Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0051** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 09/01/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6027336 AMG zone: 55
Easting/Lat.: 616180 Datum: AGD66
Locality:
Elevation: 1117 metres
Rainfall: No Data
Runoff: No Data
Drainage: Rapidly drained

Geology

ExposureType: No Data
Geol. Ref.: Dga
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Adamellite

Land Form

Rel/Slope Class: No Data
Morph. Type: Upper-slope
Elem. Type: No Data
Slope: 17 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 180 degrees

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Mesotrophic Red Kandosol Medium Non-gravelly Clay-loamy Clayey Very deep
Mapping Unit: N/A
Principal Profile Form: Gn4.11

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

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.11 m	Very dark grey (5YR3/1-Moist); ; Clay loam, coarse sandy; Moderate grade of structure, 5-10 mm, Granular; 20-50 mm, Subangular blocky; Rough-ped fabric; Moderately moist; Very weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
A12	0.11 - 0.21 m	Dark reddish brown (5YR3/2-Moist); Biological mixing, 5YR54, 20-50% , Distinct; Light clay; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 0-2%, cobbly, 60-200mm, subrounded, dispersed, Adamellite, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.21 - 0.5 m	Reddish brown (5YR4/4-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to -
B22	0.5 - 0.95 m	Yellowish red (5YR4/6-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 0-2%, cobbly, 60-200mm, subrounded, dispersed, Adamellite, 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; Clear, Smooth change to -
B3	0.95 - 1.2 m	Yellowish red (5YR5/6-Moist); ; Clay loam, coarse sandy; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Clear, Smooth change to -
C11	1.2 - 1.55 m	Reddish yellow (5YR7/6-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, Quartz, coarse fragments; Field pH 5.5 (Raupach); Abrupt, Smooth change to -

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C12	1.55 - 1.65 m	Reddish yellow (5YR6/6-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, coarse fragments; Field pH 5.5 (Raupach); Abrupt change to -
C21	1.65 - 2.1 m	Reddish yellow (5YR7/6-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, coarse fragments; Field pH 5 (Raupach); Abrupt change to -
C22	2.1 - 2.2 m	Reddish yellow (5YR6/8-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, coarse fragments; Field pH 5 (Raupach); Abrupt change to -
C3	2.2 - 3 m	Reddish yellow (5YR7/6-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, undisturbed, coarse fragments; Field pH 5 (Raupach);

Morphological Notes

A12	slight hint of an A2 but abundant bioturbation counters development.
B22	Massive and more dense.
B3	Coarse frags increase - base of transportational zone.
C11	Saprolite

Observation Notes

Site Notes

COMP 40H,3545-1,110.5D,60M FR RIDGE

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.11	4.88C		10.84H	1.78	0.84	0	0.54J 0K		13.99E	
0.11 - 0.21	4.54C		3.85H	0.92	0.6	0.01	1.21J 0K		6.58E	
0.21 - 0.5	4.23C		3.43H	1.25	0.83	0.02	1.85J 0K		7.38E	
0.5 - 0.95	4.03C		1.31H	0.99	0.61	0.01	3.07J 0K		5.99E	
0.95 - 1.2	4.1C		1.2H	0.84	0.66	0.02	1.94J 0K		4.66E	
1.2 - 1.55	4.25C		0.49H	0.33	0.74	0.02	0.71J 0K		2.3E	
1.55 - 1.65	4.24C		0.33H	0.23	0.52	0	0.71J 0K		1.8E	
1.65 - 2.1	4.21C		0.45H	0.26	0.41	0.05	0.7J 0K		1.88E	
2.1 - 2.2	4.04C		0.31H	0.25	0.3	0.01	1.4J 0K		2.27E	
2.2 - 3	4.03C		0.06H	0.16	0.3	0.02	1.42J 0K		1.96E	

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 - 0.11		4.8B		278.4B	0.19A		1.04	40.14				
0.11 - 0.21		1.82B		220B	0.08A		1.45	36.87				
0.21 - 0.5		0.99B		261.2B	0.06A		1.30	36.39				
0.5 - 0.95		0.36B		224.6B	0.03A		1.24	37.98				
0.95 - 1.2		0.27B		138.4B	0.02A			42.17				
1.2 - 1.55		0.1B		75.6B	0A			31.36				
1.55 - 1.65		0.09B		69.9B	0A			33.71				
1.65 - 2.1		0.08B		12B	0A			34.64				
2.1 - 2.2		0.12B		73.5B	0A			39.57				
2.2 - 3		0.06B		59.7B	0A			28.56				

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.11									
0.11 - 0.21									
0.21 - 0.5									
0.5 - 0.95									
0.95 - 1.2									
1.2 - 1.55									
1.55 - 1.65									
1.65 - 2.1									
2.1 - 2.2									
2.2 - 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