32.0	1.20	0.83	19.25	83.00	0.89	0.325	2.13	V.GOOD	"
. " punctata	"	"	0.10	14 (24%)	27.20	25.50	-	-	-	FAILED	-	-	-	POOR TO FAIR	GOC
. " melliadora	"	"	0.10	14	19.80	14.90	-	-	7.73	FAILED	-	-	-	POOR	FAI
. Syncarpia Laurifolia	"	"	0.23	9	12.25	14.60	(Best two (21 stems)			FAILED OR BACKWARD			-	GOOD	GOC V.G

VOLUME DERIVATION = 0.7 x D.B.H.O.B. TO GIVE MID BOLE D.B.H.O.B., THENCE EXTRACTION OF VOLUME EX METRIC TABLES

BIG BROOK ARBORETUM - COMPARATIVE MEAN ANNUAL INCREMENTS
ESTD. 1935 + 1936

*DATA CONVERTED FROM GIRTHS & IMR MEASTS. BY J. BEESLEY 1947

TOPOGRAPHY		MID SLOPE						LOWER SLOPE									
SPECIES	TREATT.	PRETHIN (MEAST. 25-27/3/47)			POST THIN (1975 MEAST)			PRETHIN (25-27/3/47)			POST THIN (1975 MEAST.)						
	PARAM.	MEAN DBHOBx	MEAN HT(M)	M.A.I. DIAM.	M.A.I. HT	MEAN DBHOB	MEAN HT	M.A.I. DIAM.	M.A.I. HT	MEAN DBHOBx	MEAN HT(M)	M.A.I. DIAM.	M.A.I. HT(M)				
1935 PLANTING																	
Euc. maculata		9.7	7.3	0.81	0.61	20.8	23.73	FA I L E D		13.7	9.1	1.14	0.76	43.30	45.00	0.43	1.12
" microcorys		14.5	11.5	1.21	0.96	56.5	32.69	0.51	0.82	8.9	4.55	0.74	0.38	17.70	21.60	FA I L E D	
" paniculata		8.9	8.5	0.74	0.71	20.75	23.85	0.205	0.595	8.05	5.01	0.67	0.42	28.70	26.80	0.28	0.67
" resinifera		17.0	8.7	1.42	0.72	26.20	24.05	0.258	0.60	NOT RECORDED AS 1936							
" saligna		20.5	15.9	1.71	1.32	36.30	31.20	0.358	0.78								
1936 PLANTING																	
Euc. microcorys		50% ONLY ALIVE															
" melliodora		N O	F L A N T I N G S											32.0	34.75	0.32	0.89
" pilularis		O N	T H I S S I T E											14.90	19.80	FA I L E D	
" punctata		MAXIMS→												49.0	39.55	0.49	1.01
" saligna																	
														37.60	44.10	0.38	1.13

MAXIMS →

33.

BIG BROOK ARBORETUM (PEMBERTON)
1929 SESAIA SEMPERVIRENS ... REMEASUREMENTS 1975

(TAGGED TREES) 8'x8'									
REPLICATE 1 (M/SLOPE) (?)					REPLICATE 2 (L/SLOPE) (?)				
TREE NO.	DBHOB (INS)	C/DT HT (m)	FORM	THRIFT	DBHOB (INS)	C/DT HT (m)	FORM	THRIFT	COMMENT
1	14.64				NOT FOUND				
2	18.02	29.40			18.29	27.28			
3	21.72	29.20			11.96				
4	17.93				10.95				
5	4.79		Poor	Suppd	7.52			Stunted	
6	4.72		"	"	4.74				
7	4.67		"	"	9.10		Fair	Stunted	
8	13.26				5.85				
9	4.31		Poor	Suppd	17.34				
10	16.31				11.57				
11	4.97		Poor	Suppd	9.01				
12	14.40				12.86				
13	4.59		Poor	Suppd	11.00				
14	2.80		"	"	9.49				
15	2.82		"	"					
16	6.42		Fair	Leaning					
17	17.38								
18	4.45		Poor						
19	13.17								
20	7.06		Fair	Suppd					
21	4.58		Poor	"					
22	14.29								
23	NOT FOUND - PRESUMED BURNT								
24	7.30		Fair	Suppd					
25	13.88								
26	NOT FOUND - PRESUMED BURNT								
27	5.65		Fair	Suppd					
28	12.64								
29	BURNT - TAG ONLY FOUND								
30	19.87								
31	12.20		Good	Good					
32	13.59								
33	16.20								
34	5.63		Poor	Suppd					
35	20.55	30.00							
TOTAL	344.81				139.68				
MEAN DBHOB	10.60				10.70				
M.A.I. DBHOB (1975)	0.230				0.233				
M.A.I. HT (1975)	0.64	29.53			0.595	27.28			

