

# A

SEGMENT A CO-ORDINATES high — F1, low — F2, high — F3, low ± F4.

PLOTS (147) (81, 85, 71, 93)

**(a) INDICATOR SPECIES**

GROUPS	INDIVIDUAL SPECIES
VERWET	..... <i>Melaleuca preissiana</i> , <i>Banksia littoralis</i> , <i>Hakea ceratophylla</i> , <i>Hakea varia</i> .
BROWET	..... <i>Leptocarpus scariosus</i> , <i>Leptospermum ellipticum</i> .
BROMO	..... <i>Mesomelaena tetragona</i> , <i>Synaphea petiolaris</i> , <i>Lepidosperma angustatum</i> .

Less consistently :

SAMORG	..... <i>Adenanthos obovata</i> , <i>Dasypogon bromeliaefolius</i> .
FERMO	..... <i>Hypocalymma angustifolium</i> , <i>Eucalyptus patens</i> , <i>Acacia extensa</i>
SANLEA	..... <i>Lyginia tenax</i>

**(b) TREE STRATUM**

		RANGE	MEAN
GENERAL: Sparse, low stand	BASAL AREA (m <sup>2</sup> /ha) .....	7-20	13
	HEIGHT (m) .....	16-23	19
COMPOSITION: <i>Melaleuca preissiana</i> , <i>Banksia littoralis</i> , <i>Eucalyptus calophylla</i> , <i>Eucalyptus patens</i> .			

**(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION**

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees) .....	0-3	2
GENERAL: Broad heads of valleys in eastern zone	ROCK OUTCROPS: Nil		

**(d) SOIL**

GENERAL: Grey sand over pale yellow or pale brown sand, often clay or organic-iron hardpan at depth. Plot 147 differs markedly in having much heavier texture and is not included in following figures.

**PHYSICAL PROPERTIES (TOPSOIL)**

	RANGE	MEAN		RANGE	MEAN
GRAVEL % .....		Nil	FIELD CAPACITY (%) .....	3-7	5
SILT + CLAY (%) .....	2-13	7	WILTING POINT (%) .....	1-3	2
DEPTH TO WATER TABLE (cm) .....	0-15		AVAIL. MOISTURE (%) .....	2-4	3

**CHEMICAL PROPERTIES (TOPSOIL)**

	RANGE	MEAN		RANGE	MEAN
pH .....	5.1-5.5	5.4	EXCH. Ca(me%) .....	0.7-3.7	1.5
N% .....	0.02-0.11	0.05	EXCH. Mg(me%) .....	0.4-2.1	0.9
P (ppm) .....	8-30	15	C.E.C. (me%) .....	6.5-10.3	8.2
K (me%) .....	0.02-0.53	0.16	SATURATION (%) .....	22-68	37

**(e) BROAD DESCRIPTION**

Wet, leached acid sands, waterlogged in winter, underlain by impermeable horizon. Plot 147 differs from the remainder both in soils and in vegetation, and is included solely to minimize the number of groups. It shares with them the very wet site conditions.

SEGMENT B CO-ORDINATES low  $\pm$  F1, medium to high + F2, high — F3, low  $\pm$  F4.

PLOTS (144, 88, 86, 91, 92) (69) (83, 48, 84)

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROWET	..... <i>Leptocarpus scariosus</i> , less <i>Leptospermum ellipticum</i> .
BROMO	..... <i>Mesomelaena tetragona</i> , <i>Synaphea petiolaris</i> , <i>Lepidosperma angustatum</i> .
SAMORG	..... <i>Adenanthos obovata</i> , <i>Dasypogon bromeliaefolius</i> , <i>Petrophile linearis</i> .
SANLEA	..... <i>Conospermum stoechadis</i> , <i>Patersonia occidentalis</i> , <i>Hibbertia polystachya</i> , <i>Lyginia tenax</i>

Less consistently :

FERMO	..... <i>Hypocalymma angustifolium</i> , <i>Acacia extensa</i>
EAGSAN	..... <i>Sphaerolobium medium</i> , <i>Isopogon dubius</i>
BROFEM	..... <i>Baeckea camphorosmae</i> , <i>Dampiera alata</i>

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Very open forest to wood land	BASAL AREA (m <sup>2</sup> /ha)	..... 14-41	24
	HEIGHT (m)	..... 13-28	21
COMPOSITION: <i>Eucalyptus marginata</i> , <i>Eucalyptus calophylla</i> , scattered understorey of <i>Banksia grandis</i>			

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees)	..... 1-3	2
GENERAL: Upland depressions and broad valley heads, mainly in eastern zone	ROCK OUTCROPS: Nil		

(d) SOIL

GENERAL: Light grey sand over grey to pale yellow sand, somewhat heavier texture and compaction in subsoil. Plots 83, 48 and 84 approach loamy sand.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	..... 0-26	3	FIELD CAPACITY (%)	2-12	5
SILT + CLAY (%)	..... 3-22	7	WILTING POINT (%)	1-6	2
DEPTH TO WATER TABLE (cm)	2-90	.....	AVAIL. MOISTURE (%)	2-5	3

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	..... 5.4-5.9	5.8	EXCH. Ca(me%)	0.1-2.0	1.0
N%	..... 0.01-0.06	0.03	EXCH. Mg(me%)	0.1-1.4	0.6
P (ppm)	..... 10-26	16	C.E.C. (me%)	1.7-9.5	6.2
K (me%)	..... 0.05-0.22	0.10	SATURATION (%)	13-65	35

(e) BROAD DESCRIPTION

Leached infertile acid grey sands, moist to wet in winter, rapidly drying out in summer. Plot 69, with group WETAL, forms transition to segment D. Plots 83, 84, 48, with groups DRYGRA, SANGRA and GRAMED, form transition to segment E, and have slightly heavier texture.

SEGMENT C. CO-ORDINATES low — F1, med to high + F2, low ± F3, low to med ± F4

PLOTS 40, 49, 159, 171.

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROWET	.... <i>Leptocarpus scariosus</i> .
BROMO	.... <i>Mesomelaena tetragona</i> , <i>Lepidosperma angustatum</i> .
WETAL	.... <i>Agonis linearifolia</i> , <i>Eucalyptus megacarpa</i> .
FERMO	.... <i>Hypocalymma angustifolium</i> , <i>Eucalyptus patens</i> .

