Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0077** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 15/03/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6023430 AMG zone: 55
Easting/Lat.: 616114 Datum: AGD66
Locality:
Elevation: 965 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: Hillslope
Slope: 24 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 0 degrees

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Mesotrophic Brown Kandosol Medium Gravelly Clay-loamy Clay-loamy Very deep
Mapping Unit: N/A
Principal Profile Form: Um5.52

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

O1	0 - 0.05 m	Organic Layer; ;
A11	0.05 - 0.15 m	Very dark grey (10YR3/1-Moist); ; Coarse sandy clay loam; Single grain grade of structure; Sandy (grains prominent) fabric; Dry; Loose consistence; 0-2%, cobbly, 60-200mm, angular tabular, dispersed, Adamellite, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
A12	0.15 - 0.3 m	Brown (7.5YR5/4-Moist); Biological mixing, 7.5YR42, 20-50% , Distinct; Coarse sandy clay loam; Weak grade of structure, 20-50 mm, Subangular blocky; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; 0-2%, cobbly, 60-200mm, angular tabular, dispersed, Adamellite, coarse fragments; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.3 - 0.7 m	Brown (7.5YR5/4-Moist); ; Coarse sandy clay loam; Massive grade of structure; Rough-ped fabric; Moderately moist; Weak consistence; 0-2%, cobbly, 60-200mm, angular tabular, dispersed, Adamellite, coarse fragments; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to -
B22	0.7 - 1.35 m	Brown (7.5YR5/4-Moist); ; Clay loam, coarse sandy; Massive grade of structure; Rough-ped fabric; Moderately moist; Weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, 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; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to -

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B3	1.35 - 2.25 m	Reddish yellow (7.5YR6/8-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
C	2.25 - 2.75 m	Reddish yellow (7.5YR6/6-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, angular, dispersed, coarse fragments; Field pH 6.5 (Raupach); Gradual, Smooth change to -

Morphological Notes

A11	Loose organic-rich layer.
A12	Abundant roots and casts, but no worms found (too dry).
B21	Massive B horizon typical of other colluvial sites on DGA.
B22	Slightly heavier and more dense - may be an old weathered floater.
B3	Distinctive bright yellow with fewer coarse fragments and more earthy fabric (buried B?, aeolian input?).
C	Grading into the rotten DGA at 2.70m.

Observation Notes

Despite short slope up to knoll, soil is deep - layer 5 is curious. Augered to 3.0m but >2.70m was DGA. No profile photo (film problem).

Site Notes

COMP 42H, 10209-1, 800M N ALONG 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 - 0.05										
0.05 - 0.15	4.72C		10.45H	2.08	1.02	0.07	1.7J 0K		15.32E	
0.15 - 0.3	4.64C		3.36H	0.63	0.77	0.03	1.46J 0K		6.26E	
0.3 - 0.7	4.74C		1.41H	0.75	0.68	0.02	0.29J 0K		3.14E	
0.7 - 1.35	4.39C		0.79H	1.02	0.81	0.05	0.58J 0K		3.24E	
1.35 - 2.25	4.32C		0.26H	0.46	0.48	0.07	0.59J 0K		1.86E	
2.25 - 2.75	4.31C		0.11H	0.31	0.42	0.09	0.48J 0K		1.41E	

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 - 0.05												
0.05 - 0.15		8.38B		277B	0.31A		0.67	39.24				
0.15 - 0.3		3.76B		155.7B	0.14A		0.95	38.37				
0.3 - 0.7		0.78B		64.2B	0.03A		1.08	32.9				
0.7 - 1.35		0.33B		82.9B	0.02A		1.34	25.51				
1.35 - 2.25		0.11B		57.6B	0.01A			33.2				
2.25 - 2.75		0.1B		63.4B	0.01A			29.75				

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 - 0.05										
0.05 - 0.15										
0.15 - 0.3										
0.3 - 0.7										
0.7 - 1.35										
1.35 - 2.25										
2.25 - 2.75										

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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