

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0122 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By: N.J. McKenzie	Locality:
Date Desc.: 07/05/96	Elevation: 1169 metres
Map Ref.: Sheet No. : 8526 DGPS	Rainfall: No Data
Northing/Long.: 6046641 AMG zone: 55	Runoff: No Data
Easting/Lat.: 604464 Datum: AGD66	Drainage: Imperfectly drained

Geology

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

Land Form

Rel/Slope Class: No Data	Pattern Type: No Data
Morph. Type: Simple-slope	Relief: No Data
Elem. Type: Hillslope	Slope Category: No Data
Slope: 2 %	Aspect: 180 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit: N/A
Yellow Kandosol	Principal Profile Form: Gn4.81
ASC Confidence:	Great Soil Group: N/A
All necessary analytical data are available.	

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.05 m	Dark reddish brown (5YR3/2-Moist); Mottles, 5YR33, 20-50% , Faint; Silty clay loam; Massive grade of structure; Rough-ped fabric; Moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, angular, dispersed, Quartz, coarse fragments; Field pH 4.5 (Raupach); Abundant, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Abrupt, Smooth change to -
A12	0.05 - 0.17 m	Black (5YR2.5/1-Moist); ; Silty clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moist; Very weak consistence; 2-10%, coarse gravelly, 20-60mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Clear, Smooth change to -
A2	0.17 - 0.22 m	Very dark grey (5YR3/1-Moist); ; Silty clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moist; Very weak consistence; 20-50%, medium gravelly, 6-20mm, angular, stratified, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Smooth change to -
2B21	0.22 - 0.45 m	Brownish yellow (10YR6/6-Moist); Substrate influence, 10YR64, 20-50% , Distinct; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 2-10%, coarse gravelly, 20-60mm, angular platy, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
2B22	0.45 - 0.9 m	Light yellowish brown (10YR6/4-Moist); Substrate influence, 10YR78, 20-50% , Distinct; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 2-10%, coarse gravelly, 20-60mm, angular platy, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
2B3	0.9 - 1.35 m	White (10YR8/2-Moist); Substrate influence, 7.5YR68, 20-50% , Distinct; Substrate influence, 10-20% , Distinct; Medium sandy clay loam; Massive grade of structure; Wet; Very weak consistence; Very few (0 - 2 %), Manganiferous, Medium (2 -6 mm), Soft segregations, weak, segregations;Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
3D	1.35 - 1.75 m	Reddish yellow (7.5YR6/8-Moist); Substrate influence, 10YR73, 20-50% , Prominent; Light clay; Massive grade of structure; Wet; Firm consistence; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Clear, Smooth change to -

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4C1 1.75 - 1.9 m Light brownish grey (10YR6/2-Moist); Substrate influence, 10YR82, 10-20% , Distinct; Sandy loam; Massive grade of structure; Wet; Very weak consistence; Field pH 6 (Raupach);

Morphological Notes

A11 Thin organic root mat with a layer of more brown oxidised iron evident.
A12 Very dark uniform layer with relatively low faunal activity due to worms and some compaction due to cattle and horses. Mica evident.

A2 Sharp transition to the B hor mica evident. Faint hint of a much coarser pedality (perhaps materials with some clear pedological fabric and other parts more like a B3).
2B22 Very similar to layer 4 but more pale.

2B3 Abundant large roots of mica 2-4mm in diameter pale colours due to water logging.
3D Contrasting clay layer. Material has no pedologic fabric and may be either alluvium or some form of fine grained intrusion (aplite).
4C1 C horizon again with very large micas and other feldspars (orthoclase)

Observation Notes

Complex profile unit may be alluvial or due to the PM. Very open gently colluvial site with grazed grass. Stellulata woodland with sedgeland along creeks.

Site Notes

4465-1 COMP 72H 440M FR BM123 ON 188D

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Exchangeable Cations				Exchangeable Acidity Cmol (+)/kg	CEC	ECEC	ESP %
			Ca	Mg	K	Na				
0 - 0.05	3.97C		0.06H	0.12	0.11	0.05	2.66J 0K		3E	
0.05 - 0.17	3.84C		2.05H	1	0.31	0.14	6.45J 0K		9.94E	
0.17 - 0.22	3.87C		0.88H	0.51	0.13	0.08	5.15J 0K		6.74E	
0.22 - 0.45	3.87C		0.86H	0.87	0.26	0.08	4.6J 0K		6.66E	
0.45 - 0.9	3.88C		1.16H	1.3	0.17	0.07	5.47J 0K		8.16E	
0.9 - 1.35	3.96C		0.63H	0.75	0.15	0.05	2.42J 0K		4.01E	
1.35 - 1.75	3.83C		1.97H	2.61	0.53	0.08	9.69J 0K		14.87E	
1.75 - 1.9	3.92C		0.58H	0.71	0.2	0.07	2.36J 0K		3.92E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size			Analysis	
m	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS %	Silt	Clay
0 - 0.05		11.83B		916.1B	0.51A							
0.05 - 0.17		5.63B		569.2B	0.44A		0.88	7.51				
0.17 - 0.22		2.38B		343.7B	0.2A			7.95				
0.22 - 0.45		0.74B		176.4B	0.07A		1.06	32.54				
0.45 - 0.9		0.54B		152.7B	0.05A		1.00	11.99				
0.9 - 1.35		0.14B		99.8B	0.01A			14				
1.35 - 1.75		0.25B		188.6B	0A			10.98				
1.75 - 1.9		0.09B		146.7B	0.01A			6.84				
								11.58				

[illegible]

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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