Less consistently :

BROFEM .... *Dampiera alata*, *Baeckea camphorosmae*.

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Low to medium density and height	BASAL AREA (m <sup>2</sup> /ha)	.... 15-24	19
	HEIGHT (m)	.... 20-27	24

COMPOSITION: Chiefly *Eucalyptus patens* with admixture of *Eucalyptus megacarpa*, *Eucalyptus calophylla*, *Eucalyptus marginata*. Occasionally also *Eucalyptus rudis*, *Banksia littoralis*.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees)	.... 1-2	1
GENERAL: Valley floor	ROCK OUTCROPS: Occasional outcropping of secondary (valley) laterite in form of sills.		

(d) SOIL

GENERAL: Sandy loam to sandy clay topsoil, sandy clay subsoil, colour yellow-grey to brown.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	0-78	23	FIELD CAPACITY (%)	6-13	9
SILT + CLAY (%)	7-33	18	WILTING POINT (%)	3-7	5
DEPTH TO WATER TABLE (cm)	10-70	....	AVAIL. MOISTURE(%)	3-6	5

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	4.5-6.0	5.6	EXCH. Ca(me%)	0.9-3.3	2.3
N%	0.04-0.39	0.15	EXCH. Mg(me%)	0.3-4.2	1.8
P (ppm)	19-101	46	C.E.C. (me%)	6.1-28.3	12.1
K (me%)	0.05-0.64	0.33	SATURATION (%)	25-69	44

(e) BROAD DESCRIPTION

Moist to wet sandy loams along creeks and on margins of swamps.

Plot 40 differs from the rest in several aspects, such as heavier occurrence of group BROFEM and heavier soil texture. It shares with them the occurrence of key group WETAL and shallow depth to ground-water table.

SEGMENT D CO-ORDINATES high — F1, low ± F2, F3, F4.

PLOTS 80, 57, 50, 76, 72, 63, 73, 158, 82, 77, 66, 102.

(a) INDICATOR SPECIES

GROUPS		INDIVIDUAL SPECIES
BROWET	....	<i>Leptocarpus scariosus</i> , <i>Leptospermum ellipticum</i> .
BROMO	....	<i>Mesomelaena tetragona</i> , <i>Synaphea petiolaris</i> , <i>Lepidosperma angustatum</i> , <i>Kingia australis</i> .
BROFEM	....	<i>Dampiera alata</i> , to lesser degree <i>Baeckea camphorosmae</i> .
FERMO	....	<i>Hypocalymma angustifolium</i> , <i>Acacia extensa</i> , some <i>Eucalyptus patens</i> .
Less consistently :		
BROFER	....	<i>Hakea lissocarpha</i> .
DRYSAG	....	<i>Daviesia pectinata</i>
WETAL	....	<i>Agonis linearifolia</i>

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Variable, frequently affected by dieback	BASAL AREA (m <sup>2</sup> /ha)	.... 11-38	21
	HEIGHT (m)	.... 16-33	24
COMPOSITION: <i>Eucalyptus marginata</i> , <i>Eucalyptus calophylla</i> , slight admixture of <i>Eucalyptus patens</i>			

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees)	.... 1-3	2
GENERAL: Lower slopes and floors of valleys	ROCK OUTCROPS: Isolated outcrops of secondary lateritic ironstone		

(d) SOIL

GENERAL: Orange-brown loamy sands and sandy loams over sandy clay or secondary lateritic ironstone.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN	RANGE	MEAN
GRAVEL %	.... 0-26	11	FIELD CAPACITY (%)	2-33 15
SILT + CLAY (%)	.... 4-23	14	WILTING POINT (%)	1-12 6
DEPTH TO WATER TABLE (cm)	2-90	....	AVAIL. MOISTURE (%)	2-23 9

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	.... 5.4-6.4	6.0	EXCH. Ca(me%)	.... 0.4-3.4	1.3
N%	.... 0.03-0.16	0.09	EXCH. Mg(me%)	.... 0.1-3.1	0.9
P (ppm)	.... 5-97	24	C.E.C. (me%)	.... 0.1-1.4	0.7
K (me%)	.... 0.01-0.40	0.18	SATURATION (%)	.... 10-68	36

(e) BROAD DESCRIPTION

Orange-brown loamy sands or sandy loams, over impermeable horizon, on lower slopes and valley floors, seasonally waterlogged.

SEGMENT E. CO-ORDINATES low — F1, high + F2, low ± F3, low ± F4.

PLOTS 79, 67, 96, 101, 64, 39, 59, 120, 74, 75, 78, 52, 55.

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROMO ....	..... <i>Mesomelaena tetragona</i> , <i>Synaphea petiolaris</i> , <i>Lepidosperma angustatum</i> .
BRUFEM	..... <i>Baeckea camphorosmae</i> , <i>Dampiera alata</i> , <i>Kingia australis</i>
FERMO ....	..... <i>Hypocalymma angustifolium</i> .

Less consistently :

EAGSAN ....	..... <i>Sphaerolobium medium</i> , <i>Hakea cyclocarpa</i> .
DRYSAG	..... <i>Daviesia pectinata</i> .
BROWET	..... <i>Leptocarpus scariosus</i> , <i>Leptospermum ellipticum</i> .
GRAMED	..... <i>Adenanthos barbigera</i> , <i>Banksia grandis</i> .
SANLEA ....	..... <i>Patersonia occidentalis</i> , <i>Hibbertia polystachya</i> .

(b) TREE STRATUM

GENERAL: Variable	BASAL AREA (m <sup>2</sup> /ha)	RANGE	MEAN	
	.....	0.5-43	20	
	HEIGHT (m)	.....	14-30	23

COMPOSITION: Chiefly *Eucalyptus marginata*, light admixture of *Eucalyptus calophylla*, few *Banksia grandis*

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

CURVATURE: Concave	SLOPE (degrees)	RANGE	MEAN
	.....	1-5	3
GENERAL: Lower slopes and depressions	ROCK OUTCROPS: Mostly nil.		

