

RESEARCH BRANCH

Section. SILV. (S)

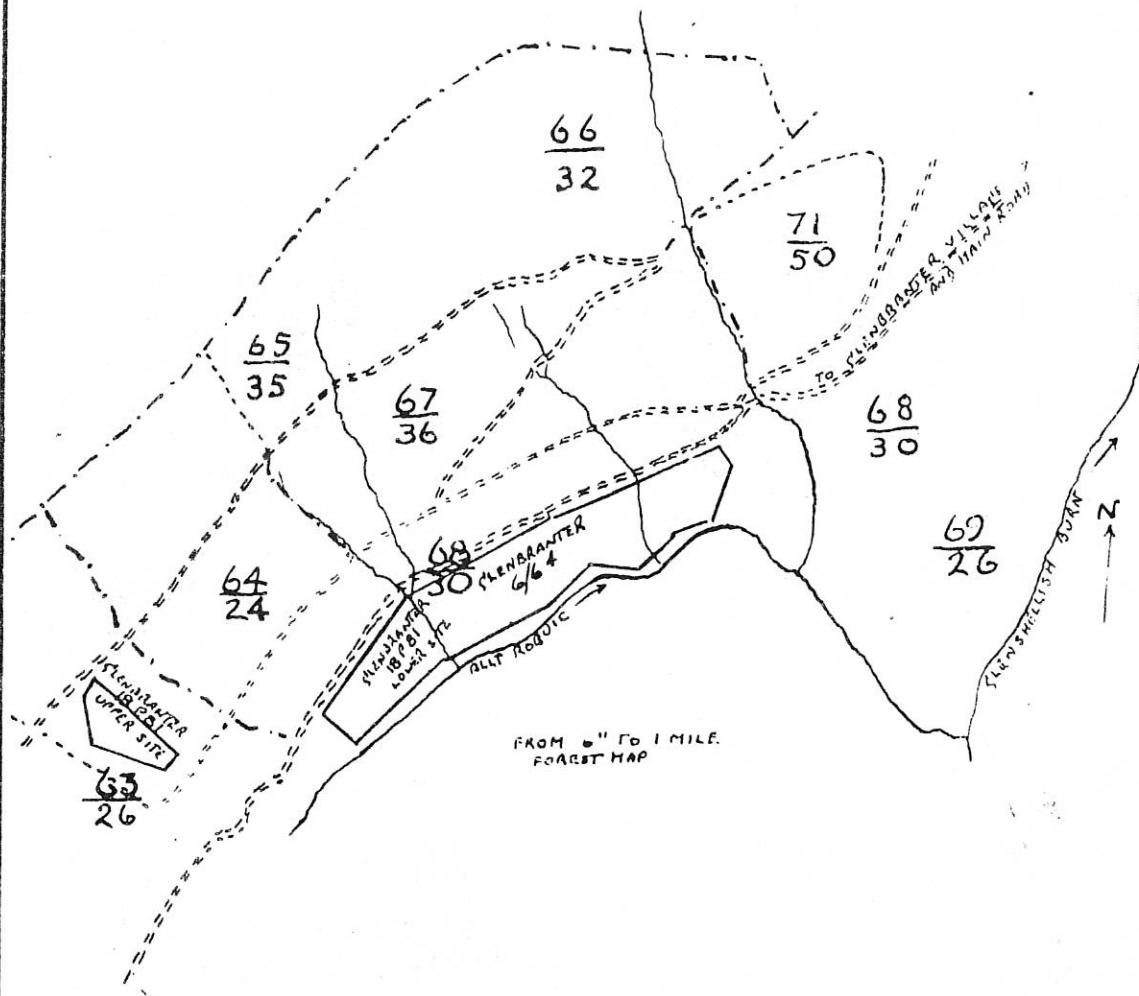
SUMMARY EXPERIMENTAL RECORD

Form 11A

Compt. No.: 68 0 63.

Forest/Expt.: GLENBRANTER 18.P.B1

Grid ref.: **NS.102969 NS 095968** 7th. Series Sheet No.: **53**...



