

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0133 **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>	16/05/96	<b>Elevation:</b>	1187 metres
<b>Map Ref.:</b>	Sheet No. : 8526 DGPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6052829 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	606484 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>	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>	Mid-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	No Data
<b>Slope:</b>	15 %	<b>Aspect:</b>	270 degrees

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

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Acidic Dystrophic Red Kandosol Thin Non-gravelly Silty 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 other than grazing by hoofed animals

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

O1	0 - 0.03 m	Organic Layer; ;
A1	0.03 - 0.08 m	Dark reddish brown (5YR2.5/2-Moist); ; Silty clay loam; Strong grade of structure, 5-10 mm, Granular; 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Abundant, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
A3	0.08 - 0.23 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 5YR32, 20-50% , Faint; Light clay; Strong grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B1	0.23 - 0.45 m	Dark reddish brown (5YR3/4-Moist); Biological mixing, 2.5YR34, 20-50% , Faint; Light clay; Strong grade of structure, 10-20 mm, Polyhedral; Rough-ped fabric; Moderately moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; 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, Smooth change to -
B21	0.45 - 0.76 m	Red (2.5YR4/6-Moist); Biological mixing, 2.5YR34, 10-20% , Faint; Light clay; Moderate grade of structure, 10-20 mm, Polyhedral; 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm 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; Gradual, Smooth change to -
B22	0.76 - 1.88 m	Red (2.5YR4/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
B23	1.88 - 2.33 m	Red (2.5YR4/7-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach);

**Morphological Notes**

A1	Thin loose - most organic matter is quickly incorporated by worms.
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A3      Strong pedality due to abundant worms. Most channels are back filled.

B1      some very large macropores (8mm) blind crickets? Funnel webs?  
B21      Strong red B2 with pedality diminishing.

B22      Large root at base of layer.

B23      Slight yellowing and auger stopped by a large floater. Micas evident but not abundant.

**Observation Notes**

Open unlogged stand on peninsular surrounded on three sides by a creek. Deep red gradational profile with abundant worm activity in top 0.5m. Expected a    more yellow.

**Site Notes**

COMP 35H 14787-1 62.5 570M FROM RDS

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**Laboratory Test Results:**

Depth m	pH	1:5 EC dS/m	Ca	Exchangeable Mg	Cations K	Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
0 - 0.03										
0.03 - 0.08	4.75C		34.87H	5.28	1.87	0.38	0.61J 0K		43.01E	
0.08 - 0.23	4.34C		4.22H	1.28	1.59	0.07	4.86J 0K		12.02E	
0.23 - 0.45	4.18C		1.42H	0.91	1.03	0.03	4.6J 0K		8E	
0.45 - 0.76	4.02C		0.32H	0.81	0.67	0.05	5.3J 0K		7.14E	
0.76 - 1.88	3.97C		0.11H	0.45	0.66	0.01	5.51J 0K		6.73E	
1.88 - 2.33	3.94C		0.05H	0.21	0.46	0.02	5.02J 0K		5.76E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle		Size	Analysis	
								GV	CS		FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.03												
0.03 - 0.08		22.26B		709.3B	0.53A				49.11			
0.08 - 0.23		4.92B		630.7B	0.25A		1.03		31.87			
0.23 - 0.45		2.53B		536.1B	0.15A		1.15		29.39			
0.45 - 0.76		0.94B		470.6B	0.06A		1.20		14.93			
0.76 - 1.88		0.37B		427.9B	0.04A		1.35		10.71			
1.88 - 2.33		0.25B		355.6B	0.03A				8.33			

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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