(d) SOIL

GENERAL: Grey, yellow or brown sands and loamy sands with admixture of lateritic gravel which tends to increase with depth; orange mottling in subsoil.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	0-65	21	FIELD CAPACITY (%)	7-14	8
SILT + CLAY (%)	5-15	10	WILTING POINT (%)	1-5	3
DEPTH TO WATER TABLE (cm)	27-90+	.....	AVAIL. MOISTURE (%)	3-9	5

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	5.3-6.1	5.8	EXCH. Ca(me%)	0.3-3.1	1.7
N%	0.03-0.23	0.07	EXCH. Mg(me%)	0.2-1.1	0.6
P (ppm)	5-26	17	C.E.C. (me%)	4.4-11.1	7.4
K (me%)	0.02-0.47	0.18	SATURATION (%)	13-67	36

(e) BROAD DESCRIPTION

Gravelly sands, moist to wet in winter, dry in summer, of medium fertility. This is a broad transitional segment between swamps and gravelly slopes, held together by species groups BROMO, BRUFEM, FERMO.

# F

SEGMENT F CO-ORDINATES low  $\pm$  F1, low + F2, low  $\pm$  F3, low  $\pm$  F4.

PLOTS 4, 5, 8, 25, 127, 129.

**(a) INDICATOR SPECIES**

GROUPS		INDIVIDUAL SPECIES
EAGSAN ....	....	<i>Stirlingia latifolia</i> .
BROWET ....	....	<i>Leptocarpus scariosus</i> .
SANLEA ....	....	<i>Nuytsia floribunda</i> , <i>Caustis dioica</i> ,
Less consistently :		
BROMO ....	....	<i>Mesomelaena tetragona</i> .
DRYSAG ....	....	<i>Daviesia pectinata</i> .

**(b) TREE STRATUM**

		RANGE	MEAN
GENERAL: Low, medium density	BASAL AREA (m <sup>2</sup> /ha) ....	7-48	21
	HEIGHT (m) ....	15-27	20
COMPOSITION: <i>Eucalyptus marginata</i> almost without admixture or second storey.			

**(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION**

		RANGE	MEAN
CURVATURE: Uniform to concave	SLOPE (degrees) ....	1-2	1
GENERAL: Lower slopes and broad upland depressions	ROCK OUTCROPS: Nil		

**(d) SOIL**

GENERAL: Coarse grey sand over yellow sand.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL % ....	Nil		FIELD CAPACITY (%)	2-5	3
SILT + CLAY (%) ....	2-6	3	WILTING POINT (%)	1	1
DEPTH TO WATER TABLE (cm)	>150	....	AVAIL. MOISTURE (%)	1-3	2

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH ....	4.5-6.1	5.5	EXCH. Ca(me%)	0.4-2.7	1.5
N% ....	0.01-0.04	0.02	EXCH. Mg(me%)	0.1-0.7	0.4
P (ppm) ....	6-46	19	C.E.C. (me%)	0.6-15.5	5.2
K (me%) ....	0.07-0.24	0.15	SATURATION (%)	22-65	40

**(e) BROAD DESCRIPTION**

Mildly sloping sand plains, generally on lower slopes of broad eastern valleys.

Additional indicators not fully tested, but found quite consistently are *Lysinema ciliatum*, *Gompholobium tomentosum*, *Bossiaea eriocarpa*, *Calytrix flavescens*.

SEGMENT H. CO-ORDINATES low  $\pm$  F1, high + F2, low  $\pm$  F3, low  $\pm$  F4.

PLOTS (124, 99, 108, 153) (123, 70, 62, 94, 44, 117, 100, 87) (105, 14, 6, 135, 106, 41, 56, 58, 98)

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROMO ....	.... <i>Mesomelaena tetragona</i> , <i>Synaphea petiolaris</i> , <i>Lepidosperma angustatum</i> .
EAGSAN ....	.... <i>Stirlingia latifolia</i> , <i>Sphaerolobium medium</i> , <i>Hakea cyclocarpa</i> , <i>Isopogon dubius</i>
DRYSAG ....	.... <i>Daviesia pectinata</i> , <i>Hakea ruscifolia</i> .
DRYGRA ....	.... <i>Styphelia tenuiflora</i> , <i>Patersonia rudis</i> , <i>Acacia strigosa</i> .
Less consistently :	
BROFER ....	.... <i>Hakea lissocarpa</i>
BROFEM ....	.... <i>Baeckea camphorosmae</i> .
SANGRA ....	.... <i>Casuarina fraseriana</i> .

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Variable	BASAL AREA (m <sup>2</sup> /ha) ....	2-57	25
	HEIGHT (m) ....	19-33	25
COMPOSITION: Overwhelmingly <i>Eucalyptus marginata</i> , little <i>Eucalyptus calophylla</i> , some second storey of <i>Casuarina fraseriana</i> and <i>Banksia grandis</i> .			

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Uniform to concave	SLOPE (degrees) ....	1-16	3
GENERAL: Lower and middle slope in mildly undulating landscape, eastern zone	ROCK OUTCROPS: Occasional low outcropping of lateritic ironstone.		

(d) SOIL

GENERAL: Yellow-grey sand or loamy sand merging into lateritic gravel at depth.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL % ....	0-71	24	FIELD CAPACITY (%)	2-15	12
SILT + CLAY (%) ....	2-15	9	WILTING POINT (%)	1-9	8
DEPTH TO WATER TABLE (cm)	>90	....	AVAIL. MOISTURE (%)	1-6	4

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH ....	4.9-6.4	6.0	EXCH. Ca(me%) ....	0.4-6.3	2.1
N% ....	0.02-0.10	0.05	EXCH. Mg(me%) ....	0.1-4.4	0.9
P (ppm) ....	3-100	28	C.E.C. (me%) ....	3.2-29.3	8.2
K (me%) ....	0.05-1.20	0.27	SATURATION (%) ....	11-94	41

(e) BROAD DESCRIPTION

Gravelly sands in low-rainfall zone.

This large group of plots could be further subdivided into three subgroups, as indicated by brackets above. The first of these, characterized by *Stirlingia latifolia*, tends toward segment F; the second, characterized by *Mesomelaena tetragona*, tends toward segment E. The third has no definite trend.

SEGMENT J. CO-ORDINATES low—F1, high + F2, low ± F3, low ± F4.

