

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0130 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	P. Ryan	Locality:	
Date Desc.:	15/05/96	Elevation:	1269 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6053343 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	602994 Datum: AGD66	Drainage:	Rapidly drained

Geology

ExposureType:	Soil pit	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:	Upper-slope	Relief:	No Data
Elem. Type:	Hillslope	Slope Category:	No Data
Slope:	11 %	Aspect:	270 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Melacic Dystrophic Red Kandosol Medium Non-gravelly Clay-loamy Clayey Very deep	Principal Profile Form:	Gn2.11

ASC Confidence:	Great Soil Group:	Red earth
All necessary analytical data are available.		

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments: 0-2%, coarse gravelly, 20-60mm, angular tabular, Quartz

Profile Morphology

A1	0 - 0.1 m	Dark reddish brown (5YR2.5/2-Moist); Biological mixing, 5YR32, 0-2% , Faint; Clay loam; Moderate grade of structure, <2 mm, Granular; 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Very weak consistence; Field pH 5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
A3	0.1 - 0.19 m	Dark reddish brown (5YR3/2-Moist); Biological mixing, 5YR2.52, 10-20% , Distinct; Silty clay loam; Moderate grade of structure, 10-20 mm, Subangular blocky; 5-10 mm, Prismatic; Smooth-ped fabric; Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
B1	0.19 - 0.29 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 5YR32, 2-10% , Distinct; Silty clay; Moderate grade of structure, 5-10 mm, Polyhedral; 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Weak consistence; 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; Gradual, Irregular change to -
B21	0.29 - 0.62 m	Dark red (2.5YR3/6-Moist); Biological mixing, 5YR2.52, 0-2% , Prominent; Silty clay; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Weak consistence; 10-20%, medium gravelly, 6-20mm, subrounded tabular, 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; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Irregular change to -
B22	0.62 - 1.15 m	Red (2.5YR4/6-Moist); ; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moist; Firm consistence; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Gradual change to -
C1	1.15 - 2.55 m	Brown (10YR5/3-Moist); ; Sandy loam; Single grain grade of structure; Sandy (grains prominent) fabric; Moist; Firm consistence; Field pH 5.5 (Raupach); Diffuse change to -
C21	2.55 - 2.75 m	Yellowish brown (10YR5/6-Moist); Substrate influence, 10R48, 10-20% , Prominent; Substrate influence, 10YR64, 2-10% , Prominent; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Firm consistence; Field pH 5.5 (Raupach); Clear change to -

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- C22 2.75 - 2.85 m Light yellowish brown (10YR6/4-Moist); Substrate influence, 10YR46, 2-10% , Distinct; Substrate influence, 5YR58, 2-10% , Prominent; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Firm consistence; Field pH 4.5 (Raupach); Clear change to -
- C3 2.85 - 3.05 m Strong brown (7.5YR5/8-Moist); ; Clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Weak consistence; 10-20%, medium gravelly, 6-20mm, subrounded tabular, coarse fragments; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations, weak, segregations;Field pH 4.5 (Raupach);

Morphological Notes

- A1 High earthworm activity - casting has produced most of the structure.
A3 High earthworm activity - casting has produced most of the structure.
B1 High earthworm activity - casting has produced most of the structure.
B21 Numerous aplite(?) gravel plus large quartz gravel root channel at base of layer.
B22 Quartz and aplite gravel disappear.
- C1 Thick weathering granodiorite layer.
- C21 Sudden inclusion of red weathered granodiorite. What is the source of the colour?
There is a wombat hole near the pit so it could be infill.
- C22 Thin pale weathered granodiorite layer.
- C3 Sudden change to more aplite as seen in layer 4.

Observation Notes

Access via snig track 50m before creek.

Site Notes

12982-1 COMP38H 193D 100M FROM INTERS

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.1	4.28C		14.95H	2.12	0.99	0.09	6.38J 0K	24.52E	
0.1 - 0.19	4.5C		4.9H	1.33	0.58	0.07	2.17J 0K	9.05E	
0.19 - 0.29	4.2C		0.72H	0.51	0.49	0.04	3.34J 0K	5.1E	
0.29 - 0.62	4.04C		0.32H	0.25	0.49	0.04	3.58J 0K	4.69E	
0.62 - 1.15	4.03C		0.16H	0.15	0.3	0.03	1.97J 0K	2.62E	
1.15 - 2.55	4.29C		0.08H	0.08	0.09	0.01	0.53J 0K	0.8E	
2.55 - 2.75	4.21C		0.07H	0.08	0.17	0.04	0.91J 0K	1.27E	
2.75 - 2.85	4.24C		0.18H	0.08	0.15	0.05	0.94J 0K	1.39E	
2.85 - 3.05	4.19C		0.07H	0.09	0.14	0.08	1.36J 0K	1.74E	

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
		%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1		15.37B		729.5B	0.51A		0.51	9.26				
0.1 - 0.19		4.82B		504B	0.23A		1.13	3.13				
0.19 - 0.29		1.76B		412.2B	0.1A		1.19	10.98				
0.29 - 0.62		0.78B		482.7B	0.05A		1.17	20.86				
0.62 - 1.15		0.2B		237.3B	0.02A		1.40	7.44				
1.15 - 2.55		0.09B		413.9B	0A			3.44				
2.55 - 2.75		0.1B		501.1B	0A			14.1				
2.75 - 2.85		0.1B		526B	0A			6.39				
2.85 - 3.05		0.14B		903.9B	0.01A			24.94				

[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