NOTE: (1) Inspection in 1947 revealed M.A.I. DBHOB of 0.124"/ann & HT M.A.I. 0.32m
 All plants thrifty and healthy with only low scrub on the plot.

(2) All trees other than those noted were of good form and very good thrift.

(3) Proportions of Dominants: c/Dominants: Suppressed for Replicate 1 currently are 1:9:6.5 over 33 observations

PEMBERTON ARBORETUM

LOCATION:

This arboretum is located in what is/was known as "Widdeson's" paddock, north east from the D.H.Q. in Pemberton - (Map Reference HO 65 5.7).

SOIL TYPE & TOPOGRAPHY

Soil generally consists of dark yellow brown Karri loams to yellow brown Karri loams of rather variable depths, due to the large area. The western end is possibly most fertile and sheltered.

Topography ranges from lower slopes to upper slopes and ridge top with elevations of possibly 12-150 maximum. Aspects are generally south west and south with some newer areas north westerly and westerly.

GENERAL:

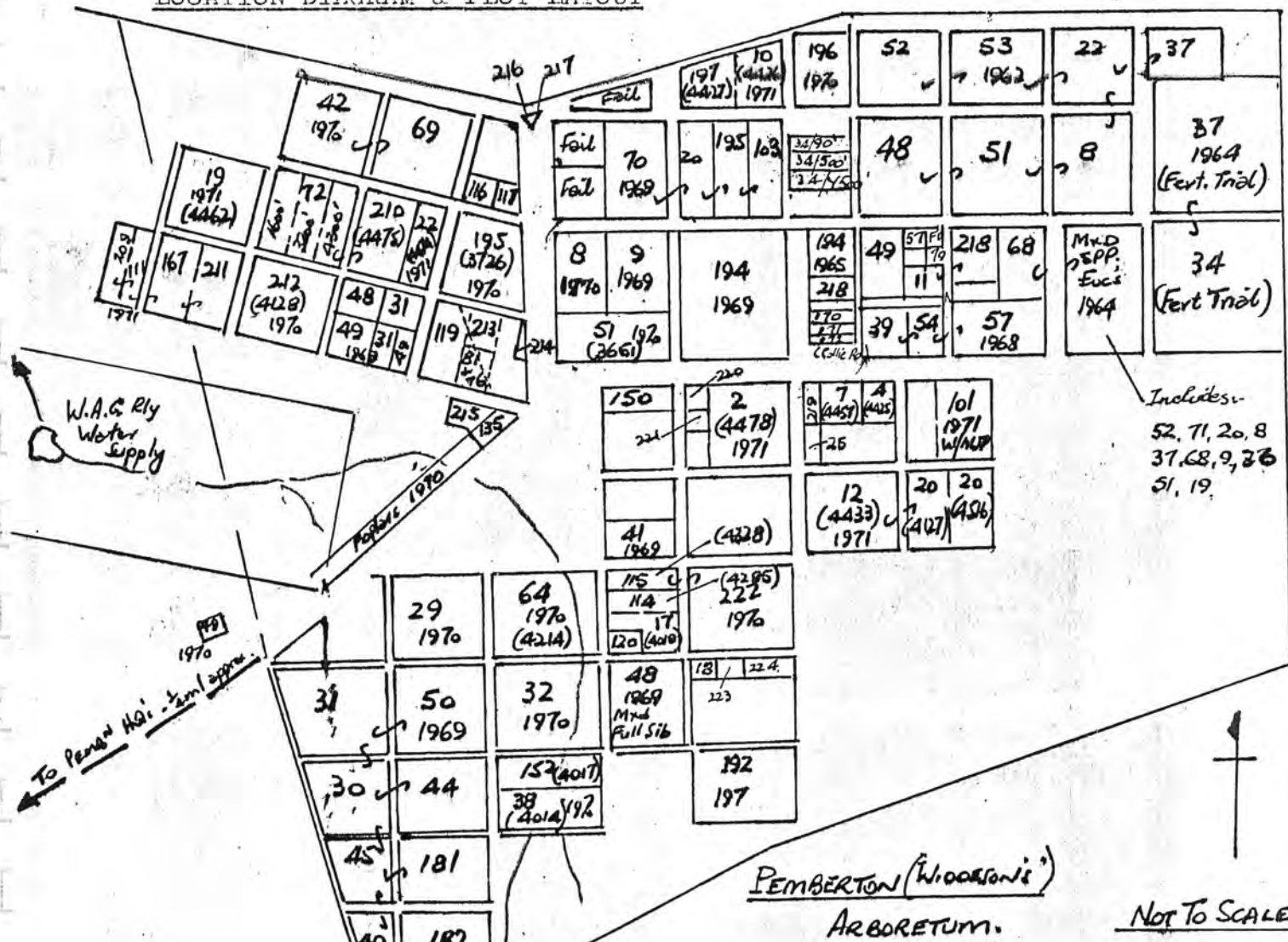
Initial plantings were made in 1962 with some experimental fertilizer plantings in 1964. Further plantings followed in 1967, '69, '70 & '71.