PLOTS 126, 128, 43, 45, 97, 68, 89, 107.

**(a) INDICATOR SPECIES**

GROUPS	INDIVIDUAL SPECIES
SANLEA ....	<i>Conospermum stoechadis</i> , <i>Hibbertia polystachya</i> , <i>Nuytsia floribunda</i> , <i>Lyginia tenax</i> .
BROMO ....	<i>Mesomelaena tetragona</i> , <i>Lepidosperma angustatum</i> .
BROWET ....	<i>Leptocarpus scariosus</i> .
DRYGRA ....	<i>Patersonia rudis</i> , <i>Styphelia tenuiflora</i> .

Less consistently :

EAGSAN ....	<i>Stirlingia latifolia</i> , <i>Isopogon dubius</i> , <i>Sphaerolobium medium</i> .
BROFEM ....	<i>Baeckea camphorosmae</i> , <i>Dampiera alata</i> .

**(b) TREE STRATUM**

	RANGE	MEAN
GENERAL: Medium density and height	BASAL AREA (m <sup>2</sup> /ha) .... 5-28	14
	HEIGHT (m) .... 10-28	21

COMPOSITION: *Eucalyptus marginata*, *Eucalyptus calophylla*, *Eucalyptus patens* at the moist and *Banksia attenuata* at the dry end of the range.

**(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION**

	RANGE	MEAN
CURVATURE: Uniform to concave	SLOPE (degrees) .... 1-3	2
GENERAL: Lower slopes and broad upland depressions	ROCK OUTCROPS: Nil	

**(d) SOIL**

GENERAL: Deep, pale yellow-grey sand, frequently underlain by lateritic gravel in sandy clay matrix at depth.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN	RANGE	MEAN
GRAVEL % ....	2-18	4	FIELD CAPACITY (%)	2-8 4
SILT + CLAY (%) ....	1-8	5	WILTING POINT (%)	1-3 2
DEPTH TO WATER TABLE (cm)	>90	....	AVAIL. MOISTURE (%)	2-4 3

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH ....	5.6-6.1	6.0	EXCH. Ca(me%)	0.5-1.9	1.2
N% ....	0.02-0.04	0.03	EXCH. Mg(me%)	0.2-1.4	0.5
P (ppm) ....	7-14	10	C.E.C. (me%)	4.7-8.0	6.2
K (me%) ....	0.03-0.15	0.10	SATURATION (%)	18-57	31

**(e) BROAD DESCRIPTION**

Leached sands in medium to low-rainfall zone.



SEGMENT L CO-ORDINATES low — F1, low — F2, low + F3, high + F4.

PLOTS 26, 27, 28, 134

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROFER	..... <i>Eucalyptus wandoo</i> . ..... <i>Hakea lissocarpha</i> .
FERMO	..... <i>Eucalyptus patens</i> , <i>Hypocalymma angustifolium</i> .
DRYFER	..... <i>Diplolaena drummondii</i> , <i>Hibbertia lineata</i> .

*wandoo*  
*floaters*

The following species, not otherwise used as indicators, also occur consistently :

*Acacia pulchella*,  
*Hibbertia montana*.

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Open stand of medium height	BASAL AREA (m <sup>2</sup> /ha) .....	2-19	14
	HEIGHT (m) .....	24-31	28

COMPOSITION: Mainly *Eucalyptus wandoo* with admixture of *Eucalyptus patens*. On one occasion, away from the plots, *Acacia acuminata* has been observed in this type.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees) .....	2-5	4
GENERAL: Lower slopes, dry eastern zone.	ROCK OUTCROPS: Few ironstone floaters		

(d) SOIL

GENERAL: Brown silty loam over red-brown clay loam.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL % .....	0-50	12	FIELD CAPACITY (%)	23-33	28
SILT + CLAY (%) .....	14-31	24	WILTING POINT (%)	7-11	9
DEPTH TO WATER TABLE (cm)	30 in one plot > 90 in others		AVAIL. MOISTURE(%)	15-21	18

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH .....	5.5-6.5	6.1	EXCH. Ca(me%)	7.0-18.5	13.4
N% .....	0.27-0.34	0.31	EXCH. Mg(me%)	2.7-4.7	3.8
P (ppm) .....	64-306	199	C.E.C. (me%)	20.9-26.4	23.1
K (me%) .....	0.79-0.98	0.93	SATURATION (%)	49-96	79

(e) BROAD DESCRIPTION

Fertile loams on lower slopes in low-rainfall zone. The paucity of perennial species in three of the plots may reflect grazing disturbance in the area half-a-century ago. In both edaphic topographic features and in some species-groups, this segment is a drier equivalent of segment Q. This is particularly true of plot 134.

1  
SEGMENT M CO-ORDINATES low + F1, low + F2, low + F3, medium + F4.

PLOTS (30, 24, 42) (1, 29, 12) (33, 121, 32) (15, 136, 34, 21)

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROFER	<i>Eucalyptus wandoo</i> .
FREGRA	<i>Hakea lissocarpha</i> .
	<i>Macrozamia riedlei</i> .

Other common species, not tested fully by CORD program, include :

*Acacia pulchella*, *Loxocarya flexuosa*, *Kennedia prostrata*, *Ptilotus manglesii*.

Less consistently :

DRYFER	<i>Gastrolobium calycinum</i> .
FERMO	<i>Hypocalymma angustifolium</i> , <i>Eucalyptus patens</i> .
BROFEM	<i>Baeckea camphorosmae</i> , <i>Dampiera alata</i> .
DRYGRA	<i>Patersonia rudis</i> .

(b) TREE STRATUM

	BASAL AREA (m <sup>2</sup> /ha)	RANGE	MEAN
GENERAL: Open stand of medium height	.....	5-19	12
	HEIGHT (m)	21-37	27

COMPOSITION: Largely *Eucalyptus wandoo* with occasional *Eucalyptus patens* at lower and *Eucalyptus marginata* at upper range of occurrence. Second storey missing.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

	SLOPE (degrees)	RANGE	MEAN
CURVATURE: Uniform to concave.	.....	2-9	4
GENERAL: Valley slopes in middle and upper reaches of valley in dry eastern zone.	ROCK OUTCROPS: Either none or scattered iron-stone floaters.		