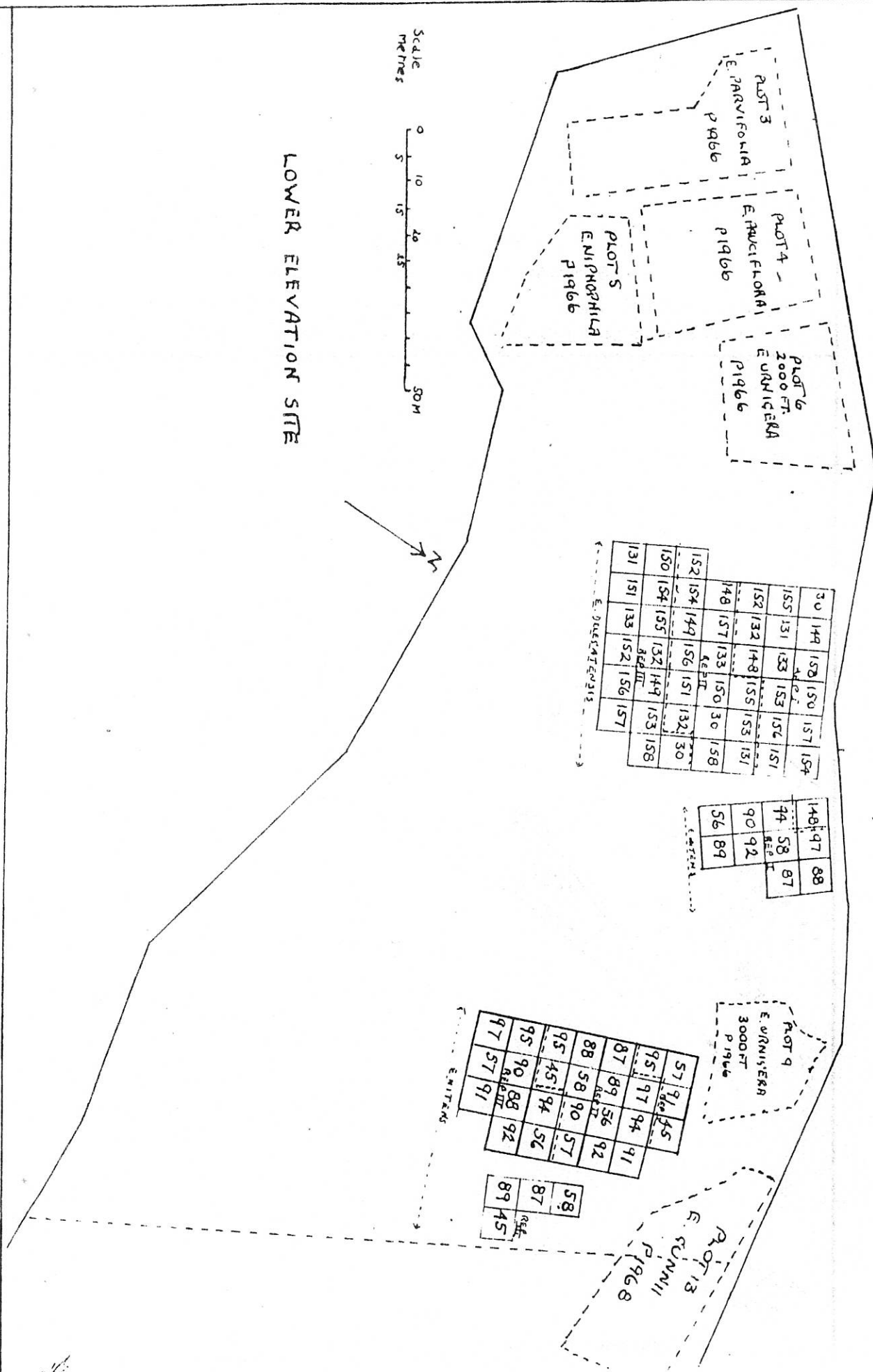
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4/81

Sheet 2

Compt No 68

Gridref. NS 102 969

Forest/Expt: GLENBRANTER 18.P.81
7th. Series Sheet No 53



FORESTRY COMMISSION
R&D DIV ON
SUMMARY EXPERIMENTAL RECORD

102
Section Silv(S)
Form IIA

Compt No: b8 Forest/Expt: GLENBRANTER 18 P81
Grid ref: NS 102 969 Series and Sheet No: 7th series sheet 53

Lower Elevation Site

Project: 452 Establishment of fast growing broadleaves.
341 Species Trials.

