Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0056** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: P. Ryan
Date Desc.: 23/11/95
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6032671 AMG zone: 55
Easting/Lat.: 615431 Datum: AGD66
Locality:
Elevation: 1177 metres
Rainfall: No Data
Runoff: No Data
Drainage: Well drained

Geology

ExposureType: Soil pit
Geol. Ref.: Os
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Sandstone

Land Form

Rel/Slope Class: No Data
Morph. Type: Mid-slope
Elem. Type: Hillslope
Slope: 46 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 45 degrees

Surface Soil Condition (dry): Firm

Erosion: Partial, Minor (sheet)

Soil Classification

Australian Soil Classification:
Acidic Magnesic Red Kandosol Thin Moderately gravelly Loamy Clayey Moderately deep

ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn2.11
Great Soil Group: Red earth

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments: 20-50%, , , Sandstone; 20-50%, , , Quartz

Profile Morphology

O1	0 - 0.03 m	Organic Layer; ;
A1	0.03 - 0.08 m	Black (5YR2.5/1-Moist); ; Loam; Moderate grade of structure, 5-10 mm, Subangular blocky; 2-5 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 20-50%, medium gravelly, 6-20mm, subangular tabular, Sandstone, coarse fragments; Field pH 5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Abrupt, Wavy change to -
A3	0.08 - 0.19 m	Dark reddish brown (5YR3/2-Moist); Mechanical, 5YR44, 10-20% , Faint; Fine sandy clay loam; Moderate grade of structure, 5-10 mm, Polyhedral; 10-20 mm, Subangular blocky; Rough-ped fabric; Moist; Weak consistence; 20-50%, medium gravelly, 6-20mm, subrounded tabular, Sandstone, coarse fragments; Field pH 5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Abrupt, Wavy change to -
B1	0.19 - 0.33 m	Reddish brown (5YR4/4-Moist); Mechanical, 5YR46, 10-20% , Faint; Fine sandy light clay; Weak grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 10-20%, medium gravelly, 6-20mm, subangular tabular, Sandstone, coarse fragments; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Wavy change to -
B21	0.33 - 0.68 m	Yellowish red (5YR4/6-Moist); Biological mixing, 7.5YR32, 2-10% , Faint; Light clay; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 10-20%, coarse gravelly, 20-60mm, subrounded tabular, Sandstone, coarse fragments; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	0.68 - 0.98 m	Yellowish red (5YR5/6-Moist); ; Light medium clay; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 10-20%, coarse gravelly, 20-60mm, subangular tabular, Sandstone, coarse fragments; Field pH 5.5 (Raupach); Few, fine (1-2mm) roots; Clear, Smooth change to -

Morphological Notes

A3	Mechanical mixing of soil material causes mottling.
B1	As for layer 2.

Observation Notes

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Site Notes

COMP 36H,7141-2,289DEG,840M FR BM038

A steep NW-facing slope but with a relatively deep soil. There was a lot of mixing in the upper soil.

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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 - 0.03										
0.03 - 0.08	3.76C		4.28H	1.75	0.82	0.02	4.24J 0.49K		11.59E	
0.08 - 0.19	3.74C		0.38H	0.58	0.55	0.01	4.64J 0K		6.16E	
0.19 - 0.33	3.92C		0.02H	0.44	0.49	0	2.84J 0K		3.8E	
0.33 - 0.68	4.06C		0H	0.73	0.72	0.01	1.5J 0K		2.96E	
0.68 - 0.98	4.03C		0H	0.42	0.67	0	1.73J 0K		2.83E	

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 - 0.03												
0.03 - 0.08		7.74B		304.9B	0.25A		1.06	65.78				
0.08 - 0.19		3.33B		248.2B	0.13A		1.28	56.08				
0.19 - 0.33		1.89B		214B	0.08A		1.27	47.9				
0.33 - 0.68		0.58B		225.2B	0.04A		1.43	43.61				
0.68 - 0.98		0.23B		272.6B	0.02A		1.39	48.53				

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 - 0.03										
0.03 - 0.08										
0.08 - 0.19										
0.19 - 0.33										
0.33 - 0.68										
0.68 - 0.98										

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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