(d) SOIL

GENERAL: Brown sandy loam to loam over yellow or red-brown clay loam.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN	RANGE	MEAN	
GRAVEL %	6-73	44	FIELD CAPACITY (%)	7-27	19
SILT + CLAY (%)	12-27	18	WILTING POINT (%)	2-11	7
DEPTH TO WATER TABLE (cm)	With one exception >90		AVAIL. MOISTURE(%)	4-16	11

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	5.5-6.6	6.3	EXCH. Ca(me%)	2.9-14.1	7.4
N%	0.04-0.29	0.16	EXCH. Mg(me%)	0.8-3.0	1.8
P (ppm)	43-262	126	C.E.C. (me%)	7.5-18.8	12.8
K (me%)	0.22-1.24	0.75	SATURATION (%)	48-95	75

(e) BROAD DESCRIPTION

Loams with medium to heavy admixture of lateritic gravel, occurring chiefly on valley slopes in dry eastern zone.

On both edaphic and topographic characteristics and in terms of vegetation it represents a drier equivalent of R. This large segment could be subdivided on the occurrence of *Macrozamia riedlei* and *Hypocalymma angustifolium*, but the advantage of this is difficult to assess.

SEGMENT P CO-ORDINATES low  $\pm$  F1, mod. to high + F2, high + F3, high + F4.

PLOTS 154, 61, 2, 143, 130, 47, 114, 51, 54, 116, 141, 60, 113, 156.

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROMO ....	.... <i>Lepidosperma angustatum</i> , <i>Lechenaultia biloba</i> .
SANGRA ....	.... <i>Casuarina fraseriana</i> , <i>Grevillea wilsonii</i>
DRYGRA ....	.... <i>Styphelia tenuiflora</i> , <i>Patersonia rudis</i> , <i>Acacia strigosa</i> .
GRAMED ....	.... <i>Banksia grandis</i> , <i>Adenanthos barbiger</i> , <i>Hovea chorizemifolia</i> , <i>Persoonia longifolia</i> .

Less consistently :

DRYSAG ....	.... <i>Daviesia pectinata</i> , <i>Hakea ruscifolia</i> .
GRAHIR ....	.... <i>Lasiopetalum floribundum</i> .
FREGRA ....	.... <i>Phyllanthus calycinus</i> , <i>Trymalium ledifolium</i> .

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Moderately tall, dense stand	BASAL AREA (m <sup>2</sup> /ha) ....	18-78	40
	HEIGHT (m) ....	24-35	29

COMPOSITION: Overwhelmingly *Eucalyptus marginata* with occasional *Eucalyptus calophylla*; strong development of second storey of *Casuarina fraseriana* and *Banksia grandis*.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Mostly uniform	SLOPE (degrees) ....	0-12	4
GENERAL: Mild, lower and middle slopes	ROCK OUTCROPS: Moderately frequent occurrence of isolated lateritic ironstone outcrops.		

(d) SOIL

GENERAL: Lateritic gravel with sand or loamy sand matrix, or sand with heavy gravel.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	15-73	55	FIELD CAPACITY (%)	5-11	7
SILT + CLAY (%)	4-18	8	WILTING POINT (%)	2-6	3
DEPTH TO WATER TABLE (cm)	Not detected		AVAIL. MOISTURE (%)	2-5	3
	Much greater than 90				

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	5.4-7.1	6.1	EXCH. Ca(me%)	0.5-8.9	3.5
N%	0.01-0.14	0.06	EXCH. Mg(me%)	0.4-3.4	1.0
P(ppm)	12-100	35	C.E.C. (me%)	2.2-21.7	8.4
K (me%)	0.05-0.99	0.30	SATURATION (%)	11-78	54

(e) BROAD DESCRIPTION

Gravelly sands and sandy gravels, occurring on mid and lower slopes in medium and high-rainfall zone.

SEGMENT Q. CO-ORDINATES + low F1, + high F2, + medium F3, — high F4.

PLOTS 148, 163, 161, 164, 166, 169, 22, 160, 165.

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
FERMO ....	.... <i>Hypocalymma angustifolium</i> , <i>Eucalyptus patens</i> , <i>Acacia extensa</i> .
FEHIRA ....	.... <i>Trymalium spathulatum</i> , <i>Chorizema ilicifolium</i> .
FREGRA ....	.... <i>Macrozamia riedlei</i> , <i>Phyllanthus calycinus</i> , <i>Trymalium ledifolium</i> , <i>Leucopogon capitellatus</i> , <i>Leucopogon propinquus</i> .
DRYFER....	.... <i>Hakea lissocarpha</i> .
Less consistently :	
DRYFER....	.... <i>Hibbertia lineata</i> .
HIGRA ....	.... <i>Pteridium esculentum</i> .
BROMO ....	.... <i>Lepidosperma angustatum</i>
GRAHIR ....	.... <i>Lastopetalum floribundum</i> .

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Moderately tall and dense stand	BASAL AREA (m <sup>2</sup> /ha) ....	17-46	29
	HEIGHT (m) ....	24-38	31

COMPOSITION: Mainly *Eucalyptus patens* with admixture of *Eucalyptus calophylla* and some *Eucalyptus marginata*.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Uniform or Convex	SLOPE (degrees) ....	2-6	4
GENERAL: Lower and middle slopes, high-rainfall zone	ROCK OUTCROPS: Occasional lateritic or epidioritic boulders.		

(d) SOIL

GENERAL: Dark brown sandy or silty loam over red-brown clay loam.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL % ....	0-44	18	FIELD CAPACITY (%)	14-30	20
SILT + CLAY (%) ....	15-34	18	WILTING POINT (%)	4-11	9
DEPTH TO WATER TABLE (cm)	120 and above	....	AVAIL. MOISTURE (%)	8-16	11

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH ....	5.8-7.2	6.3	EXCH. Ca (me%) ....	1.0-9.8	4.7
N% ....	0.08-0.24	0.14	EXCH. Mg(me%) ....	0.8-5.1	2.2
P (ppm) ....	56-211	114	C.E.C. (me%) ....	5.8-17.0	10.4
K (me%) ....	0.44-1.14	0.82	SATURATION (%) ....	34-92	67

(e) BROAD DESCRIPTION

One of the best sites from the point of view of fertility and moisture, occurring chiefly on slopes of major valleys in western high-rainfall zone.