Objects: 1. To estimate the potential of eucalypts as forest trees throughout Britain.
2. To identify the most suitable provenances (if any) of each species.

Site: (Lower elevation) A gentle to moderately steep slope at an elevation of 140m ASL with a south easterly aspect.
Soil a shallow brown earth.

History: The site formed part of the old Glenbranter Arboretum, a part in which there was no history of tree planting until the establishment in 1966 of plots of E.cordata, E.simmondsii, E.urnigera & E.coccifera. These species suffered damage from frosts during the winter of 1978/79 and many were completely killed. The present plots of E.delegatensis now occupy the site formerly occupied by E.cordata & E.simmondsii. The E.nitens plots are now planted on the site formerly occupied by E.coccifera & E.urnigera.

Basal Treatments: Felling dead Eucalyptus to make room for E.delegatensis & E.nitens groups 3rd-4th March 1981.
Fence repairs, clearing windblows etc, 5th-9th March 1981.
Erecting temporary deer-proof fence on eastern boundary 21st-23rd April 1981.
Applied broadcast URP at the rate of 75kg element/ha 12th May 1981.
All plot areas treated with Glyphosate at rate of 4.5 litres of product /ha 12th & 20th May 1981.
Date of planting 27th-28th May 1981.
Applied KNO₃ (saltpetre) at rate of 10g per plant to all plants 15th & 16th June 1981. Fertiliser spread around plants within 10cm of planting position.
Application of Kaynitro to all plants at rate of 100g per plant 7th July 1981. Fertiliser spread around plants within a circle of radius 30cm.

Experimental Treatments:

Alice Holt	Species	Details of seed origin
<u>No.</u>		
30	<u>E.delegatensis</u>	Honterston(Tas), alt.762m, parent 37m x 92cm
131	"	Ben Lomond(Tas), " 1200m, tree No.1, 8m x 25cm
132	"	Mt.barrow (Tas), " 1000m, parent 15m x 21cm
133	"	Steppes (Tas), alt 900m
148	"	Yaouk Bill Range (NSW), alt.1340m
149	"	Leura Gap (ACT), alt.1350m
150	"	Mt. Begong (NSW), alt.1525m
151	"	The Pinnacle (NSW), alt. 1500m
152	"	Mt.Buffalo (Vic), alt. 1350m
153	"	Lake Mountain (Vic), alt. 1310m
154	"	Ben Lomond (Tas), alt. 1220m
155	"	Miena (Tas), alt. 960m

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Sheet No 3

Compt No: 68 Forest/Expt: GLENBRANTER 18 P81
Grid ref: NS 102 969 Series and Sheet No: 7th series sheet 53

Experimental Treatments: cont'd

Alice Holt

No.	Species	Deatils of seed origin
156	E.delegatensis	Mt.D romedary (Tas), alt. 800m
157	"	Forlorn Hope Track (Vic), alt. 1400m
158	"	Ben Lomond (Tas), alt. 1200m Tree No 2
45	E.nitens	Plot 209, Kilmun, Argyll
56	"	Barnewall Plain, Rubicon area (Vic), alt. 1120m
57	"	Macalister, Connors Plain (Vic), alt. 1260m
58	"	Macalister, Mt.Wellington (Vic), alt. 1280m
87	"	Barrington Tops (NSW), alt. 1520m
88	"	Barren Mt. (NSW), alt. 1460m
89	"	Point Lookout (NSW), alt. 1500m
90	"	Badja Mt. (NSW), alt. 1250m
91	"	Tallagandra State Forest (NSW), alt. 1200m
92	"	Anembo Trig (NSW), alt. 1400m
94	"	Mt.St.Gwinear (Vic), alt. 1175m
95	"	Macalister, Connors Plain (Vic), alt. 1310m
97	"	Mt. Torbreck, Rubicon area (Vic), alt. 1220m

Design: Species groups kept separate. Within each species group seed origins laid out in a randomised block design.
Plot size 3 x 3 trees. Three replications of each seed origin.

