

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0048 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	23/02/96	Elevation:	1212 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6037292 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	614761 Datum: AGD66	Drainage:	Well drained

Geology

ExposureType:	No Data	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:	Upper-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	No Data
Slope:	16 %	Aspect:	180 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Haplic Eutrophic Red Dermosol Thin Non-gravelly Clay-loamy Clayey Very deep		Principal Profile Form:	Gn4.11

ASC Confidence:		Great Soil Group:	N/A
All necessary analytical data are available.			

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.09 m	Dark reddish brown (5YR3/3-Moist); ; Clay loam; Strong grade of structure, 5-10 mm, Granular; Rough-ped fabric; Dry; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
A3	0.09 - 0.26 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 5YR33, 20-50% , Faint; Light clay; Strong grade of structure, 5-10 mm, Polyhedral; 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.26 - 0.63 m	Dark reddish brown (2.5YR3/4-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Dry; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to -
B22	0.63 - 1.2 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 2-10%, cobbly, 60-200mm, subangular, dispersed, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Clear, Smooth change
B31	1.2 - 1.7 m	Brown (7.5YR4/2-Moist); ; Light medium clay; Moderately moist; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subangular, dispersed, Basalt, coarse fragments; Field pH 5 (Raupach); Gradual, Smooth change to -
B32	1.7 - 2.05 m	Dark greyish brown (10YR4/2-Moist); Substrate influence, 7.5YR44, 0-2% , Distinct; Light medium clay; Moderately moist; Firm consistence; Field pH 5 (Raupach); Clear, Smooth change to -
B33	2.05 - 2.4 m	Very dark greyish brown (10YR3/2-Moist); Substrate influence, 0-2% , Distinct; Medium clay; Moderately moist; Firm consistence; Field pH 5 (Raupach);
R	2.4 - 2.8 m	Rock

Morphological Notes

A1 Very dark strongly structured A horizon with abundant casts.

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A3 Reddish and grading into B2

B21 Stickier textures but short ribbons (coarse kaolinite?)

B22 More dense but still with large vertical worm channels. Coarse frags. at base of layer.

B31 ?Lithological discontinuity? Clay is much darker - some banding in the layer but probably
 due to grinding of weathering Tb.

B32 Texture becoming heavier.

B33 Clay content may be more than estimated.

R R horizon - ground Tb with some fresher fragments - tough augering. No evidence of ash
 layers

Observation Notes

Marked contrast between the B2 and B3 - is the A/B3 colluvial and the B3 in situ?

Site Notes

COMP 1H,12745-1,B 199.5D,1450M FR/RD/C

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity			%
						Cmol	(+)/kg			
0 - 0.09	4.82C		19.41H	3.65	2.21	0.02	1.3J 0K		26.58E	
0.09 - 0.26	4.6C		7.9H	2.43	1.79	0.01	2.23J 0K		14.36E	
0.26 - 0.63	4.57C		6.02H	2.53	1	0.02	1.25J 0K		10.82E	
0.63 - 1.2	4.63C		5.4H	2.78	0.8	0.02	0.49J 0K		9.48E	
1.2 - 1.7	4C		1.14H	1.02	0.71	0.1	4.34J 0K		7.32E	
1.7 - 2.05	3.91C		0.67H	0.98	0.53	0.08	5.33J 0K		7.58E	
2.05 - 2.4	3.89C		0.83H	1.27	0.27	0.06	6.21J 0K		8.64E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size			Analysis	
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.09		8.54B		2567.8B	0.34A		0.84		41.45			
0.09 - 0.26		3.05B		1702B	0.13A		1.08		44.64			
0.26 - 0.63		1.12B		1312.4B	0.04A		1.08		35.33			
0.63 - 1.2		0.48B		1583.6B	0.01A		1.22		39.1			
1.2 - 1.7		0.4B		3337.8B	0A				34.51			
1.7 - 2.05		0.47B		2682.1B	0A				38.5			
2.05 - 2.4		0.46B		2439.8B	0A				40.74			

[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 (%)
P10_S_0.48	0.48 micron (cumulative %) - Sedigraph
P10_S_1	1 micron (cumulative %) - Sedigraph
P10_S_1000	1000 micron (cumulative %) - Sedigraph
P10_S_125	125 micron (cumulative %) - Sedigraph
P10_S_15.6	15.6 micron (cumulative %) - Sedigraph
P10_S_2	2 micron (cumulative %) - Sedigraph
P10_S_20	20 micron (cumulative %) - Sedigraph
P10_S_2000	2000 micron (cumulative %) - Sedigraph
P10_S_250	250 micron (cumulative %) - Sedigraph
P10_S_3.9	3.9 micron (cumulative %) - Sedigraph
P10_S_31.2	31.2 micron (cumulative %) - Sedigraph
P10_S_500	500 micron (cumulative %) - Sedigraph
P10_S_53	53 micron (cumulative %) - Sedigraph
P10_S_63	63 micron (cumulative %) - Sedigraph
P10_S_7.8	7.8 micron (cumulative %) - Sedigraph
P3A1	Bulk density - g/cm3