Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0117** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: P. Ryan
Date Desc.: 25/04/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6054115 AMG zone: 55
Easting/Lat.: 605899 Datum: AGD66
Locality:
Elevation: 1269 metres
Rainfall: No Data
Runoff: No Data
Drainage: Well drained

Geology

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

Land Form

Rel/Slope Class: No Data
Morph. Type: Crest
Elem. Type: Hillcrest
Slope: 3 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 270 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
Humose-Acidic Dystrophic Red Dermosol Medium Non-gravelly Clay-loamy Clayey Moderately deep

ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn4.11
Great Soil Group: Chocolate soil

Site Disturbance:

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.05 m	Organic Layer; ;
A1	0.05 - 0.17 m	Dark reddish brown (5YR2.5/2-Moist); ; Clay loam; Strong grade of structure, 2-5 mm, Polyhedral; 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Field pH 5.5 (Raupach); Abundant, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Wavy change to -
A3	0.17 - 0.28 m	Dark reddish brown (5YR3/2-Moist); Biological mixing, 5YR34, 10-20% , Distinct; Silty clay; Strong grade of structure, 2-5 mm, Polyhedral; 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; 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	0.28 - 0.5 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 5YR33, 2-10% , Faint; Silty clay; Weak grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded, Basalt, coarse fragments; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to -
B22	0.5 - 0.85 m	Dark reddish brown (5YR3/4-Moist); ; Light medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Rough-ped fabric; Moist; Weak consistence; 20-50%, medium gravelly, 6-20mm, subrounded tabular, Basalt, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots;

Morphological Notes

A1	Strong structure due to worm casting.
A3	Strong structure due to worm casting.
B21	Structure almost disappears.

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B22	Large floaters appear at 0.60m. At 0.8m floaters form pavement with soil between flags. Could not auger this, although BC horizon may continue.

Observation Notes

Top of basalt flow west of Bullongra Rd. Adjacent to very large ash.Blackberries abundant

Site Notes

COMP 26H 2708-1 247D 70M FR BULLONGRA

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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 - 0.05										
0.05 - 0.17	4.18C		7.78H	2.49	1.11	0.13	10.25J 0K		21.76E	
0.17 - 0.28	4.34C		3.84H	1.49	0.93	0.09	6.62J 0K		12.97E	
0.28 - 0.5	4.32C		1.18H	0.7	0.72	0.08	4.47J 0K		7.14E	
0.5 - 0.85	4.2C		0.38H	0.26	0.47	0.07	4.64J 0K		5.83E	

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 - 0.05												
0.05 - 0.17		14.49B		1449.1B	0.51A		0.42	47.7				
0.17 - 0.28		8.49B		1742.3B	0.46A		0.61	28.07				
0.28 - 0.5		3.88B		1492.4B	0.24A		0.73	4.85				
0.5 - 0.85		2.87B		1721.5B	0.15A		0.69	11.61				

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 - 0.05									
0.05 - 0.17									
0.17 - 0.28									
0.28 - 0.5									
0.5 - 0.85									

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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