RESEARCH BRANCH

Section. SILV(S)

SUMMARY EXPERIMENTAL RECORD

Form 11A

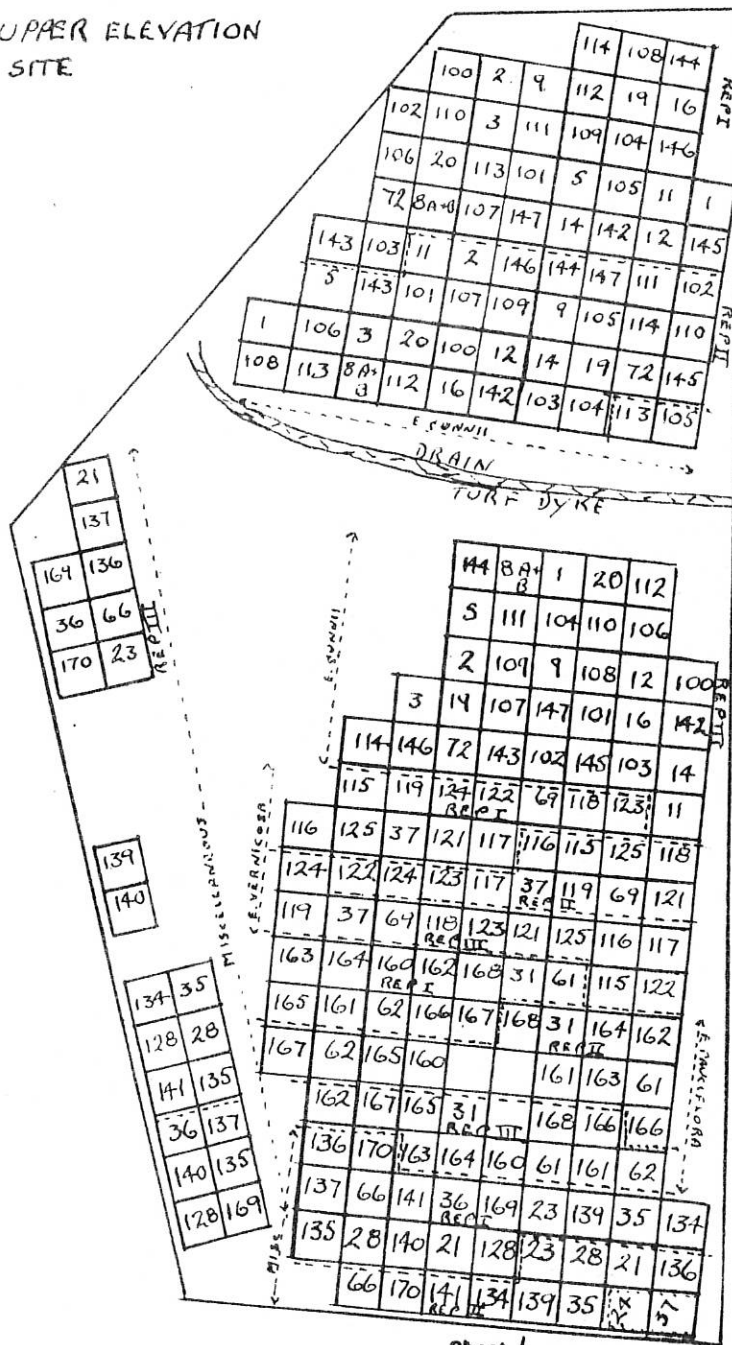
Compt. No: 63
Grid ref: NS 095968

Grid ref. NS 095968

Forest/Expt. GLENBRANTER 18.P.81

7th. Series Sheet No.: 53...

UPPER ELEVATION
SITE



Sheet!.....

Compt No: 53 Forest/Expt: GLENBRANTER 18 P81

Grid ref: NS 095 968 Series and Sheet No: 7th series sheet 53

Upper Elevation Site

Project: 452 Establishment of fast growing broadleaves.
341 Species trials.

