

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0155 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Site Information**

<b>Desc. By:</b>	P. Ryan	<b>Locality:</b>	
<b>Date Desc.:</b>	08/04/97	<b>Elevation:</b>	1289 metres
<b>Map Ref.:</b>	Sheet No. : 8526 DGPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6049535 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	606297 Datum: AGD66	<b>Drainage:</b>	Well drained

**Geology**

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	Probable
<b>Geol. Ref.:</b>	Sgg	<b>Substrate Material:</b>	Granodiorite

**Land Form**

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	Flat	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillcrest	<b>Slope Category:</b>	No Data
<b>Slope:</b>	2 %	<b>Aspect:</b>	45 degrees

**Surface Soil Condition (dry):** Firm

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Acidic Dystrophic Brown Dermosol Thin Non-gravelly Silty Clayey Very deep		<b>Principal Profile Form:</b>	Um6.32
<b>ASC Confidence:</b>		<b>Great Soil Group:</b>	No suitable group
All necessary analytical data are available.			

**Site Disturbance:** No effective disturbance. Natural

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

O1	0 - 0.02 m	Organic Layer; ;
A1	0.02 - 0.11 m	(7.5YR2.5/2-Moist); ; Silty clay loam; Moderate grade of structure, 5-10 mm, Polyhedral; 2-5 mm, Polyhedral; Smooth-ped fabric; Dry; Weak consistence; Few cutans, <10% of ped faces or walls coated, distinct; Field pH 4.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Clear change to -
B21	0.11 - 0.3 m	Dark brown (7.5YR3/4-Moist); ; Silty clay loam; Moderate grade of structure, 5-10 mm, Polyhedral; 2-5 mm, Polyhedral; Smooth-ped fabric; Dry; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 4 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Gradual change to -
B22	0.3 - 0.48 m	Strong brown (7.5YR4/6-Moist); ; Silty clay; Moderate grade of structure, 5-10 mm, Subangular blocky; 2-5 mm, Polyhedral; Smooth-ped fabric; Dry; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 4 (Raupach); Few, very fine (0-1mm) roots; Gradual change to -
B3	0.48 - 0.95 m	Yellowish brown (10YR5/6-Moist); ; Silty clay loam; Weak grade of structure, 10-20 mm, Angular blocky; Earthy fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 4 (Raupach); Few, very fine (0-1mm) roots; Clear change to -
C1	0.95 - 1.47 m	Light brownish grey (2.5Y6/3-Moist); ; Coarse sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Weak consistence; Field pH 4 (Raupach); Gradual change to -
C2	1.47 - 2.52 m	Pale yellow (2.5Y7/3-Moist); Substrate influence, 2.5Y76, 10-20% , Faint; Substrate influence, 2.5Y2.51, 2-10% , Distinct; Loamy coarse sand; Massive grade of structure; Sandy (grains prominent) fabric; Weak consistence; 2-10%, coarse gravelly, 20-60mm, subrounded platy, Granodiorite, coarse fragments; Field pH 5 (Raupach);

**Morphological Notes**

C1	Clear change to weathering granodiorite - pale.
C2	Weathering granodiorite, feldspar and Fe-Mn minerals. Banding of Ferro-Manganese minerals.

**Observation Notes**

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Site is 50m north of Bulongra rd, 1km east of BM154.

**Site Notes**

BULONGA RD, 1KM EAST OF BM154

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.02										
0.02 - 0.11	4.15C		0.58H	0.56	0.58	0	6.51J OK		8.23E	
0.11 - 0.3	4.06C		0.46H	0.51	0.44	0	6.16J OK		7.58E	
0.3 - 0.48	3.99C		0.47H	0.58	0.38	0	5.93J OK		7.36E	
0.48 - 0.95	3.94C		0.05H	0.34	0.16	0	4.88J OK		5.43E	
0.95 - 1.47	4.08C		0.07H	0.1	0.12	0.02	1.16J OK		1.46E	
1.47 - 2.52	4.16C		0.06H	0.1	0.05	0	0.77J OK		0.98E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02												
0.02 - 0.11		4.79B		1009.4B	0.27A		0.91	8.44				
0.11 - 0.3		1.84B		724B	0.12A		1.07	6.21				
0.3 - 0.48		0.77B		463.4B	0.07A		1.01	4.26				
0.48 - 0.95		0.19B		333.1B	0.02A		1.47	6.17				
0.95 - 1.47		0.07B		396.2B	0.01A			7.81				
1.47 - 2.52		0.04B		257.3B	0A			12.69				

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
m		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
			g/g - m3/m3						mm/h
									mm/h

0 - 0.02  
 0.02 - 0.11  
 0.11 - 0.3  
 0.3 - 0.48  
 0.48 - 0.95  
 0.95 - 1.47  
 1.47 - 2.52

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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 (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