

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0052 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

**Site Information**

<b>Desc. By:</b>	N.J. McKenzie	<b>Locality:</b>	
<b>Date Desc.:</b>	09/01/96	<b>Elevation:</b>	1096 metres
<b>Map Ref.:</b>	Sheet No. : 8526 DGPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6027056 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	615975 Datum: AGD66	<b>Drainage:</b>	Rapidly drained

**Geology**

<b>ExposureType:</b>	No Data	<b>Conf. Sub. is Parent. Mat.:</b>	Probable
<b>Geol. Ref.:</b>	Dga	<b>Substrate Material:</b>	Adamellite

**Land Form**

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	Upper-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	No Data
<b>Slope:</b>	20 %	<b>Aspect:</b>	225 degrees

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

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Acidic Mesotrophic Red Kandosol Medium Non-gravelly Clay-loamy Clayey Very deep	<b>Principal Profile Form:</b>	Gn4.11

<b>ASC Confidence:</b>	<b>Great Soil Group:</b>	N/A
All necessary analytical data are available.		

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

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

A11	0 - 0.12 m	Dark reddish brown (5YR3/2-Moist); ; Clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; 5-10 mm, Granular; Rough-ped fabric; Moist; Very weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
A3	0.12 - 0.22 m	Reddish brown (5YR4/4-Moist); Biological mixing, 5YR32, 20-50% , Distinct; Light clay; Moderate grade of structure, 10-20 mm, Polyhedral; 5-10 mm, Granular; Rough-ped fabric; Moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
B21	0.22 - 0.48 m	Reddish brown (5YR4/4-Moist); Biological mixing, 5YR32, 2-10% , Distinct; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 4.5 (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	0.48 - 0.78 m	Yellowish red (5YR4/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Smooth change to -
C11	0.78 - 1.25 m	Reddish yellow (5YR6/8-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
C12	1.25 - 1.85 m	Reddish yellow (5YR7/6-Moist); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6.5 (Raupach); Gradual, Smooth change to -

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- C2      1.85 - 2.5 m      Reddish yellow (7.5YR7/6-Moist); Mottles, 7.5YR68; Mottles, 10R66; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 5.5 (Raupach); Clear, Smooth change to -
- C3      2.5 - 2.95 m      Light reddish brown (2.5YR6/4-Moist); Mottles, 10YR53; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Very weak consistence; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 5.5 (Raupach);

**Morphological Notes**

- A11      Abundant    bioturbation
- A3      Surprisingly high clay content.
- B21      Difficult to assess grade of pedality (weak-moderate).  
C11      Clear break from solum - coarse frags are more abundant.  
C12      Typical pale C horizon but see below.
- C2      Banded layer with colours as per the mottles - iron migration may be cause, but features may also be inherited.
- C3      Micas are weakly weathered ground rock.

**Observation Notes**

**Site Notes**

COMP 40H,4084-1,BRG 122D,100M FR RIDGE

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**Laboratory Test Results:**

Depth m	pH	1:5 EC dS/m	Exchangeable Cations				Exchangeable Acidity Na Cmol (+)/kg	CEC	ECEC	ESP %
			Ca	Mg	K					
0 - 0.12	4.61C		8.75H	1.65	0.85	0	1.24J 0K		12.49E	
0.12 - 0.22	4.69C		5.48H	1.31	0.92	0	1.09J 0K		8.79E	
0.22 - 0.48	4.09C		2.31H	0.83	0.68	0	3.35J 0K		7.16E	
0.48 - 0.78	4.19C		2.83H	0.96	0.6	0.02	2.36J 0K		6.77E	
0.78 - 1.25	4.75C		1.62H	0.57	0.8	0.03	0.08J 0K		3.1E	
1.25 - 1.85	4.7C		0.84H	0.35	0.75	0.03	0.15J 0K		2.11E	
0 - 2.5	4.37C		0.9H	0.76	0.4	0.01	0.51J 0K		2.56E	
2.5 - 2.95	4.09C		0.07H	0.36	0.45	0.01	1.35J 0K		2.24E	

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
	%	C	P	P	N	K		Density	GV		CS	FS
m		%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.12		5.74B		284.5B	0.21A		1.09		46.06			
0.12 - 0.22		2.68B		242B	0.11A		1.29		36.67			
0.22 - 0.48		1.14B		198.5B	0.05A		1.21		42.48			
0.48 - 0.78		0.69B		171.9B	0.03A		1.14		36.39			
0.78 - 1.25		0.17B		79.8B	0.01A				33.95			
1.25 - 1.85		0.11B		49.9B	0A				31.95			
0 - 2.5		0.09B		43.2B	0A				41.78			
2.5 - 2.95		0.06B		43.4B	0A				29.44			

[illegible]

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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