Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0092** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: P. Ryan
Date Desc.: 15/03/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6041832 AMG zone: 55
Easting/Lat.: 608142 Datum: AGD66
Locality:
Elevation: 1188 metres
Rainfall: No Data
Runoff: No Data
Drainage: Well drained

Geology

ExposureType: No Data
Geol. Ref.: Tb
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Basalt

Land Form

Rel/Slope Class: No Data
Morph. Type: Upper-slope
Elem. Type: Hillslope
Slope: 10 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 90 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Mesotrophic Red Ferrosol Medium Non-gravelly Clayey Clayey Very deep
Mapping Unit: N/A
Principal Profile Form: Um6.33

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

Site Disturbance: No effective disturbance other than grazing by hoofed animals

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.01 m	Organic Layer; ;
A1	0.01 - 0.12 m	Dark reddish brown (5YR2.5/2-Moist); Biological mixing, 7.5YR34, 2-10% , Faint; Light clay; Strong grade of structure, 2-5 mm, Polyhedral; 5-10 mm, Polyhedral; 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Firm consistence; Field pH 6.5 (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 -
A3	0.12 - 0.22 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 5YR46, 10-20% , Faint; Light clay; Strong grade of structure, 5-10 mm, Polyhedral; 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, Basalt, coarse fragments; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.22 - 0.57 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 5YR33, 2-10% , Faint; Light clay; Moderate grade of structure, 5-10 mm, Subangular blocky; 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, Basalt, coarse fragments; 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, Irregular change to -
B22	0.57 - 1.21 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Moderate grade of structure, 10-20 mm, Angular blocky; 5-10 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Firm consistence; 10-20%, fine gravelly, 2-6mm, subrounded tabular, Basalt, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual change to -
B31	1.21 - 1.71 m	Dark yellowish brown (10YR3/6-Moist); Substrate influence, 7.5YR56, 2-10% , Faint; Clay loam; Moderate grade of structure; Smooth-ped fabric; Moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Gradual change to -
B32	1.71 - 2.76 m	Dark yellowish brown (10YR3/6-Moist); Substrate influence, 10YR52, 10-20% , Faint; Clay loam; Moderate grade of structure; Smooth-ped fabric; Moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, subangular, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Soft segregations, strong, segregations;Few (2 - 10 %), Manganiferous, Medium (2 -6 mm), Nodules, strong, segregations;Field pH 4.5 (Raupach);

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A1	Common faunal casting including oblate - spheroids 3 by 5mm.
B22	Small pieces of PM (basalt has a near pisolithic substructure).
B32	Mottling appears. Auger was stopped by rock.

Observation Notes

Site is on boundary between ash/gum forest types logged at least once before.

Site Notes

COMP 114H 8147-1 60MFR/INTERS 10M E

Morphological Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.01										
0.01 - 0.12	4.9C		17.96H	3.56	1.63	0.09	1.2J 0K		24.43E	
0.12 - 0.22	4.94C		9.42H	2.46	1.4	0.05	1.11J 0K		14.43E	
0.22 - 0.57	4.69C		3.82H	1.89	1.14	0.06	1.73J 0K		8.63E	
0.57 - 1.21	4.29C		1.99H	1.73	0.57	0.12	3.17J 0K		7.58E	
1.21 - 1.71	4.38C		2.54H	2.63	0.26	0.35	1.29J 0K		7.07E	
1.71 - 2.76	4.3C		1.64H	2.24	0.06	0.42	2.14J 0K		6.5E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.01												
0.01 - 0.12		8.78B		1659.9B	0.15A		0.60	36.57				
0.12 - 0.22		4.57B		3123.9B	0.18A		0.91	37.41				
0.22 - 0.57		2.31B		2287.5B	0.08A		0.88	24.39				
0.57 - 1.21		1.03B		2329.3B	0.01A		1.05	28.57				
1.21 - 1.71		0.36B		2234B	0A			31.2				
1.71 - 2.76		0.29B		3701.8B	0A			23.54				

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.01									
0.01 - 0.12									
0.12 - 0.22									
0.22 - 0.57									
0.57 - 1.21									
1.21 - 1.71									
1.71 - 2.76									

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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