Objects: 1. To evaluate the potential of eucalypts as forest trees throughout Britain.
2. To identify the most suitable provenances (if any) of each species.

Site: (Upper elevation) A gentle to moderately steep slope at an elevation of 225m with a south easterly aspect.
Soil SWG over part becoming shallow Brown earth.

History: A reafforestation site which previously carried a conifer crop of P24 NS & SS felled 74/75. The eastern half of the present expt site was used for a P76 experiment testing SS seedlings in paper pots. Having yielded useful results the plants in this experiment were cut out in Dec 1980 to clear the area for the present experiment.

Basal Part of present expt site treated with Kerb granules in Dec 1980.
Treatments: Remaining part treated with Wettable Atrazine during April 1981.
Any remaining grassy areas treated with Glyphosate in May 1981.
Clearing area from seedlings ex Glenbranter Expt 15 Jan-Feb 1981.
Application of URP broadcast at 75kg element/ha on all expt plot areas 22.4.81-13.5.81.
Date of planting 28.5.81-3.6.81.
Application of KNO₃ (saltpetre) to all plants at rate of 10g per plant, 16.6.81-18.6.81. Fertiliser spread around plant within 10cm of planting position.
Application of Kaynitro to all plants at rate of 100g per plant 7.7.81-9.7.81. Fertiliser spread around plant within a circle of radius 30cm.

Experimental
Treatments:

Alice Holt

No.	Species	Details of seed origin
<u>GUNNII GROUP</u> (34 species/provenances/origins)		

1	<u>gunnii</u>	Miena (Tas), Lagoon Isles, nr Steppes. Alt. 1000m.
2	"	Forest Marsh (Tas), alt. 1000m, parent 25m x 130cm.
3	"(var <u>divaricata</u>)	Miena (Tas), alt. 1100m, parent 20m x 150cm.
5	"	Western Mts (Tas), alt. 1235m.
8(A+B)	"	12 Princes Cres, Lyndhurst, Hants, parent 18m x 40cm.
9	"	19 Fleet Rd, Fleet, Surrey, parent 12m x 25cm, P64.
11	" ssp <u>archeri</u>	Forest Marsh (Tas), alt. 1000m, parent 25m x 130cm.
12	"	Western Mts (Tas), alt. 1310m.
14	"	Clairac, Gironde, France. AFOCEL.
16	"some hybridisation?"	ex Glenbranter 6 exp. excellent P68 plot.
19	"	Devinas, Gironde, France. AFOCEL.
20	"	Moliets, Landes, France. AFOCEL.
72	<u>urnigera</u>	Supplied by CBG. m cm
100	<u>gunnii</u>	Lake MacKenzie (Tas) No. 1, alt. 1100-1200, par. 7 x 22
101	"	" " " No. 2, " " " 8 x 22
102	"	" " " No. 3, " " " 13.5 x 28

Sheet No. 3

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R&D DIVISION Section Silv(S)
SUMMARY EXPERIMENTAL RECORD Form 11ACompt No: 63 Forest/Expt: GLENBRANTER 18 P81
Grid ref: NS 095 968 Series and Sheet No: 7th series sheet 53

Alice Holt

No.	Species	Details of seed origin		l m	cm
103	gunnii	Lake MacKenzie (Tas)	No.4, alt. 1100-1200, par.	14 x	30
104	"	" " "	No.5, " " "	15 x	35
105	"	Mt.Cattley (Tas)	No.1, " 680, parent	17 x	30
106	"	" " "	No.2, " " "	22 x	40
107	"	" " "	No.3, " " "	20 x	35
108	"	" " "	No.4, " " "	32 x	40
109	"	" " "	No.5, " " "	25 x	120
110	"ssp archeri	Ben Lomond (Tas)	No.1, " 1200m	7 x	12
111	" "	" " "	No.2, " " "	5 x	10
112	" "	" " "	No.3, " " "	6 x	11
113	" "	" " "	No.4, " " "	5 x	10
114	" "	" " "	No.5, " " "	3.5 x	8
142	glaucescens	Mt.Erica (Vic)	" 1070m		
143	"	Mt.Tingi Ringi (NSW)	" 1420m		
144	"	Tinderry Mts (NSW)	" 1400m		
145	"	Guthega (NSW)	" 1550m		
146	"	Mt.Erica (Vic)	" 1340m		
147	"	Mt.St.Gwinnear (Vic)	" 1372m		

