Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0115** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 25/04/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6057561 AMG zone: 55
Easting/Lat.: 607269 Datum: AGD66
Locality:
Elevation: 1141 metres
Rainfall: No Data
Runoff: No Data
Drainage: Rapidly drained

Geology

ExposureType: Soil pit
Geol. Ref.: Sgg
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Granodiorite

Land Form

Rel/Slope Class: No Data
Morph. Type: Mid-slope
Elem. Type: Hillslope
Slope: 24 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 45 degrees

Surface Soil Condition (dry): Soft

Erosion: Stable, Minor (sheet)

Soil Classification

Australian Soil Classification:
Acidic Magnesic Red Kandosol Medium Slightly gravelly Silty Clayey Deep
Mapping Unit: N/A
Principal Profile Form: Gn2.11
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

O1	0 - 0.03 m	Organic Layer; ;
A1	0.03 - 0.19 m	Reddish brown (5YR4/4-Moist); Biological mixing, 5YR33, 20-50% , Distinct; Silty clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
A3	0.19 - 0.41 m	Reddish brown (5YR4/4-Moist); Biological mixing, 5YR33, 20-50% , Distinct; Silty clay loam; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to -
B21	0.41 - 0.78 m	Red (2.5YR4/6-Moist); Biological mixing, 5YR32, 10-20% , Distinct; Light clay; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, subangular, dispersed, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 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 -
B22	0.78 - 1.48 m	Red (2.5YR4/6-Moist); ; Silty clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subangular, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots;

Morphological Notes

A1	Litter is almost indistinct from layer 2 and A1/A3 are similar in initial appearances to the B. Low bulk density and limited OM.
A3	Very similar to A1 and grading to B2.

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B21	Heavier texture and more red.	
B22	Again an unusual texture - quite heavy (LMC) but short ribbon and presumably silt. Micas become evident, rocks increase and auger refusal at 1.45m	v.high

Observation Notes

A lot of windthrow pits and other mounding disturbance. Huge worms! Litter terracettes. A horizon low in OM - possibly removed during logging. Profile is very gradational

Site Notes

COMP 10H 3324-1 188D,200M FROM INTERS

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
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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 - 0.19	4.55C		5.21H	1.47	0.82	0.11	2.55J 0K		10.17E	
0.19 - 0.41	4.56C		3.53H	1.76	0.46	0.12	1.42J 0K		7.29E	
0.41 - 0.78	4.38C		1.77H	2.35	0.61	0.12	1.41J 0K		6.26E	
0.78 - 1.48	4.09C		0.09H	1.19	0.7	0.1	2.92J 0K		5.01E	

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 - 0.19		3.97B		437B	0.2A		0.67	24.39				
0.19 - 0.41		1.6B		277.8B	0.1A		0.82	23.62				
0.41 - 0.78		0.63B		184.6B	0.05A		1.02	29.47				
0.78 - 1.48		0.27B		200.7B	0.04A		1.11	22.8				

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 - 0.19									
0.19 - 0.41									
0.41 - 0.78									
0.78 - 1.48									

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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