Species cover Eucalypts, Pinus and miscellaneous genera of the Pineaceae as well as Poplars and other species.

It is the largest arboretum in the southern regions and possibly the south west of Western Australia with the exception of Tanjanerup possibly and Meribup, both of which are much younger and contain species of less diversity as regards forest potential.

Useful data has been obtained to date and more critical productivity data, should be available in the near future.

LOCATION DIAGRAM & PLOT LAYOUT



ASSESSMENT RESULTS AS AT 8/76

Form factor of 0.7 used for volumes A.J. HART (Silvic).

Form factor of 0.7 used for volumes)																	A.J. HART (Silvic)				
SPECIES	P.YR	S/N	AREA (Ac)	TOTAL STOCKING	AV HT(m)	AV. DBHOB (cm)	BAOB M ² /TREE	BAOB M ² /Ha	AV. BOLE (m)	M.A.I. (HT)	M.A.I. (DIAM)	ESTD. VOL. (M ³ /Ha)	STOCKING /Ha	FERTILIZER TYPE	RATE	2BT SAMPLE (INS)	P.C. SUSC.	MULT SEED CROPS			
Euc.dives	1962	2647	0.2	60	12.44	23.09	0.042	12.6	5.52	0.96	1.77	10.94	300				✓	x			
" globulus	"	2702	0.5	85	20.78	23.95	0.045	7.66	15.18	1.60	1.84	18.50	170				x	x			
" maculata	"	HUY SEED	0.5	80	FAILED DUE TO SCRUB AND UNSUITABLE SPECIES													x	✓		
" microcorys	"	W'DALE SEED	0.5	90	17.64	29.13	0.067	12.06	15.02	1.33	1.22	28.45	180	?	?	N/Obn.	x	x			
" obliqua	"	2711	0.20	40	12.66	28.10	0.062	12.40	9.68	0.97	2.15	19.06	200				✓	x			
" pilularis	"	2713	0.28	25	19.72	33.58	0.089	7.96	16.50	1.52	2.58	20.8	89				✓	x			
" saligna	"	H'DALE SEED	0.5	60	13.93	22.73	0.041	4.92	11.08	1.07	1.74	8.66	120				x	x			
TOTAL (Ha)			1.072	440																	
Euc.baxteri	1964	3014	0.3+		12.38	14.03	0.0154	3.21	-	0.99	1.12	-	755	Nil	-	N/Obn.	✓	x			
" diversicolor	"	4/c	0.4=(Direct Sown)							"	"		N/Av	Nil-	?	"	x	✓			
" globulus	"	3042	0.05		25.38	23.49	0.0434	1.506	Estd.	2.03	1.88	181.62	755	A/B (?)	5oz.	"	x	x			
" macrorrhyncha	"	3082	0.168		11.38	11.04	0.0095	1.10	-	0.91	0.88	-	"	"	"	"	✓	x			
" muelleri	"	2937	1.30+	145/plot	20.88	18.88	0.0278	25.10	12.0	1.67	1.51	167.30	1736	"	"	"	✓	x			
" cloeziana	"	.	0.168		9.38	6.89	0.0037	N/Av	-	0.75	0.55	-	755	"	2 1/2 oz	2.03 ins	✓	x			
" melliodora	"	.	0.05											Sup.+	"	"	✓	✓			
" obliqua	"	2877	1.30+		11.67	20.07	0.0317	28.62	Estd.	0.93	1.61	78.08	"	Amn.	"	"	✓	✓			
					25.52	23.87	0.044	35.75	5.0	2.13	1.99	234.23	1736	FAILED	"	"	✓	✓			
" resinifera	"	2881	0.168						-				755	Nil	2 1/2 oz	2.3 ins	x	x			
" robusta	"	2882	0.80+		14.30	15.71	0.0194	2.26	-	1.14	1.26	-		Nitro-	"	"	✓	x			
" sieberi	"	.	0.168		21.17	21.99	0.0398	3.83	-	1.69	1.76	12.18	"	green	5oz	"	✓	x			
" saligna	"	3047	0.168		20.7	20.96	0.0343	4.00	Estd.	1.66	1.68	7.10	"	FAILED	2 1/2 oz	"	x	x			
" scabra	"	2883	0.168		15.17	21.13	0.035	4.08	15.0	1.66	1.68	-	"	Amn.	"	"	✓	x			
									10.0	1.21	1.69	-	"	Nitro-	5oz	"	x	✓			
TOTAL (Ha)			4.38																		
Euc.cloeziana	1965		0.05	27	13.28	16.29	0.021	1.05	3.80	1.20	1.48	8.8	1377			1.50 ins	x	✓			
" regnans	"		0.16	90app.	20.82	22.20	0.039	0.61	9.88	1.89	2.02	34.23	1736	?	?	0.45 ins	✓	x			
TOTAL (Ha)			0.08	117																	
Euc.cloeziana	1968		0.16	80app.	7.76	10.57	0.008	1.75	1.50	0.95	1.32	0.94	1377			0.95 ins	x	✓			
" cladocalyx	"		0.14	94	10.89	12.56	0.012	3.33	6.8	1.36	1.56	9.12	1566	"		N/Obn	x	x			
" bosistoana	"		0.14	102	10.33	10.11	0.008	2.33	5.0	1.29	1.26	3.5	1700	"		"	x	x			
" goniocalyx	"		0.09	45	13.28	11.56	0.01	1.99	4.56	1.66	1.45	4.0				0.45 ins	x	x			
" diversicolor	"	4/c	0.40	350app.	12.62	11.56	0.01	3.67	3.73	1.58	1.45	8.75	2314			0.65 ins	x	x			
					14.22	14.79	0.017	6.02	4.48	1.78	1.85		"			0.90 ins	x	Upper Slope			
TOTAL (Ha)			0.38	671																	Mid Slope

