

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0055 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	11/01/96	Elevation:	1049 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6025981 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	616063 Datum: AGD66	Drainage:	Well drained

Geology

ExposureType:	No Data	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	DGA	Substrate Material:	Adamellite

Land Form

Rel/Slope Class:	No Data	Pattern Type:	No Data
Morph. Type:	Upper-slope	Relief:	No Data
Elem. Type:	No Data	Slope Category:	No Data
Slope:	16 %	Aspect:	315 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Acidic Magnesic Red Kandosol Medium Gravelly Clay-loamy Clay-loamy Very deep	Principal Profile Form:	Um6.

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); ; Medium sandy clay loam; Moderate grade of structure, 10-20 mm, Prismatic; 5-10 mm, Granular; Sandy (grains prominent) fabric; Moist; Weak consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 10-20%, medium gravelly, 6-20mm, angular tabular, dispersed, Coal, coarse fragments; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
A12	0.05 - 0.12 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 5YR32, 20-50% , Distinct; Clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Clear, Smooth change to -
B21	0.12 - 0.3 m	Reddish brown (5YR4/4-Moist); Biological mixing, 5YR33, 10-20% , Distinct; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, 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; Gradual, Smooth change to -
B22	0.3 - 0.53 m	Yellowish red (5YR4/6-Moist); ; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
C1	0.53 - 1.1 m	Reddish yellow (5YR6/8-Moist); ; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Field pH 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 -
C2	1.1 - 1.75 m	Reddish yellow (7.5YR6/8-Moist); Substrate influence, 5YR78, 20-50% , Distinct; Clayey sand; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; Field pH 5.5 (Raupach);

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Morphological Notes

A11	Very thin A1/1 with coarse fragment concentration probably due to ants.
C1	Strong yellow C horizon - no mica and SCL.
C2	Mottle colour is due to a large decomposing boulder from 1.3m to 1.5m. Mica and coarse sand - minimal weathering

Observation Notes

Very similar profile to No. 54. Deep profile despite being next to rock outcrop.

Site Notes

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.05	4.33C		6.92H	1.91	1.12	0.05	2.31J 0K		12.3E	
0.05 - 0.12	4.25C		1.87H	1.12	1.07	0.02	3.87J 0K		7.96E	
0.12 - 0.3	4.13C		0.12H	0.61	0.94	0.02	3.1J 0K		4.78E	
0.3 - 0.53	4C		0H	0.4	0.66	0.01	2.8J 0K		3.87E	
0.53 - 1.1	4.03C		0H	0.23	0.61	0.03	1.7J 0K		2.58E	
1.1 - 1.75	3.98C		0H	0.08	0.15	0.01	2J 0K		2.24E	

Depth m	CaCO3	Organic	Avail.	Total	Total	Total	Bulk Density Mg/m3	Particle		Size FS %	Analysis	
	%	C %	P mg/kg	P %	N %	K %		GV	CS		Silt	Clay
0 - 0.05		9.44B		341.5B	0.29A		0.98	40.59				
0.05 - 0.12		4.63B		280.9B	0.18A		1.09	43.4				
0.12 - 0.3		1.89B		215.3B	0.09A		1.13	34.82				
0.3 - 0.53		1.02B		177.6B	0.05A		1.21	34.15				
0.53 - 1.1		0.18B		138.6B	0.01A			38.83				
1.1 - 1.75		0.06B		65.2B	0A			36.2				

[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 (Ca ²⁺ ,Mg ²⁺ ,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 (%)
P10_S_0.48	0.48 micron (cumulative %) - Sedigraph
P10_S_1	1 micron (cumulative %) - Sedigraph
P10_S_1000	1000 micron (cumulative %) - Sedigraph
P10_S_125	125 micron (cumulative %) - Sedigraph
P10_S_15.6	15.6 micron (cumulative %) - Sedigraph
P10_S_2	2 micron (cumulative %) - Sedigraph
P10_S_20	20 micron (cumulative %) - Sedigraph
P10_S_2000	2000 micron (cumulative %) - Sedigraph
P10_S_250	250 micron (cumulative %) - Sedigraph
P10_S_3.9	3.9 micron (cumulative %) - Sedigraph
P10_S_31.2	31.2 micron (cumulative %) - Sedigraph
P10_S_500	500 micron (cumulative %) - Sedigraph
P10_S_53	53 micron (cumulative %) - Sedigraph
P10_S_63	63 micron (cumulative %) - Sedigraph
P10_S_7.8	7.8 micron (cumulative %) - Sedigraph
P3A1	Bulk density - g/cm ³