Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0157** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: P. Ryan
Date Desc.: 08/04/97
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6042066 AMG zone: 55
Easting/Lat.: 604923 Datum: AGD66
Locality:
Elevation: 1121 metres
Rainfall: No Data
Runoff: No Data
Drainage: No Data

Geology

ExposureType: Undisturbed soil core
Geol. Ref.: TB
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Tuff

Land Form

Rel/Slope Class: No Data
Morph. Type: Lower-slope
Elem. Type: Footslope
Slope: 2 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 90 degrees

Surface Soil Condition (dry): Loose

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Dystrophic Brown Dermosol Thin Non-gravelly Clayey Clayey Very deep
Mapping Unit: N/A
Principal Profile Form: Uf6.31

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

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.01 m	Organic Layer; ;
A1	0.01 - 0.04 m	Dark brown (7.5YR3/2-Moist); ; Silty clay; Moderate grade of structure, 2-5 mm, Polyhedral; Rough-ped fabric; Dry; Weak consistence; Field pH 5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Abrupt change to -
B21	0.04 - 0.24 m	Dark reddish brown (5YR3/3-Moist); ; Silty clay; Strong grade of structure, 2-5 mm, Polyhedral; 5-10 mm, Polyhedral; Smooth-ped fabric; Dry; Firm consistence; 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; Clear change to -
B22	0.24 - 0.6 m	Strong brown (7.5YR4/6-Moist); ; Light medium clay; Moderate grade of structure, 5-10 mm, Polyhedral; 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear change to -
B23	0.6 - 0.74 m	Yellowish brown (10YR5/6-Moist); ; Silty clay; Strong grade of structure, 5-10 mm, Polyhedral; 2-5 mm, Polyhedral; Smooth-ped fabric; Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subangular, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual change to -
2B31	0.74 - 1.11 m	Dark yellowish brown (10YR4/6-Moist); Substrate influence, 2.5Y52, 20-50% , Faint; Substrate influence, 5YR46, 2-10% , Distinct; Silty clay loam; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Moderately moist; Very firm consistence; 20-50%, medium gravelly, 6-20mm, subangular, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, distinct; Common (10 - 20 %), Manganiferous, Very coarse (20 - 60 mm), Veins, weak, segregations;Field pH 4.5 (Raupach); Clear change to -
2B32	1.11 - 2.36 m	Dark yellowish brown (10YR3/6-Moist); Substrate influence, 5Y82, 20-50% , Prominent; Silty clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 10-20%, medium gravelly, 6-20mm, subangular, coarse fragments; Few (2 - 10 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations, weak, segregations;Field pH 4.5 (Raupach); Clear change to -

Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0157** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

2C11	2.36 - 3.14 m	Brown (7.5YR4/3-Moist); Substrate influence, 7.5YR56, 10-20% , Distinct; Substrate influence, 5G61, 2-10% , Distinct; Clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, Tuff, coarse fragments; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Veins; Field pH 4 (Raupach); Diffuse change to -
2C12	3.14 - 4.09 m	Dark reddish brown (5YR3/2-Moist); Substrate influence, 7.5YR56, 10-20% , Distinct; Substrate influence, 10YR76, 2-10% , Distinct; Clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 20-50%, coarse gravelly, 20-60mm, Tuff, coarse fragments; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Veins; Field pH 4.5 (Raupach); Clear change to -
2C2	4.09 - 4.51 m	Grey (5Y5/1-Moist); Substrate influence, 7.5YR56, 2-10% , Distinct; Clay loam; Massive grade of structure; Earthy fabric; Moist; Firm consistence; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Soft segregations; Common (10 - 20 %), Manganiferous, Medium (2 -6 mm), Veins; Field pH 4.5 (Raupach);

Morphological Notes

2B31	Possible change of parent material to fine grained tuff. Appearance of prominent Mn segregations.
2B32	Tuffacious rock fragments moderately weathered separated by very pale mottles.
2C11	Pale mottle disappears. Weathered tuff is dark chocolate brown with Mn segregations fragments of slightly weathered tuff appear as bluey-grey mottles.
2C12	Dark chocolate weathered tuff predominates.
2C2	Less weathered tuff fragmented with orange weathering sufaces.

Observation Notes

Broad flat area nth. of Burra rd. Basalt outcropping north and south of McCabes Gully.

Site Notes

BURRA RD, 1KM EAST OF BM56, N OF RD

Project Name: BAGO-MARAGLE FOREST SOIL SURVEY
Project Code: BGM_FSS **Site ID:** 0157 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

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 - 0.04	4.48C		12.19H	4	1.5	0	3.26J 0K		20.96E	
0.04 - 0.24	4.29C		1.06H	0.72	0.46	0	3.57J 0K		5.8E	
0.24 - 0.6	4.04C		0.39H	0.97	0.79	0	11.82J 0K		13.97E	
0.6 - 0.74	4.05C		0.24H	1.16	0.55	0	9.44J 0K		11.39E	
0.74 - 1.11	4.03C		0.06H	1.55	0.12	0.12	10.92J 0K		12.76E	
1.11 - 2.36	3.97C		1.69H	4.05	0.16	0.11	17.9J 0K		23.91E	
2.36 - 3.14	4C		2.32H	4.05	0.2	0.03	13.44J 0K		20.04E	
3.14 - 4.09	4.15C		2.39H	3.18	0.42	0.03	6.56J 0K		12.58E	
4.09 - 4.51	4.11C		6.66H	8.16	0.75	0.11	16.04J 0K		31.72E	

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 - 0.04		9.96B		2115.4B	0.33A		0.89	17.41				
0.04 - 0.24		2.57B		1789.1B	0.14A		1.06	29.41				
0.24 - 0.6		1.54B		2060.9B	0.1A		0.93	25.6				
0.6 - 0.74		0.73B		1700.2B	0.05A			26.43				
0.74 - 1.11		0.09B		3187.3B	0.01A			0.59				
1.11 - 2.36		0.27B		2540.1B	0.02A			32.1				
2.36 - 3.14		0.06B		1580.9B	0A			9.93				
3.14 - 4.09		0.06B		7573.7B	0.01A			10.73				
4.09 - 4.51		0.05B		3311.7B	0A			40.7				

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 - 0.04									
0.04 - 0.24									
0.24 - 0.6									
0.6 - 0.74									
0.74 - 1.11									
1.11 - 2.36									
2.36 - 3.14									
3.14 - 4.09									
4.09 - 4.51									

Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0157** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

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