

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0045 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	P. Ryan	Locality:	
Date Desc.:	13/03/96	Elevation:	1189 metres
Map Ref.:	Sheet No. : 8526 DGPS	Rainfall:	No Data
Northing/Long.:	6039904 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	614996 Datum: AGD66	Drainage:	Moderately well drained

Geology

ExposureType:	Soil pit	Conf. Sub. is Parent. Mat.:	Probable
Geol. Ref.:	Tb	Substrate Material:	Basalt

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:	20 %	Aspect:	0 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Haplic Eutrophic Red Ferrosol Medium Non-gravelly Clay-loamy Clayey Very deep	Principal Profile Form:	Gn3.51
ASC Confidence:	Great Soil Group:	Krasnozem

All necessary analytical data are available.

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.15 m	Dark reddish brown (5YR2.5/2-Moist); ; Clay loam; Strong grade of structure, 2-5 mm, Polyhedral; 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Weak consistence; Field pH 6 (Raupach); Abundant, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Abrupt, Smooth change to -
B11	0.15 - 0.29 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 5YR22, 2-10% , Faint; Clay loam, sandy; Moderate grade of structure, 2-5 mm, Polyhedral; 10-20 mm, Angular blocky; Rough-ped fabric; Moderately moist; Very weak consistence; 0-2%, medium gravelly, 6-20mm, subangular tabular, Basalt, coarse fragments; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
B12	0.29 - 0.68 m	Dark reddish brown (2.5YR3/3-Moist); Biological mixing, 7.5YR2.52, 20-50% , Faint; Clay loam; Weak grade of structure, 5-10 mm, Subangular blocky; 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Very weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded, Basalt, coarse fragments; 2-10%, medium gravelly, 6-20mm, angular tabular, Coal, coarse fragments; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Smooth change to -
B2	0.68 - 1.5 m	Dark reddish brown (5YR3/3-Moist); ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 5-10 mm, Angular blocky; Smooth-ped fabric; Moist; Weak consistence; 10-20%, fine gravelly, 2-6mm, subrounded, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse change to -
B31	1.5 - 2.4 m	Dark greyish brown (10YR4/2-Moist); Substrate influence, 5B51, 20-50% , Distinct; Silty clay; Rough-ped fabric; Moist; Very firm consistence; 20-50%, medium gravelly, 6-20mm, subangular, Basalt, coarse fragments; Field pH 4.5 (Raupach); Clear change to -
B32	2.4 - 2.8 m	Dark brown (7.5YR3/3-Moist); Substrate influence, 10YR56, 10-20% , Distinct; Silty clay; Rough-ped fabric; Moist; Firm consistence; 20-50%, medium gravelly, 6-20mm, subangular, Basalt, coarse fragments; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations, weak, segregations; Field pH 5 (Raupach); Abrupt change to -

Morphological Notes

A1	Thick root mass.
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B11	A thin layer with only minor pedoturbation.
B12	Thick colluvial layer with numerous filled-in root channels causing mixture of A and B horizon material.
B2	Texture increases together with weathered small gravel.
B31	The "gley" colour due to weathering gravel. Possibly a talus of basalt gravel of in situ
B32	In situ soil?

Observation Notes

4 wombat holes adjacent to pit. Auger entered hole at 2.8m and stopped at 3.3m. Profile has colluvium to 1m plus a high degree of disturbance in upper profile.

Site Notes

COMP 117H,9470-1,BRG228,200M FR 9356-1

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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 - 0.15	5.03C		19.91H	3.08	1.54	0.04	1.03J 0K	25.6E	
0.15 - 0.29	5.26C		14.24H	2.74	1.48	0.03	0.16J 0K	18.64E	
0.29 - 0.68	5.18C		7.94H	2.95	1.74	0.03	0.25J 0K	12.91E	
0.68 - 1.5	4.97C		7.35H	3.31	1.48	0.02	0.36J 0K	12.51E	
1.5 - 2.4	4.93C		3.89H	4.74	1.58	0.1	0.1J 0.03K	10.45E	
2.4 - 2.8	4.53C		1.91H	3.21	1.09	0.09	0.47J 0K	6.77E	

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 - 0.15		9.82B		3770.4B	0.45A		0.54	38.09				
0.15 - 0.29		4.69B		3928.5B	0.23A		0.65	20.26				
0.29 - 0.68		2.2B		4344.7B	0.08A		0.81	26.48				
0.68 - 1.5		0.86B		2452.3B	0.02A		1.17	33.43				
1.5 - 2.4		0.22B		2570.9B	0A			39.16				
2.4 - 2.8		0.31B		4259B	0A			30.27				

[illegible]

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Laboratory Analyses Completed for this profile

13C1_AL	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
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