

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0125 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	09/05/96	Elevation:	1067 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6044319 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	603460 Datum: AGD66	Drainage:	Rapidly drained

Geology

ExposureType:	No Data	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	Sgg	Substrate Material:	Granodiorite

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	Lower-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	No Data
Slope:	39 %	Aspect:	90 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Humose Mesotrophic Brown Kandosol Thick Slightly gravelly Silty Clayey Very deep	Principal Profile Form:	Gn4.31
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

O1	0 - 0.05 m	Organic Layer; ;
A11	0.05 - 0.18 m	Dark reddish brown (5YR3/2-Moist); ; Silty clay loam; Strong grade of structure, 5-10 mm, Granular; 2-5 mm, Granular; Rough-ped fabric; Dry; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, dispersed, Granodiorite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6 (Raupach); Abundant, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
A12	0.18 - 0.37 m	Dark brown (7.5YR3/2-Moist); Biological mixing, 7.5YR44, 20-50% , Faint; Silty clay loam; Moderate grade of structure, 5-10 mm, Granular; 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Weak consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, dispersed, Granodiorite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Wavy change to -
B21	0.37 - 0.77 m	Dark brown (7.5YR3/4-Moist); Biological mixing, 7.5YR44, 20-50% , Faint; Silty clay loam; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, subrounded, dispersed, Granodiorite, 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; Few, coarse (>5mm) roots; Gradual, Smooth change to -
B22	0.77 - 1.6 m	Reddish brown (5YR4/4-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, subrounded, dispersed, Granodiorite, 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; Few, coarse (>5mm) roots; Diffuse, Smooth change to -
B23	1.6 - 2.2 m	Red (2.5YR4/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, subrounded, dispersed, Granodiorite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 4.5 (Raupach);

Morphological Notes

A11 Underlying a thick moist O1 horizon. Layer is slightly hydrophobic, very granular and low bulk density

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A12 Well structured with several rhizomorphs and associated fungi.

B21 Pedality diminishes quickly although rhizomorphs present.
B22 Earthy B22 but structure is difficult to assess - bordering on massive.

B23 Clay skins are more evident. Micaceous present and layer reddens.

Observation Notes

Abundant movement of material downslope due to wombats and lyrebirds. Some terracing on steep moist soft slope. There may be a minor basaltic influence in the solum but mostly granodiorite.

Site Notes

48019-1 COMP 103H 207D 310/291D 50M

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.05	4.77C		9.48H	1.72	0.95	0.07	1.52J OK		13.76E	
0.05 - 0.18	4.92C		5.84H	1.25	1.06	0.06	1.52J OK		9.73E	
0.18 - 0.37	5.01C		1.22H	0.53	0.89	0.05	0.33J OK		3.02E	
0.37 - 0.77	4.71C		0.62H	1.38	0.71	0.04	0.55J OK		3.3E	
0.77 - 1.6	4.24C		0.1H	1.66	1.1	0.04	2J OK		4.9E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.05		8.11B		740.7B	0.37A		0.75	18.21				
0.05 - 0.18		5.51B		587.8B	0.27A		0.77	15.11				
0.18 - 0.37		2.39B		342.6B	0.13A		0.79	12.13				
0.37 - 0.77		0.97B		178.8B	0.04A		1.12	14.3				
0.77 - 1.6		0.53B		149.5B	0.02A			13.05				

Depth	COLE	Sat.	Gravimetric/Volumetric Water Contents	K sat	K unsat
m			0.05 Bar 0.1 Bar 0.5 Bar 1 Bar 5 Bar 15 Bar	mm/h	mm/h
0 - 0.05					
0.05 - 0.18					
0.18 - 0.37					
0.37 - 0.77					
0.77 - 1.6					

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Laboratory Analyses Completed for this profile

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