Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0041** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	
Date Desc.:	11/12/95	**Elevation:**	1064 metres
Map Ref.:	Sheet No. : 8526 DGPS	**Rainfall:**	No Data
Northing/Long.:	6036584 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	619810 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:	23 %	**Aspect:**	45 degrees

Surface Soil Condition (dry): Firm

Erosion: Stable, Minor (sheet)

Soil Classification

Australian Soil Classification:
Acidic Magnesic Red Kandosol Medium Slightly gravelly Clay-loamy Clay-loamy Very deep

Mapping Unit: N/A
Principal Profile Form: Um6.

ASC Confidence:
All necessary analytical data are available.

Great Soil Group: N/A

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.06 m	Reddish brown (5YR4/3-Moist); Biological mixing, 5YR32, 20-50% , Distinct; Clay loam; Moderate grade of structure, 5-10 mm, Granular; Rough-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.06 - 0.18 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 5YR44, 20-50% , Faint; Clay loam; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Clear, Smooth change to -
B1	0.18 - 0.4 m	Red (2.5YR4/6-Moist); Biological mixing, 5YR42, 10-20% , Distinct; Clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21	0.4 - 0.7 m	Red (2.5YR4/6-Moist); Biological mixing, 5YR42, 2-10% , Distinct; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; 5-10 mm, Polyhedral; Earthy fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Common, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	0.7 - 0.9 m	Red (2.5YR4/6-Moist); Mottles, 7.5YR66, 2-10% , Faint; Clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
C11	0.9 - 1.5 m	Yellowish brown (10YR5/4-Moist); Substrate influence, 10YR74, 20-50% , Distinct; Substrate influence, 7.5YR66, 10-20% , Distinct; Sandy loam; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Field pH 5.5 (Raupach); Diffuse, Smooth change to -

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C12	1.5 - 1.95 m	Yellowish brown (10YR5/4-Moist); Substrate influence, 10YR74, 20-50% , Distinct; Substrate influence, 10YR82, 2-10% , Distinct; Medium sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; 10-20%, medium gravelly, 6-20mm, angular, dispersed, Quartz, coarse fragments; Field pH 5.5 (Raupach); Diffuse, Smooth change to -
C13	1.95 - 2.45 m	Yellowish brown (10YR5/4-Moist); Substrate influence, 10YR74, 20-50% , Distinct; Substrate influence, 10YR82, 2-10% , Distinct; Medium sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; 10-20%, medium gravelly, 6-20mm, angular, dispersed, Quartz, coarse fragments; Field pH 5.5 (Raupach); Gradual, Smooth change to -
C2	2.45 - 3 m	Brown (7.5YR5/4-Moist); Substrate influence, 10YR54, 20-50% , Distinct; Loam; Massive grade of structure; Moderately moist; Very weak consistence; 10-20%, medium gravelly, 6-20mm, angular, dispersed, Quartz, coarse fragments; Field pH 5.5 (Raupach);

Morphological Notes

A11	Peds are largely cast no O horizon dev.
C2	Increasing reduces at base coarse sand drops off/clay increases.

Observation Notes

Site Notes

COMP 10H,62264-1,B 156D 1M FR RD/CK

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations Ca	Mg	K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.06	4.14C		1.35H	0.63	0.5	0.02	2.41J 0K		4.92E	
0.06 - 0.18	4.17C		0.25H	0.37	0.66	0	2.78J 0K		4.07E	
0.18 - 0.4	4.1C		0H	0.34	0.64	0	2.25J 0K		3.23E	
0.4 - 0.7	4.09C		0H	0.6	0.67	0.01	1.9J 0K		3.18E	
0.7 - 0.9	4.07C		0H	0.59	0.6	0	2.05J 0K		3.23E	
0.9 - 1.5	4.28C		0H	0.25	0.47	0	0.53J 0K		1.25E	
1.5 - 1.95	4.25C		0H	0.26	0.44	0	0.63J 0K		1.33E	
1.95 - 2.45	4.24C		0H	0.26	0.4	0	0.75J 0K		1.42E	
2.45 - 3	4.2C		0H	0.29	0.35	0	1J 0K		1.64E	

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 - 0.06		5.04B		198.7B	0.18A			35.43				
0.06 - 0.18		2.42B		153.9B	0.1A		1.23	37.11				
0.18 - 0.4		0.96B		56.4B	0.05A		1.29	24.3				
0.4 - 0.7		0.42B		32.7B	0.02A		1.29	39.06				
0.7 - 0.9		0.2B		20.6B	0.01A		1.33	35.3				
0.9 - 1.5		0.06B		161.9B	0A			20.4				
1.5 - 1.95		0.04B		130.3B	0A			17.5				
1.95 - 2.45		0.03B		154B	0A			12.89				
2.45 - 3		0.04B		234.1B	0A			6.81				

Depth	COLE	Gravimetric/Volumetric Water Contents Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	K sat	K unsat
m					g/g - m3/m3				mm/h	mm/h
0 - 0.06										
0.06 - 0.18										
0.18 - 0.4										
0.4 - 0.7										
0.7 - 0.9										
0.9 - 1.5										
1.5 - 1.95										
1.95 - 2.45										
2.45 - 3										

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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