R  
SEGMENT R CO-ORDINATES medium + F1, low — F2, high + F3, low — F4.

PLOTS 17, 95, 131, 110, 10, 53, 16.

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
FREGRA	... <i>Trymalium ledifolium</i> , <i>Phyllanthus calycinus</i> , <i>Macrozamia riedlei</i> , <i>Leucopogon capitellatus</i> , <i>Leucopogon propinquus</i>

BROFER	... <i>Hakea lissocarpha</i> <i>Hakea lissocarpha</i>
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Common species of broad distribution patterns : ....

... *Hibbertia hypericoides*, *Hibbertia montana*, *Dryandra nivea*, *Grevillea synapheae*.

Less consistently :

BROMO .... *Lepidosperma angustatum*, *Lechenaultia biloba*.

DRYGRA .... *Styphelia tenuiflora*, *Patersonia rudis*, *Acacia strigosa*.

GRAMED .... *Adenanthos barbigera*, *Leptomeria cunninghamii*.

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Open forest, irregular stocking	BASAL AREA (m <sup>2</sup> /ha)	10-38	21
	HEIGHT (m)	16-30	26

COMPOSITION: Mainly *Eucalyptus marginata* with admixture of *Eucalyptus calophylla*.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Uniform or concave	SLOPE: (degrees)	1-9	5
GENERAL: Valley slopes, frequently in proximity to granite outcrops	ROCK OUTCROPS: Variable, from none to heavy.		

(d) SOIL

GENERAL: Grey to brown sandy loam to sandy clay with admixture of lateritic gravel.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	32-66	58	FIELD CAPACITY (%)	20-37	28
SILT + CLAY (%)	9-20	15	WILTING POINT (%)	8-21	15
DEPTH TO WATER TABLE (cm)	90	...	AVAIL. MOISTURE (%)	11-15	13

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	5.2-6.3	5.9	EXCH. Ca(me%)	1.3-16.8	7.3
N%	0.03-0.54	0.19	EXCH. Mg(me%)	0.6-6.9	2.8
P (ppm)	12-209	80	C.E.C. (me%)	6.3-39.0	18.5
K (me%)	0.08-0.82	0.40	SATURATION(%)	33-79	60

(e) BROAD DESCRIPTION

Gravels with loamy to clayey matrix, occurring chiefly on lower and middle slopes of valleys, probably representing admixture of the ironstone gravel and kaolinitic clay from the old lateritic profile.

SEGMENT S CO-ORDINATES low to med. + F1, medium — F2, high + F3, high + F4.  
 PLOTS 150, 109, 112, 152, 115, 155, 133, 137, 38.

(a) INDICATOR SPECIES

GROUPS		INDIVIDUAL SPECIES
GRAMED	....	<i>Banksia grandis</i> , <i>Perseonia longifolia</i> , <i>Hovea chorizemifolia</i> , <i>Adenanthos barbiger</i> .
FREGRA	....	<i>Macrozamia riedlei</i> , <i>Phyllanthus calycinus</i> , <i>Leucopogon capitellatus</i> , <i>Leucopogon propinquus</i> .
DRYGRA	....	<i>Acacia strigosa</i> , <i>Styphelia tenuiflora</i> , <i>Patersonia rudis</i> .
Less consistently :		
BROMO	....	<i>Lepidosperma angustatum</i> , <i>Lechenaultia biloba</i> .
SANGRA	....	<i>Casuarina fraseriana</i> .
GRAHIR	....	<i>Bossiaea aquifolium</i> , <i>Lasiopetalum floribundum</i> , <i>Acacia urophylla</i> .
HIGRA	....	<i>Leucopogon verticillatus</i> .
DRYSAG	....	<i>Daviesia pectinata</i> .

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Moderately tall, dense stand	BASAL AREA (m <sup>2</sup> /ha)	.... 27-64	39
	HEIGHT (m)	.... 23-35	30
COMPOSITION: Predominantly <i>Eucalyptus marginata</i> with some <i>Eucalyptus calophylla</i> and second storey of <i>Banksia grandis</i> , <i>Perseonia longifolia</i> and <i>Casuarina fraseriana</i>			

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Uniform or convex.	SLOPE (degrees)	.... 2-9	5
GENERAL: Mid and upper slopes, plateaus and ridges in medium to high-rainfall zone.	ROCK OUTCROPS: Frequent massive lateritic ironstone.		

(d) SOIL

GENERAL: Yellow to orange heavy lateritic gravel with loamy sand matrix.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN	RANGE	MEAN
GRAVEL %	.... 21-76	51	FIELD CAPACITY (%)	8-15 10
SILT + CLAY (%)	.... 8-12	10	WILTING POINT (%)	3-6 4
DEPTH TO WATER TABLE (cm)	.... <sup>Much greater than</sup> 90	....	AVAIL. MOISTURE (%)	4-8 6

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	.... 5.5-6.6	6.1	EXCH. Ca(me%)	.... 1.3-4.0	2.9
N%	.... 0.08-0.43	0.25	EXCH. Mg(me%)	.... 0.4-1.1	0.8
p (ppm)	.... 8-43	25	C.E.C. (me%)	.... 3.9-12.2	6.9
K (mg%)	.... 0.08-0.74	0.35	SATURATION (%)	.... 36-87	59

(e) BROAD DESCRIPTION

Heavy gravels with sandy loam matrix, occurring on slopes, ridges and plateaus in medium to high-rainfall zones.

SEGMENT T CO-ORDINATES high + F1, high + F2, high + F3, medium to high + F4.  
 PLOTS (172, 168, 162, 167) (157, 140, 142, 132, 111).

