

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0091 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	14/02/96	Elevation:	1148 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6041725 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	607685 Datum: AGD66	Drainage:	Rapidly drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	TB	Substrate Material:	Basalt

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	Mid-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	No Data
Slope:	22 %	Aspect:	225 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Melanic Eutrophic Red Ferrosol Medium Slightly gravelly Clay-loamy Clayey Moderately deep	Principal Profile Form:	Gn2.11
ASC Confidence:	Great Soil Group:	N/A

All necessary analytical data are available.

Site Disturbance: No effective disturbance other than grazing by hoofed animals

Vegetation:

Surface Coarse Fragments: 0-2%, cobbly, 60-200mm, subrounded tabular, Basalt

Profile Morphology

O1	0 - 0.04 m	Organic Layer; ;
A11	0.04 - 0.14 m	Dark reddish brown (5YR3/2-Moist); ; Clay loam (Fibric); Moderate grade of structure, <2 mm, Granular; 5-10 mm, Granular; Rough-ped fabric; Moderately moist; Loose consistence; 2-10%, medium gravelly, 6-20mm, subrounded tabular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Abundant, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
A12	0.14 - 0.27 m	Dusky red (2.5YR3/2-Moist); ; Light clay; Strong grade of structure, 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Weak consistence; 10-20%, medium gravelly, 6-20mm, subangular, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Many, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.27 - 0.48 m	Dark reddish brown (2.5YR3/3-Moist); ; Clay loam; Moderate grade of structure, 5-10 mm, Granular; Earthy fabric; Moderately moist; Very weak consistence; 10-20%, medium gravelly, 6-20mm, subangular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Many, coarse (>5mm) roots; Gradual, Smooth change to -
B22	0.48 - 0.69 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 20-50%, coarse gravelly, 20-60mm, subangular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots; Gradual, Smooth change to -
B23	0.69 - 0.94 m	Dark reddish brown (5YR3/4-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 50-90%, coarse gravelly, 20-60mm, subangular, dispersed, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots;

Morphological Notes

A11 Extremely loose - low bulk density (0.5) layer. Large areas of white fungal mats. Mycorrhizal fruit (20mm diameter).

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A12 Very granular - low bulk density layer.

B21 Structure is less evident and earthy fabric. Several large roots across pit.

B22 Fabric earthy, but bulk density increasing. Large roots and basalt stones.

B23 Very rocky but stones appear to be colluvial. Density increasing and macropores very

Observation Notes

An extraordinarily "fertile" profile. Abundant organic matter, fauna and roots. Pit is 2m from E.dal. tree. Site is in an open patch among Eudel regeneration. Very dark profile.

Site Notes

COMP 114H, BRG65 262M FR RD JUNCTION

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.04										
0.04 - 0.14	5.67C		53.06H	6.09	2.08	0.08	0.04J 0K		61.35E	
0.14 - 0.27	5.83C		27.24H	2.45	1.61	0.06	0.02J 0.21K		31.6E	
0.27 - 0.48	5.21C		6.99H	2.73	1.76	0.12	0.47J 0K		12.06E	
0.48 - 0.69	4.66C		2.15H	1.43	1.83	0.03	1.65J 0K		7.07E	
0.69 - 0.94	4.64C		3.28H	1.34	1.47	0.06	1.17J 0K		7.33E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size	Analysis
m	%	%	mg/kg	%	%	%	Mg/m3	GV CS FS %	Silt Clay
0 - 0.04									
0.04 - 0.14		18.13B		2627.6B	0.47A			36.07	
0.14 - 0.27		6.13B		3690.3B	0.23A		0.58	32.2	
0.27 - 0.48		4.35B		3552.4B	0.16A		0.69	22.57	
0.48 - 0.69		2.08B		2948.6B	0.08A		0.85	23.25	
0.69 - 0.94		1.41B		2633.5B	0.04A		1.05	37.27	

[illegible]

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Laboratory Analyses Completed for this profile

13C1_AL	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15_NR	Sum of Ex. cations + Ex. acidity - Not recorded
15E1_AL	Exchangeable Al - by compulsive exchange, no pretreatment for soluble salts
15E1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
15E1_H	Exchangeable H - by compulsive exchange, no pretreatment for soluble salts
15E1_K	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MG	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
2A1	Air-dry moisture content
4B2	pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1
6B2	Total organic carbon - high frequency induction furnace, volumetric
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A3	Total Phosphorus (ppm) - semimicro kjeldahl, automated colour
P10_GRAV	Gravel (%)
P3A1	Bulk density - g/cm3