

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0103 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	18/04/96	Elevation:	1149 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6051211 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	601268 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:	Upper-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	No Data
Slope:	14 %	Aspect:	90 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Acidic Magnesic Red Kandosol Medium Non-gravelly Silty Clayey Very deep	Principal Profile Form:	Gn2.11

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

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.01 m	Organic Layer; ;
A11	0.01 - 0.06 m	Brown (7.5YR4/2-Moist); ; Silty clay loam; Moderate grade of structure, 10-20 mm, Granular; Rough-ped fabric; Moist; Very weak consistence; Few cutans, <10% 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; Abrupt, Smooth change to -
A12	0.06 - 0.16 m	Reddish brown (5YR4/4-Moist); Dark reddish grey (5YR4/2-Dry); Biological mixing, 20-50% , Faint; Silty clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; 2-5 mm, Granular; Rough-ped fabric; Moist; Weak consistence; 0-2%, cobbly, 60-200mm, subrounded, dispersed, Granodiorite, coarse fragments; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
B1	0.16 - 0.37 m	Dark reddish brown (2.5YR3/4-Moist); Biological mixing, 5YR33, 20-50% , Faint; Light clay; Moderate grade of structure, 20-50 mm, Polyhedral; 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 0-2%, cobbly, 60-200mm, subrounded, dispersed, Granodiorite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; 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 -
B2	0.37 - 0.73 m	Red (2.5YR4/6-Moist); Biological mixing, 5YR2.52, 0-2% , Distinct; Light clay; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moist; Weak consistence; Common cutans, 10-50% 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; Clear, Smooth change to -
B3	0.73 - 1.36 m	Red (2.5YR4/6-Moist); ; Silty clay loam; Massive grade of structure; Earthy fabric; 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 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Smooth change to -
C	1.36 - 1.61 m	Yellowish red (5YR5/6-Moist); ; Medium sandy clay loam; Massive grade of structure; Moist; Very weak consistence; Field pH 5.5 (Raupach);

Morphological Notes

A11	Relatively thin A with very low bulk density (<0.8). Silty.
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A12 Abundant large worm activity and lightercoloured than layer 1. Silty texture.
B1 Abundant worm activity. Bolus is very soft and silty.
B2 Red maximum with large pores through layer. Many large pores (8mm) are not filled.
B3 Massive B3 without worm channels. Primary mafic minerals are abundant (unlike B2)
and density has increased substantially.
C Massive weathered granodiorite.

Observation Notes

Many large worms and a funnel web nest. Abundant macroporosity. Red Kandosol typical of granodiorite. Expected deep subsolum but refusal may be caused by a floater.

Site Notes

COMP 45H 20757-1,BRG 236,350M FR BC RD

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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 - 0.01										
0.01 - 0.06	4.28C		4.43H	1.48	1	0.04	4.99J 0K		11.93E	
0.06 - 0.16	4.15C		1.02H	0.8	0.69	0.03	4.74J 0K		7.28E	
0.16 - 0.37	4.04C		0.33H	0.98	0.59	0.02	5.41J 0K		7.33E	
0.37 - 0.73	3.99C		0.12H	1.17	0.47	0.01	4.69J 0K		6.46E	
0.73 - 1.36	3.98C		0.02H	0.51	0.57	0	3.4J 0K		4.5E	
1.36 - 1.61	4.13C		0.01H	0.26	0.42	0.01	1.15J 0K		1.86E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle		Size	Analysis	
								GV	CS		FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.01												
0.01 - 0.06		6.82B		356.1B	0.25A					22.94		
0.06 - 0.16		3.65B		277.6B	0.15A		0.93			33.85		
0.16 - 0.37		2.15B		392.5B	0.11A		1.15			30.66		
0.37 - 0.73		0.98B		309.7B	0.06A		1.18			27.27		
0.73 - 1.36		0.35B		245.9B	0.03A		1.44			21.59		
1.36 - 1.61		0.19B		195.5B	0.02A					14.27		

[illegible]

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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