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
HIGRA ....	<i>Leucopogon verticillatus</i> , <i>Pteridium esculentum</i> , <i>Clematis pubescens</i> .
FREGRA ....	<i>Macrozamia riedlei</i> , <i>Leucopogon capitellatus</i> , <i>Leucopogon propinquus</i> , <i>Phyllanthus calycinus</i> .
GRAHIR ....	<i>Acacia wrophylla</i> , <i>Lasiopetalum floribundum</i> , <i>Bossiaea aquifolium</i> .
Less consistently :	
FEHIRA ....	<i>Chorizema ilicifolium</i> .
GRAMED ....	<i>Banksia grandis</i> , <i>Adenanthos barbiger</i> .
FERMO ....	<i>Eucalyptus patens</i> .
DRYGRA ....	<i>Styphelia tenuiflora</i> , <i>Acacia strigosa</i> , <i>Patersonia rudis</i> .
BROFER ....	<i>Hakea lissocarpa</i> .

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Tall, dense stand	BASAL AREA (m <sup>2</sup> /ha) ....	26-44	35
	HEIGHT (m) ....	29-39	33

COMPOSITION: *Eucalyptus marginata* with moderate admixture of *Eucalyptus calophylla*, in few plots also *Eucalyptus patens*, second storey of *Banksia grandis*, *Persoonia longifolia*.

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Mainly convex	SLOPE (degrees) ....	2-15	7
GENERAL: Upper slopes and ridges in strongly dissected, high-rainfall western zone.	ROCK OUTCROPS: Heavy massive lateritic iron-stone, occasional granite and epidiorite.		

(d) SOIL

GENERAL: Orange to brown gravel with sandy loam to loam matrix, in a few marginal cases loam with medium gravel.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL % ....	3-84	44	FIELD CAPACITY (%)	11-23	16
SILT + CLAY (%) ....	9-46	25	WILTING POINT (%)	5-14	8
DEPTH TO WATER TABLE (cm) ....	Much greater than 90	....	AVAIL. MOISTURE (%)	5-11	8

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH ....	5.8-6.9	6.1	EXCH. Ca(me%)	2.3-14.7	7.3
N% ....	0.06-0.30	0.14	EXCH. Mg(me%)	1.2-5.8	2.5
P (ppm) ....	10-188	89	C.E.C. (me%)	6.5-25.9	14.8
K (me%) ....	0.20-1.04	0.60	SATURATION (%)	45-80	70

(e) BROAD DESCRIPTION

In the northern portion of the jarrah forest, this segment is very much restricted to the slopes of the strongly dissected high-rainfall western zone. By contrast, it is more broadly distributed in the southern portion.

The segment can be subdivided into two groups, one characterized by the presence of *Adenanthos barbiger* and *Leptomeria cunninghamii*, having a lower silt and clay fraction.

The other is characterized by the absence of *Adenanthos* and some occurrence of *Eucalyptus patens*, and *Chorizema ilicifolium* having a markedly higher silt and clay fraction and higher fertility. It has a strong affinity to Segment U.

SEGMENT U CO-ORDINATES high + F1, high + F2, low ± F3, low — F4.

PLOTS, 138, 139, 35.

**(a) INDICATOR SPECIES**

GROUPS	INDIVIDUAL SPECIES
FERMO ....	.... <i>Eucalyptus patens</i> .
FREGRA ....	.... <i>Macrozamia riedlei</i> , some <i>Leucopogon capitellatus</i> , <i>Phyllanthus calycinus</i> .
HIGRA ....	.... <i>Pteridium esculentum</i> , <i>Clematis pubescens</i> , some <i>Leucopogon verticillatus</i> .

**(b) TREE STRATUM**

		RANGE	MEAN
GENERAL: Moderately tall, dense stand	BASAL AREA (m <sup>2</sup> /ha) ....	34-59	49
	HEIGHT (m) ....	26-31	29
COMPOSITION: Mixture of <i>Eucalyptus patens</i> and <i>Eucalyptus calophylla</i> .			

**(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION**

		RANGE	MEAN
CURVATURE: Uniform	SLOPE (degrees) ....	1-5	3
GENERAL: Uniform slope in dissected high-rainfall western zone	ROCK OUTCROPS: Nil		

**(d) SOIL**

GENERAL: Brown sandy loam over clay loam at 40 cm.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL % ....	0-36	14	FIELD CAPACITY (%)	33-40	36
SILT + CLAY (%) ....	15-23	20	WILTING POINT (%)	13-15	14
DEPTH TO WATER TABLE (cm)	30 for plot 35 only		AVAIL. MOISTURE (%)	20-24	22

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH ....	6.1-6.3	6.2	EXCH. Ca(me%) ....	6.0-18.1	13.1
N% ....	0.22-0.41	0.32	EXCH. Mg(me%) ....	5.8-7.1	6.5
P (ppm) ....	105-277	201	C.E.C. (me%) ....	16.1-30.7	25.6
K (me%) ....	0.32-1.54	1.11	SATURATION (%) ....	78-84	82

**(e) BROAD DESCRIPTION**

Fertile loams on slopes of main river valleys in high rainfall zone. The members of this group all occur on the peripheries of former agricultural clearings, and although heavily wooded, may have been subject to considerable disturbance in the past. If this is so, plots 138 and 139 should be combined with the fertile subgroup of segment T, and plot 35 with segment Q, with which they have much in common. The former group would be retained as Segment U. This would result in a narrower, clearer definition of Segment T.



# W

SEGMENT W CO-ORDINATES low — F1, low — F2, low ± F3, low — F4.

PLOTS 65, 45, 36, 118, 170, 149, 90.

**(a) INDICATOR SPECIES**

GROUPS		INDIVIDUAL SPECIES
BROMO	....	<i>Lepidosperma angustatum</i> , <i>Mesomelaena tetragona</i> , <i>Synaphea petiolaris</i> .
BROFER	....	<i>Hakea lissocarpa</i> .
FERMO	....	<i>Hypocalymma angustifolium</i> , <i>Eucalyptus patens</i> , <i>Acacia extensa</i> .

Less consistently :

BROWET	....	<i>Leptocarpus scariosus</i> , <i>Leptospermum ellipticum</i> .
BROFEM	....	<i>Dampiera alata</i> .

**(b) TREE STRATUM**

		RANGE	MEAN
GENERAL: Moderately dense, of medium height	BASAL AREA (m <sup>2</sup> /ha)	.... 24-54	33
	HEIGHT (m)	.... 18-32	27

COMPOSITION: Equal admixture of *Eucalyptus marginata*, *Eucalyptus calophylla* and *Eucalyptus patens*.