VERNICOSA GROUP (12 seed origins)

37	vernica	ssp johnstonii	Kirroughtree Forest S(S)		
69	"	"	Misery Plateau (Tas), alt. 747m	"	cm
115	"	ssp subcrenolata	Mt.Cattley(Tas), Tree No.1, alt. 720m, par.	22 x	35
116	"	"	" " " " " 2, " " "	33 x	50
117	"	"	" " " " " 3, " " "	35 x	60
118	"	"	" " " " " 4, " " "	21 x	35
119	"	"	" " " " " 5, " " "	15 x	29
121	"	ssp johnstonii	Hartz Mts(Tas)	" 1, " 800m	10 x 25
122	"	"	" " " " " 2, " " "	8.5 x	20
123	"	"	" " " " " 3, " 760m	6 x	14
124	"	"	" " " " " 4, " " "	7 x	20
125	"	"	" " " " " 5, " " "	7 x	14

PAUCIFLORA GROUP (12 seed origins)

31	pauciflora	ssp debeuzevillei	Mt.Franklin (N.of Mt.Ginini)(ACT) alt. 1700m		
61	"	ssp pauciflora	N. of Mt.Cozee (ACT) supplied by CBG		
62	"	"	Eucumbere (NSW)	"	"
160	"	debeuzevillei	Jounama Peak (NSW), alt. 1590m		
161	"	"	Mt.Ginini (ACT), alt. 1730m		
162	"	niphophila	Mt.Hotham (Vic), alt. 1400m		
163	"	"	Smiggins Hole (NSW), alt. 1555m		
164	"	(seed origin data to come as a supplement) supplied ex France			
165	"	"	" " " " " " " "	"	"
166	"	"	" " " " " " " "	"	"
167	"	"	" " " " " " " "	"	"
168	"	"	" " " " " " " "	"	"

Grid ref:

Series and Sheet No: VIIA SERIES SHEET 20

Alice HoltNo.SpeciesDetails of seed originMISCELLANEOUS GROUP (16 species/provenances)

21	<u>E. nitida</u>	Arthurs Lake (Tas), alt. 1000m, parent 15m x 70cm
23	"	Breona (Tas), alt. 1000m
134	"	Hartz Mts (Tas), alt. 800m, parent 7m
135	"	Lake Mackenzie (Tas), Tree No. 1, alt. 1100m
136	"	" " 2, " " parent 15m
137	"	" " 3, " " parent 15m x 40cm
28	<u>E. dalrympleana</u>	Witherea (Tas) alt. 915m, parent 30.5m x 122cm
35	"	Gironde, France (prov. Hermitage) AFOCEL
36	"	Pyrenees, Atlantique, France (prov. Sore) AFOCEL
66	"	N. of Mt. Cozee (ACT) (1200-1300m) CBG
140	"	Stepnes (Tas), alt. 900m
141	"	Roses Tier (Tas), alt. 800m
139	<u>E. aggregata</u>	Stepnes (Tas), alt. 900m
128	<u>E. globulus</u>	Jericho (Tas), alt. 500m
169	<u>E. dalrympleana</u>	Leura Gap (ACT) alt. 1320m, parent 35m x 0.5m
170	"	Smokers Flat (ACT) alt. 1400m, parent 25m x 0.4m

Design:

Species groups kept separate. Within each species group seed origin laid out in a randomised block design. Plot size 3 x 3 trees. Three replications of each seed origin.

Forest/Expt: GLENBRANTER 18 P81

Date

Summary of Reports and Assessments

Minimum winter temperatures 1981/82.

Upper thermometer -11°C

Middle thermometer -12°C

Lower thermometer -16°C

Survival assessment carried out.

