Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0131** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 15/05/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6042744 AMG zone: 55
Easting/Lat.: 602423 Datum: AGD66
Locality:
Elevation: 847 metres
Rainfall: No Data
Runoff: No Data
Drainage: Rapidly drained

Geology

ExposureType: No Data
Geol. Ref.: Sgg
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Granodiorite

Land Form

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

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Mesotrophic Red Kandosol Thin Moderately gravelly Silty Clayey Very deep
Mapping Unit: N/A
Principal Profile Form: Dr4.11

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: 2-10%, cobbly, 60-200mm, subrounded, Granodiorite

Profile Morphology

O1	0 - 0.01 m	Organic Layer; ;
A1	0.01 - 0.08 m	Dark reddish brown (5YR2.5/2-Moist); Biological mixing, 5YR43, 20-50% , Distinct; Silty clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 20-50%, cobbly, 60-200mm, subrounded, dispersed, Granodiorite, coarse fragments; Few cutans, <10% 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; Clear, Wavy change to -
A3	0.08 - 0.24 m	Brown (7.5YR4/4-Moist); Biological mixing, 5YR42, 10-20% , Distinct; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; 20-50%, cobbly, 60-200mm, subrounded, dispersed, Granodiorite, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Wavy change to -
B21	0.24 - 0.61 m	Yellowish red (5YR4/5-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm consistence; 50-90%, cobbly, 60-200mm, subrounded, dispersed, Granodiorite, 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; Gradual, Smooth change to -
B22	0.61 - 1.31 m	Yellowish red (5YR4/5-Moist); ; Light clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm consistence; 50-90%, cobbly, 60-200mm, subrounded, dispersed, Granodiorite, coarse fragments; Common cutans, 10-50% 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 -
C1	1.31 - 1.91 m	Yellowish red (5YR5/6-Moist); Substrate influence, 7.5YR44, 20-50% , Distinct; Substrate influence, 5YR73, 10-20% , Distinct; Medium sandy clay loam; Massive grade of structure; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Gradual, Smooth change to -
C2	1.91 - 2.41 m	Strong brown (7.5YR4/6-Moist); ; Medium sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; Field pH 5.5 (Raupach); Diffuse, Smooth change to -

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C3 2.41 - 3.01 m Yellowish red (5YR4/6-Moist); ; Medium sandy clay loam; Massive grade of structure; Moderately moist; Very weak consistence; Field pH 5.5 (Raupach);

Morphological Notes

A1	Weakly developed A1 with a transition in the layer from darker to lighter. Too thin to separate as an individual layer. Slightly hydrophobic.
A3	A3/A2(?). Layer of variable thickness amongst large coarse frags. Again - structure due to biological activity is not dominant.
B21	Very large boulders with B2 in between.
B22	Same as layer 3 but even more rocky - did not expect to be able to auger through but eventually did
C1	C horizon with mixed weathering colours - probably a large rotten boulder.
C2	Whole coloured pale C horizon.
C3	C horizon continues but slight reddening - many primary minerals.

Observation Notes

Site is amongst outcrop on NW aspect. Dry site without much worm activity.Large rocks in profile appear to be transported. Coarse frags in C not encountered.

Site Notes

52342-1 COMP112H 1.62KM 82D FR JDX+300

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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 - 0.01										
0.01 - 0.08	4.46C		7.79H	1.26	0.72	0.05	1.26J 0K		11.08E	
0.08 - 0.24	4.08C		0.52H	0.67	0.58	0.04	2.5J 0K		4.31E	
0.24 - 0.61	4.19C		0.74H	1.59	1.08	0.05	2.27J 0K		5.73E	
0.61 - 1.31	4.18C		0.32H	1.99	1.03	0.06	2.78J 0K		6.18E	
1.31 - 1.91	4.11C		0.09H	1	0.63	0.06	1.59J 0K		3.38E	
1.91 - 2.41	4.08C		0.08H	0.63	0.38	0.07	1.81J 0K		2.98E	
2.41 - 3.01	4.06C		0.07H	0.63	0.29	0.06	1.91J 0K		2.96E	

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 - 0.01												
0.01 - 0.08		6.3B		331.9B	0.2A		0.97	15.89				
0.08 - 0.24		1.44B		208.4B	0.07A		1.29	6.39				
0.24 - 0.61		0.81B		227.8B	0.05A		1.26	9.55				
0.61 - 1.31		0.47B		190.1B	0.04A			11.13				
1.31 - 1.91		0.16B		218.5B	0.01A			5.68				
1.91 - 2.41		0.06B		551B	0A			7.75				
2.41 - 3.01		0.06B		479.7B	0A			7.69				

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 - 0.01									
0.01 - 0.08									
0.08 - 0.24									
0.24 - 0.61									
0.61 - 1.31									
1.31 - 1.91									
1.91 - 2.41									
2.41 - 3.01									

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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