Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0068** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 21/02/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6022655 AMG zone: 55
Easting/Lat.: 612676 Datum: AGD66
Locality:
Elevation: 888 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: Crest
Elem. Type: Hillcrest
Slope: 22 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 90 degrees

Surface Soil Condition (dry): Hardsetting

Erosion: Stable, Not apparent (sheet)

Soil Classification

Australian Soil Classification:
Melanic-Acidic Mesotrophic Red Kandosol Medium Very gravelly Loamy Clayey Very deep
Mapping Unit: N/A
Principal Profile Form: Gn2.14

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

Site Disturbance: No effective disturbance other than grazing by hoofed animals

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.04 m	Very dark greyish brown (10YR3/2-Moist); ; Sandy loam; Single grain grade of structure; Sandy (grains prominent) fabric; Dry; Loose consistence; 50-90%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 0-2%, fine gravelly, 2-6mm, angular tabular, dispersed, Coal, coarse fragments; Field pH 7 (Raupach); Many, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.04 - 0.24 m	Very dark greyish brown (10YR3/2-Moist); Biological mixing, 10-20% , Distinct; Clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 0-2%, fine gravelly, 2-6mm, angular tabular, dispersed, Coal, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Wavy change to -
A2	0.24 - 0.48 m	Reddish yellow (7.5YR6/6-Moist); Biological mixing, 7.5YR42, 2-10% , Distinct; Clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B2	0.48 - 1.2 m	Yellowish red (5YR5/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 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; Diffuse, Smooth change to -
BC1	1.2 - 1.85 m	Reddish yellow (7.5YR7/6-Moist); ; Sandy loam; Massive grade of structure; Moderately moist; Very weak consistence; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6 (Raupach); Diffuse, Smooth change to -

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BC2	1.85 - 2.6 m	Yellow (10YR7/6-Moist); ; Sandy loam; Massive grade of structure; Moderately moist; Very weak consistence; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6 (Raupach); Diffuse, Smooth change to -
BC3	2.6 - 3 m	Light yellowish brown (10YR6/4-Moist); ; Medium sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6 (Raupach);

Morphological Notes

A11	Loose pepper and salt dom. by large quartz grains.
A12	Much firmer than many sites with abundant worm channels but no active worms.
A2	A2 with good porosity.
B2	Very tough to dig but still with many worm channels.
BC1	BC has some slight banding but it may be due to grinding of weathering Dga.
BC2	Similar to 5.

Observation Notes

A surprisingly deep profile on an upper -slope/crest. Feldspars become more dominant in the BC along with some minor ferromag. in BC3. Hot dry site with str-ongly hydrophobic A11.

Site Notes

COMP 39H,11215-1,170D,500M FR/SPUR

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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 - 0.04	4.96C		11.2H	1.7	0.62	0.02	0.07J 0.11K		13.72E	
0.04 - 0.24	4.77C		3.59H	0.72	0.71	0.02	0.92J 0K		5.96E	
0.24 - 0.48	4.51C		1.44H	0.71	0.75	0.05	0.88J 0K		3.83E	
0.48 - 1.2	4.33C		0.7H	0.72	0.92	0.03	1J 0K		3.37E	
1.2 - 1.85	4.57C		0.37H	0.3	0.64	0.1	0.15J 0K		1.56E	
1.85 - 2.6	4.87C		0.39H	0.37	0.66	0.07	0.07J 0K		1.56E	
2.6 - 3	4.85C		0.41H	0.49	0.55	0.07	0.05J 0K		1.57E	

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 - 0.04		8.19B		328.3B	0.29A			50.81				
0.04 - 0.24		2.87B		204.5B	0.1A		1.05	33.44				
0.24 - 0.48		0.85B		138.1B	0.05A		1.29	38.02				
0.48 - 1.2		0.33B		75.1B	0.02A		1.48	33.98				
1.2 - 1.85		0.1B		26.2B	0A			28.21				
1.85 - 2.6		0.04B		22.6B	0A			26.93				
2.6 - 3		0.01B		7.6B	0A			27.03				

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 - 0.04									
0.04 - 0.24									
0.24 - 0.48									
0.48 - 1.2									
1.2 - 1.85									
1.85 - 2.6									
2.6 - 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