**(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION**

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees)	.... 1-4	3
GENERAL: Lower slopes and valley floors	ROCK OUTCROPS: Rare, occasionally granite		

**(d) SOIL**

GENERAL: Yellow-brown or orange-brown sandy loams to loams occasionally with lateritic gravel, especially in the subsoil.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	.... 0-26	14	FIELD CAPACITY (%)	3-35	16
SILT + CLAY (%)	.... 13-20	12	WILTING POINT (%)	1-12	6
DEPTH TO WATER TABLE (cm)	27-90	....	AVAIL. MOISTURE (%)	1-22	9

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	.... 5.5-6.3	6.0	EXCH. Ca(me%)	.... 1.0-6.4	3.5
N%	.... 0.05-0.34	0.14	EXCH. Mg(me%)	.... 0.7-5.4	1.9
P (ppm)	.... 12-66	36	C.E.C. (me%)	.... 7.0-23.0	10.6
K (me%)	.... 0.25-0.86	0.58	SATURATION (%)	.... 33-67	55

**(e) BROAD DESCRIPTION**

Moist sandy loams on lower slopes and valley floors, with tendency to excessive wetness in winter.

SEGMENT Y CO-ORDINATES low — F1, low ± F2, low ± F3, low — F4.

PLOTS 103, 104, 119, 31, 20, 122.

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
BROFER	<i>Eucalyptus wandoo</i> . .... <i>Hakea lissocarpa</i> .
FERMO	.... <i>Hypocalymma angustifolium</i> .
BROFEM	.... <i>Baeckea camphorosmae</i> , <i>Dampiera alata</i> .
DRYFER	.... <i>Hibbertia lineata</i> , <i>Gastrolobium calycinum</i> .
BROMO	.... <i>Mesomelaena tetragona</i> , <i>Lepidosperma angustatum</i> .
Occasionally	....
SANLEA	.... <i>Hibbertia polystachya</i> .

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Open stand of medium height	BASAL AREA (m <sup>2</sup> /ha)	7-20	13
	HEIGHT (m)	20-31	27
COMPOSITION: <i>Eucalyptus wandoo</i> virtually without any associates or second storey.			

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Concave	SLOPE (degrees)	1-5	3
GENERAL: Valley floors and lower slopes	ROCK OUTCROPS: Nil		

(d) SOIL

GENERAL: Yellow-grey sandy loam to sandy clay over pale yellow or grey sandy clay at varying depth.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	0-27	10	FIELD CAPACITY (%)	7-33	14
SILT + CLAY (%)	12-25	19	WILTING POINT (%)	2-9	4
DEPTH TO WATER TABLE (cm)	15 and above		AVAIL. MOISTURE (%)	4-23	9

CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	5.8-6.3	6.1	EXCH. Ca(me%)	2.3-5.7	3.9
N%	0.06-0.34	0.12	EXCH. Mg(me%)	1.0-2.7	1.7
P (ppm)	14-85	56	C.E.C. (me%)	7.2-14.7	10.7
K (me%)	0.17-1.36	0.60	SATURATION (%)	44-82	60

(e) BROAD DESCRIPTION

Pale loamy soils which become hard and crusted in summer and waterlogged in winter, occurring in broad valleys in eastern dry zone.

SEGMENT Z CO-ORDINATES low + F1, low + F2, low + F3, low + F4.

PLOTS (151) (37, 19, 11, 46, 13, 9, 23, 18).

(a) INDICATOR SPECIES

GROUPS	INDIVIDUAL SPECIES
FREGRA	.... <i>Phyllanthus calycinus</i> , <i>Macrozamia riedlei</i> , <i>Leocopogon capitellatus</i> , <i>Leucopogon propinquus</i> .
BROFER	.... <i>Hakea hirsocarpa</i> .
DRYGRA	.... <i>Styphelia tenuiflora</i> , <i>Patersonia rudis</i> , <i>Acacia strigosa</i> .
Less consistently :	
BROMO	.... <i>Lepidosperma angustatum</i> , <i>Lechenaultia biloba</i> , <i>Synaphea petiolaris</i>

(b) TREE STRATUM

		RANGE	MEAN
GENERAL: Open forest	BASAL AREA (m <sup>2</sup> /ha)	.... 11-62	29
	HEIGHT (m)	.... 20-32	24
COMPOSITION: Chiefly <i>Eucalyptus marginata</i> with admixture of <i>Eucalyptus calophylla</i> .			Second
<del>storey largely missing.</del>	<i>Just cont wandoo</i>		

(c) TOPOGRAPHICAL AND GEOGRAPHICAL POSITION

		RANGE	MEAN
CURVATURE: Mainly uniform	SLOPE (degrees)	.... 2-8	5
GENERAL: Mainly valley slopes	ROCK OUTCROPS: Variable with none to heavy ironstone and occasional granite.		

(d) SOIL

GENERAL: Grey-brown loamy sands to sandy loams with moderate to heavy admixture of lateritic gravel, frequently over base of gravel in clay matrix.

PHYSICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
GRAVEL %	.... 30-75	50	FIELD CAPACITY (%)	6-18	12
SILT + CLAY (%)	.... 7-13	10	WILTING POINT (%)	2-7	4
DEPTH TO WATER TABLE (cm)	>90	....	AVAIL. MOISTURE (%)	4-10	6

(CHEMICAL PROPERTIES (TOPSOIL)

	RANGE	MEAN		RANGE	MEAN
pH	.... 5.6-6.1	5.9	EXCH. Ca(me%)	.... 0.7-8.4	4.9
N%	.... 0.03-0.18	0.10	EXCH. Mg(me%)	.... 0.2-2.7	1.4
P (ppm)	.... 3-143	58	C.E.C. (me%)	.... 4.3-17.1	11.9
K (me%)	.... 0.05-0.99	0.24	SATURATION (%)	.... 15-87	56

(e) BROAD DESCRIPTION

This segment is representative of upper slopes and uplands in medium to low-rainfall zone. The composition of the soil and the combination of the indicator groups indicates that it is a drier equivalent of segment S.

Plot 151, which virtually doubles the basal area range for this segment, has been placed here although it has a very poor development of the key group, DRYGRA, simply because it would be too small a group on its own or even in combination with plot 150 from segment S, which resembles it in many respects.