E. gunnii		E. vernicosa	E. pauciflora	
Lot No.	% Survival		Lot No.	% Survival
1	23		31	54
2	22		61	0
3	48		62	0
5	21		160	22
8(A B)	0	N	161	66
9	60	O	162	76
11	0	S	163	67
12	4	U	164	0
14	0	R	165	0
16	15	V	166	4
19	0	I	167	0
20	0	V	168	0
72	0	A		
100	35	L		
101	69			
102	56			
103	78			
104	74			
105	33			
106	9			
107	0			
108	0			
109	14			
110	10			
111	24			
112	79			
113	51			
114	4			
142	19			
143	0			
144	0			
145	37			
146	11			
147	27			

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Sheet 1

Forest/Expt:GLENBRANTER.....18..P81.....

Date	Summary of Reports and Assessments			
4/82	Survival assessment continued.			
	E.nitens	E.delegatensis % Survival	E.miscellaneous group	% Survival
		Lot No.	Lot No.	
		131	21	4
	N	4	23	17
	O	No survival	134	0
			135	7
	S	in any other	136	7
	U		137	15
	R	seed lot.	28	0
	V		35	0
	I		36	17
	V		66	0
	A		140	0
	L		141	0
			139	0
			128	0
			169	0
			170	0

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Sheet 2

JOINTLY EXPERIMENTAL RECORD

Form 11A

Compt No: 68 & 63 Forest/Expt: GLENBHANTER 18 P81

Grid ref: NS 102969 NS 095968 Series and Sheet No: 53

Further treatments:-

Aug 81/Sept 81 Unsuccessful attempt to replace early failures. (Unsuccessful due to type of planting stock used for B/U).

May 1982 Beat up with all available plants, plots in the E.gunnii, E.vernicosa & E.miscellaneous groups. No beating up in the E.pauciflora, E.nitens or E.delegatensis groups.

The following seed lots within the E.gunnii, E.vernicosa, E.pauciflora and E.miscellaneous groups were replaced with new seed lots as under:-

	Original Seed Lot	Replacement Seed Lot	
<u>E.gunnii</u>	108	217	<u>E.urnigera</u>
<u>E.vernicosa</u>	69	171	<u>E.vernicosa</u> ssp. <u>subcrenulata</u>
<u>E.pauciflora</u>	61	197	<u>E.fraxinoides</u>
"	165	198	"
"	62	200	"
<u>E.miscellaneous group</u>	66	220	<u>E.viminalis</u>
"	141	228	<u>E.delegatensis</u>
"	23	174	<u>E.coccifera</u>
"	128	218	<u>E.urnigera</u>
"	35	21	<u>E.nitida</u>
"	139	227	<u>E.gunnii</u>

Seed origins of replacement lot nos:-

Lot No.	Species	Origin	Replaced Lot No.
171	<u>E.vernicosa</u> ssp. <u>subcrenulata</u>	Great Lake, Tasmania. Alt. 1100-1200m Long. 146°50'E Lat. 41°55'S	69
174	<u>E.coccifera</u>	Mt. Wellington (summit), Tasmania Alt. 1200m (parents only 2m tall)	23
197	<u>E.fraxinoides</u>	Nullo Mountains, E. Cooma, NSW. Alt. 1500m Long. 149°30'E Lat. 36°15'S	61
198	<u>E.fraxinoides</u>	Badja Mountain, NSW. Alt. 1520m Long. 149°24'E Lat. 36°30'S	165
200	<u>E.fraxinoides</u>	Badja Mountain, NSW. Alt. 1750m Long. 149°24'E Lat. 36°30'S	62
217	<u>E.urnigera</u>	Mt. Misery, Tasmania. Alt. 850m Long. 146°32'E Lat. 42°23'S	108
218	<u>E.urnigera</u>	Lake Echo, Tasmania. Alt. 880m Long. 146°39'E Lat. 42°10'S	128
220	<u>E.viminalis</u>	Tumut River, NSW. Alt. 1650m Long. 148°12'E Lat. 36°10'S	66
227	<u>E.gunnii</u>	Serpentine Area (Bronte), Tasmania. Alt. 1000m	139
228	<u>E.delegatensis</u>	East of Great Lake, Tasmania. Alt. 1100m	141

Sheet No. 5.

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