

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0108 **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>	23/04/96	<b>Elevation:</b>	1090 metres
<b>Map Ref.:</b>	Sheet No. : 8526 DGPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6054533 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	611232 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>	Upper-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	No Data
<b>Slope:</b>	12 %	<b>Aspect:</b>	315 degrees

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Acidic Dystrophic Red Kandosol Medium Non-gravelly Silty Clayey Very deep	<b>Principal Profile Form:</b>	Gn2.11

<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 - 0.02 m	Organic Layer; ;
A1	0.02 - 0.16 m	Dark reddish brown (5YR3/4-Moist); ; Silty clay loam; Moderate grade of structure, 10-20 mm, Polyhedral; 5-10 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm 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; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.16 - 0.4 m	Dark red (2.5YR3/6-Moist); ; Light clay; Weak grade of structure, 20-50 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); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B22	0.4 - 0.64 m	Dark red (2.5YR3/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; 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; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
B23	0.64 - 1.82 m	Dark red (2.5YR3/6-Moist); ; Silty clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Smooth change to -
C1	1.82 - 2.42 m	Brownish yellow (10YR6/6-Moist); ; Loamy sand; Massive grade of structure; Moderately moist; Very weak consistence; Field pH 5.5 (Raupach); Gradual, Smooth change to -
C2	2.42 - 3.02 m	Light yellowish brown (10YR6/4-Moist); ; Loamy sand; Massive grade of structure; Moderately moist; Very weak consistence; Field pH 5.5 (Raupach);

#### Morphological Notes

A1	Significant worm activity but relatively low organic matter. A1 horizon may have been removed by logging. Horizon has a reddish colour due to mixing from belo-w.
B21	Several large roots in pit from nearby peppermint.
B22	Texture starts to lighten.

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B23	Much more dense horizon with earth fabric and massive pedality.
C1	Yellow sandy C horizon with mafic minerals - whole coloured.
C2	Mafic minerals increase but very similar to layer 5.

**Observation Notes**

Similar to site 107 but less OM. Site may have been burnt or disturbed by logging. Again the profile may not be old - a younger transportational site.

**Site Notes**

COMP 30H 9224-2 22D 600M FROM ROAD

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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 - 0.16	4.28C		3.42H	1.26	0.58	0.14	3.07J OK		8.47E	
0.16 - 0.4	4.05C		0.77H	0.94	0.56	0.06	3.17J OK		5.51E	
0.4 - 0.64	4.12C		0.39H	1.12	0.87	0.09	2.63J OK		5.1E	
0.64 - 1.82	4.06C		0H	0.57	0.55	0.08	2.85J OK		4.05E	
1.82 - 2.42	4.29C		0H	0.12	0.23	0.09	0.58J OK		1.02E	
2.42 - 3.02	4.3C		0.82H	1.07	0.87	0.11	4.22J OK		7.08E	

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 - 0.16		3.82B		231.4B	0.16A		0.86	27.24				
0.16 - 0.4		1.37B		159.9B	0.08A		0.99	20.39				
0.4 - 0.64		0.58B		110.4B	0.04A		1.06	23.11				
0.64 - 1.82		0.18B		103.4B	0.02A		1.28	22.46				
1.82 - 2.42		0.06B		69.3B	0A			4.23				
2.42 - 3.02		0.05B		78.8B	0A			4.12				

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						

0 - 0.02  
 0.02 - 0.16  
 0.16 - 0.4  
 0.4 - 0.64  
 0.64 - 1.82  
 1.82 - 2.42  
 2.42 - 3.02

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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