1969	Euc. citriodora	4235	0.20	-	-	-	FAILED	DUE TO	SCRUB	AND UNSUITABLE	SPECIES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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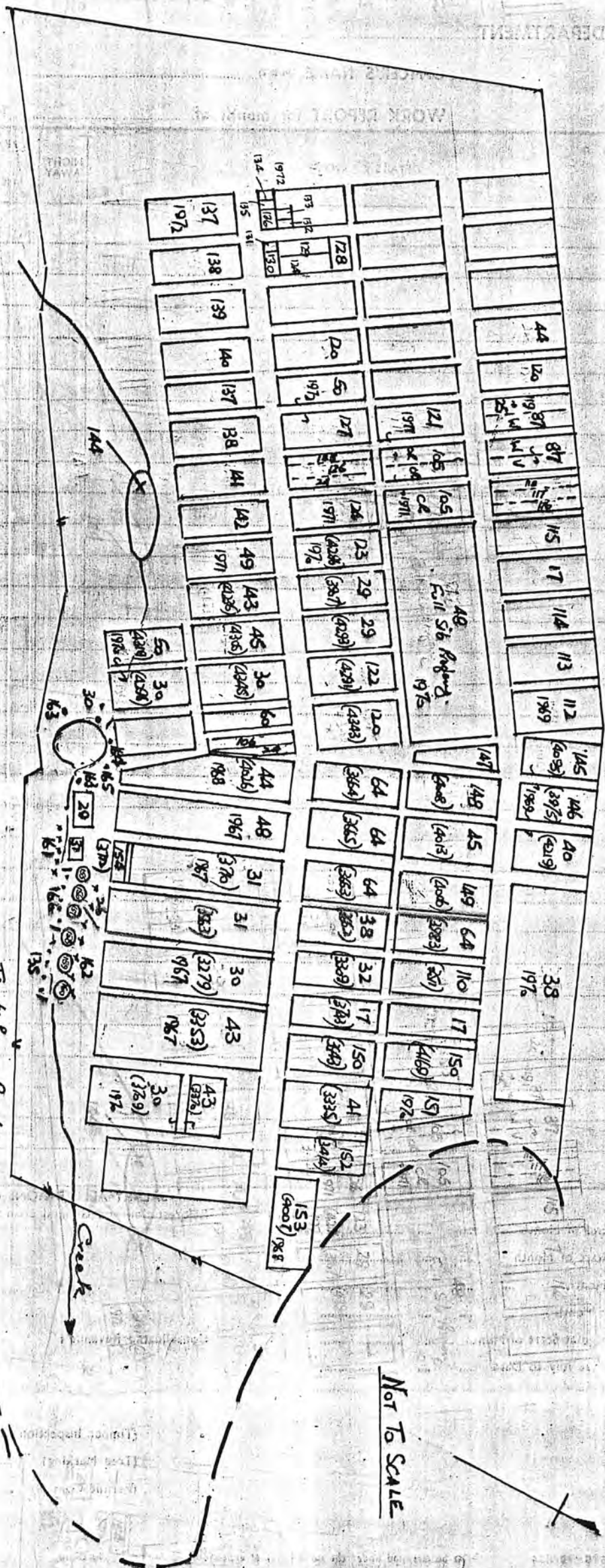
PEMBERTON ARBORETUM (1962 SECTION) - EXOTIC EUCALYPTS
 MEASUREMENTS OF 17/9/75 AGE: 13YRS SOILS: LIGHT BROWN LOAM WITH GRAVEL EXCEPT NO. 7.

MAP REF: PEMBn. 1801: H06577

BY: (A. HART
 G. YOUNG

SPECIES	PLOT AREA (HA)	NO STEMS	STOCKING PER HA	DBHOB (cm)		TOTAL HT. (m)		MEAN BOLE (m)	VOLUME (M3)			THRIFT	UNIF	COMMENT
				MEAN	M.A.I.	MEAN	M.A.I.		PER TREE	PER HA	M.A.I. /Ha/Ann			
Euc. dives	0.08	60	750	23.09 *	1.77 0.70	12.44	0.96	5.52	0.10	75.0	5.80	Fair	C	Some thinn. done
" globulus	0.20	85	425	23.95 *	1.84 0.75	20.78	1.60	15.18	0.28	118.0	9.20	V.GOOD	?	
" obligna	0.08	40	500	28.10 *	2.15 0.85	12.66	0.97	9.68	0.26	130.0	10.00	GOOD	B	Plot C/B
" pilularis	0.12	25	208	33.58 *	2.58 1.02	19.72	1.52	16.50	0.60	120.0	9.50	V.GOOD	?	{Double leac on 2 obser Plot C/B
" microcorys	0.2	90	450	29.125 *	2.24 0.88	17.64	1.36	15.02	0.45	203.0	15.6	" "	A	{2 Double leaders observed
" maculata	0.2	80	400	F A I L E D										
" saligna	0.2	60	300	22.73 *	1.74 0.69	13.93	1.07	11.08	0.18	54.0	4.15	GOOD	B-C	{Scrub (Ac orophy. higher than trees Av H most alive suppressed Soil yellow loam with gravel

- NOTES:
1. Assessment data based on 5 or 10 representative trees in each species
 2. Volumes derived by conversion of DBHOB to MID D.B. by using a form Factor of 0.7, then deducting 10cm for ea 100mm of Diameter for bark.
 3. Volumes derived from standard W.A. Forest Dept Log Volume (Metric) Tables for Hardwoods.
 4. * = Corresponding W.A.I. in inches.



NOT TO SCALE

ASPIN'S ARBORETUM - NANNUP

ESTD 1967, 1968, 1969, 1970, 1971, 1972.

Map Ref: GH 48 8.8

ASPIN'S ARBORETUM - NANNUP

ESTD 1967, 1968, 1969, 1970, 1971, 1972.

Map Ref: GH 48 8.8

