

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0162 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	P. Ryan	Locality:	
Date Desc.:	10/04/97	Elevation:	778 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6024191 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	611621 Datum: AGD66	Drainage:	Imperfectly 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:	Lower-slope	Relief:	No Data
Elem. Type:	Pediment	Slope Category:	No Data
Slope:	2 %	Aspect:	45 degrees

Surface Soil Condition (dry): Hardsetting

Erosion: Partial, Minor (sheet)

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Acidic Mesotrophic Brown Dermosol Medium Non-gravelly	Principal Profile Form:	Gn3.84
Clay-loamy Clayey Very deep		

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

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Brown (10YR5/3-Moist); ; Silty clay loam; Weak grade of structure, 5-10 mm, Angular blocky; Rough-ped fabric; Dry; Firm consistence; Field pH 5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear change to -
A21e	0.1 - 0.26 m	Light brownish grey (2.5Y6/3-Moist); White (10YR8/2-Dry); ; Silty clay loam; Massive grade of structure; Earthy fabric; Dry; Firm consistence; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear change to -
A22j	0.26 - 0.45 m	Pale brown (10YR6/3-Moist); Very pale brown (10YR8/3-Dry); Substrate influence, 10YR56, 20-50% , Distinct; Silty clay loam; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Dry; Firm consistence; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; Gradual change to -
B21	0.45 - 0.75 m	Yellowish brown (10YR5/8-Moist); Substrate influence, 5YR58, 0-2% , Faint; Silty clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Dry; Firm consistence; Few (2 - 10 %), Ferruginous, Medium (2 -6 mm), Nodules, strong, segregations;Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Gradual change to -
B22	0.75 - 0.95 m	Yellowish brown (10YR5/6-Moist); ; Silty clay; Moderate grade of structure, 20-50 mm, Subangular blocky; 20-50 mm, Prismatic; Smooth-ped fabric; Dry; Very firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; Gradual change to -
B23	0.95 - 1.13 m	Light olive brown (2.5Y5/6-Moist); ; Silty clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 2-5 mm, Polyhedral; Smooth-ped fabric; Dry; Very firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Clear change to -
B31	1.13 - 1.34 m	Light olive brown (2.5Y5/4-Moist); Substrate influence, 7.5YR56, 20-50% , Distinct; Substrate influence, 10YR61, 10-20% , Faint; Light medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Very firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 4.5 (Raupach); Abrupt change to -

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B32	1.34 - 1.64 m	Light yellowish brown (2.5Y6/4-Moist); Substrate influence, 7.5YR56, 10-20% , Distinct; Substrate influence, 2.5Y73, 2-10% , Distinct; Coarse sandy clay; Weak grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Dry; Very firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Abrupt change to -
B33	1.64 - 1.76 m	White (2.5Y8/1-Moist); Substrate influence, 10YR56, 2-10% , Prominent; Light clay; Massive grade of structure; Earthy fabric; Dry; Very firm consistence; Field pH 5 (Raupach); Abrupt change to -
2B31	1.76 - 2.5 m	Grey (10YR5/1-Moist); Substrate influence, 10YR58, 10-20% , Distinct; Substrate influence, 10YR71, 2-10% , Faint; Medium clay; Strong grade of structure, 10-20 mm, Platy; Smooth-ped fabric; Moist; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 4 (Raupach); Abrupt change to -
2B32	2.5 - 3.45 m	Grey (10YR6/1-Moist); Substrate influence, 2.5Y56, 10-20% , Distinct; Medium heavy clay; Strong grade of structure, 10-20 mm, Lenticular; Smooth-ped fabric; Moist; Strong consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 4 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots;

Morphological Notes

A1	Hardsetting, dispersing soil.
A21e	Bleached hardpan A2, dispersive.
A22j	Bleached hardpan A2.
B21	Fe nodules present.
B22	Increasing clay skins.
B23	Signs of clay illuviation - plasma fabric.
B31	Increase in coarse sand at top of layer. Grey mottling starts.
B32	Evidence of old macropores/root channels/krotovinas.
B33	Bleached mottled dispersive layer - possibly old perched watertable.
2B31	Start of two thick layers, grey clay with orange red mottles. Structure may be due to depositional laminae. These 2 layers are quite distinct from the above layers.
2B32	Structure becomes more lenticular with conchoidal surfaces - slickensides? Mottling decreases.

Observation Notes

Site is on pediment on the western edge of southern Maragle SF.

Site Notes

MARAGLE ACCESS RD, 600M SE OF BOUNDARY

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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 - 0.1	4.72C		1.46H	0.36	0.22	0	0.76J 0K		2.8E	
0.1 - 0.26	4.16C		0.17H	0.16	0.07	0	1.13J 0K		1.54E	
0.26 - 0.45	4.1C		0.87H	0.65	0.28	0	1.57J 0K		3.37E	
0.45 - 0.75	4.19C		1.71H	1.67	0.37	0	1.73J 0K		5.49E	
0.75 - 0.95	3.94C		0.69H	1.29	0.27	0	3.9J 0K		6.14E	
0.95 - 1.13	3.87C		0.43H	1.24	0.23	0.04	4.68J 0K		6.62E	
1.13 - 1.34	3.84C		0.54H	1.8	0.34	0.07	6.53J 0K		9.28E	
1.34 - 1.64	3.87C		0.35H	1.22	0.24	0.03	4.33J 0K		6.17E	
1.64 - 1.76	3.88C		0.3H	1.09	0.15	0.04	3.28J 0K		4.86E	
1.76 - 2.5	3.69C		0.96H	4.5	0.42	0.65	6.51J 0K		13.05E	
2.5 - 3.45	3.71C		2.01H	9.88	0.49	1.62	6.47J 0K		20.47E	

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		1.55B		150B	0.07A		1.28	1.69				
0.1 - 0.26		0.38B		96.2B	0.02A		1.50	0.61				
0.26 - 0.45		0.39B		117.8B	0.03A		1.32	0.8				
0.45 - 0.75		0.23B		131.2B	0.02A		1.45	1.3				
0.75 - 0.95		0.15B		126.9B	0.02A			2.62				
0.95 - 1.13		0.14B		116.7B	0.02A			5.27				
1.13 - 1.34		0.16B		90.3B	0.02A			7.37				
1.34 - 1.64		0.1B		91.8B	0.01A			7.81				
1.64 - 1.76		0.12B		73.6B	0.01A			3.46				
1.76 - 2.5		0.12B		71.5B	0.02A			0.92				
2.5 - 3.45		0.09B		58B	0.01A			1.94				

[illegible]

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1.76 - 2.5
2.5 - 3.45

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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