

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0014 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	P. Ryan	Locality:	
Date Desc.:	11/04/97	Elevation:	1071 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6027565 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	617148 Datum: AGD66	Drainage:	Very poorly drained

Geology

ExposureType:	Undisturbed soil core	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	Dga	Substrate Material:	Adamellite

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	Open depression (vale)	Relief:	No Data
Elem. Type:	Drainage depression	Slope Category:	No Data
Slope:	1 %	Aspect:	No Data

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Bleached-Acidic Tenosolic Redoxic Hydrosol Medium Non-gravelly Clay-loamy Clay-loamy Very deep	Principal Profile Form:	Gn1.34
ASC Confidence:	Great Soil Group:	Gleyed podzolic soil
All necessary analytical data are available.		

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O2	0 - 0.01 m	Organic Layer; ;
O1	0.01 - 0.03 m	Organic Layer; ;
A1	0.03 - 0.16 m	Very dark greyish brown (10YR3/2-Moist); ; Coarse sandy clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Wet; Weak consistence; 10-20%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Irregular change to -
A21e	0.16 - 0.33 m	Light brownish grey (10YR6/2-Moist); White (10YR8/2-Dry); ; Coarse sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; 10-20%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt change to -
A22	0.33 - 1 m	Light brownish grey (10YR6/2-Moist); White (10YR8/2-Dry); Substrate influence, 10YR58, 10-20% , Faint; Substrate influence, 10YR42, 2-10% , Faint; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Very weak consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Fragments, strong, segregations;Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear change to -
B1	1 - 1.43 m	Light brownish grey (10YR6/2-Moist); Substrate influence, 10YR66, 10-20% , Faint; Coarse sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Firm consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Fine (0 - 2 mm), Fragments, strong, segregations;Field pH 5.5 (Raupach);
B2	1.43 - 2.06 m	Yellowish brown (10YR5/6-Moist); Substrate influence, 10YR63, 2-10% , Distinct; Substrate influence, 10YR68, 2-10% , Distinct; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 5.5 (Raupach); Sharp change to -
B3	2.06 - 2.44 m	Light yellowish brown (2.5Y6/4-Moist); Substrate influence, 2.5Y82, 10-20% , Prominent; Substrate influence, 10YR78, 2-10% , Faint; Clay loam, sandy; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments; Field pH 5.5 (Raupach);

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2B2	2.44 - 2.5 m	Brownish yellow (10YR6/8-Moist); ; Coarse sandy loam; Massive grade of structure; Earthy fabric; Wet; Weak consistence; Field pH 5.5 (Raupach); Abrupt change to -
3A	2.93 - 3.33 m	Brown (10YR5/3-Moist); ; Coarse sandy clay loam; Single grain grade of structure; Sandy (grains prominent) fabric; Wet; Very weak consistence; 50-90%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 5.5 (Raupach); Abrupt change to -
3B	3.33 - 3.73 m	Strong brown (7.5YR5/8-Moist); Substrate influence, 2.5Y64, 2-10% , Distinct; Substrate influence, 5YR46, 0-2% , Faint; Clayey coarse sand; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 5.5 (Raupach); Clear change to -
4A	3.73 - 4.16 m	Brown (10YR5/3-Moist); ; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Very weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 5.5 (Raupach); Clear change to -
4B	4.16 - 4.39 m	Brownish yellow (10YR6/6-Moist); ; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 5.5 (Raupach);
4C	4.39 - 4.53 m	White (2.5Y8/2-Moist); Substrate influence, 2.5Y54, 2-10% , Distinct; Massive grade of structure; Sandy (grains prominent) fabric; Weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 5.5 (Raupach);

Morphological Notes

A1	Possibly could develop into a pan on drying.
A21e	Coarse texture but still A2 horizon. Fe-Mn segregations at base of layer. Dark grey colouring increases towards base of layer.
A22	Lighter, clay - rich layer.
B1	Reddish Fe-stained layer. Indications of thin, banded layers of sandier and clayey material.
B2	Paler more obviously banded layer. Alternating thin bands of sandier and clayey
B3	Clay - rich layer - core sample incomplete.
2B2	Loose coarse sand layer.
3A	Red Fe-stained sandy layer with larger quartz pebbles.
3B	Similar layer to 8 - loose sand
4A	Increasing clay but still depositional.
4B	Fabric more like in situ adamellite.

Observation Notes

Drainage line site with high water table. Initial soil pit only went to 80cm. Subsequent core sampling went to 448cm.

Site Notes

COMP 16H,3287-1,BEARING 240DEG,163M

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Exchangeable Cations			Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K					%
0 - 0.01										
0.03 - 0.16	4.06C		3.32H	2	0.27	0.08	1.95J 0.14K		7.76E	
0.16 - 0.33	3.84C		0.32H	0.57	0.13	0.06	1.95J 0K		3.03E	
0.33 - 1	3.83C		0.08H	0.36	0.06	0.06	1.76J 0K		2.31E	
1 - 1.43	4.29C		1.75H	0.9	0.12	0	0.76J 0K		3.53E	
1.43 - 2.06	4.56C		2.43H	1.3	0.13	0.02	0.2J 0.05K		4.14E	
2.06 - 2.44	4.66C		2.31H	1.22	0.23	0.02	0.12J 0.09K		3.99E	
2.44 - 2.5	4.64C		3.29H	1.77	0.3	0.05	0.2J 0.04K		5.65E	
2.93 - 3.33	4.57C		1.65H	0.85	0.14	0	0.2J 0K		2.84E	
3.33 - 3.73	4.79C		2.23H	1.25	0.22	0.01	0.03J 0.09K		3.83E	
3.73 - 4.16	4.57C		1.21H	0.62	0.07	0	0.18J 0K		2.08E	
4.16 - 4.39	4.64C		2H	1.09	0.28	0.02	0.13J 0K		3.52E	
4.39 - 4.53	4.84C		1.76H	1.03	0.36	0	0.02J 0.08K		3.26E	

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 - 0.01												
0.03 - 0.16		4.01B		183.2B	0.15A		1.06	39.22				
0.16 - 0.33		0.89B		115.5B	0.05A		1.53	30.58				
0.33 - 1		0.3B		78.6B	0.02A		1.46	39.5				
1 - 1.43		0.2B		105.5B	0.02A			23.17				
1.43 - 2.06		0.17B		154.5B	0.01A			32.4				
2.06 - 2.44		0.08B		83B	0.01A			27.29				
2.44 - 2.5		0.84B		103.3B	0.01A			11.44				
2.93 - 3.33		0.14B		110.3B	0.01A			32.4				
3.33 - 3.73		0.06B		101.6B	0.01A			36.91				
3.73 - 4.16		0.07B		64.9B	0A			35.05				
4.16 - 4.39		0.1B		104.5B	0.01A			30.04				
4.39 - 4.53		0.06B		73B	0A			24.59				

[illegible]

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1 - 1.43
1.43 - 2.06
2.06 - 2.44
2.44 - 2.5
2.93 - 3.33
3.33 - 3.73
3.73 - 4.16
4.16 - 4.39
4.39 - 4.53

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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