

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0030 **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> 16/02/96	<b>Elevation:</b> 1044 metres
<b>Map Ref.:</b> Sheet No. : 8526 DGPS	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6027594 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 614208 Datum: AGD66	<b>Drainage:</b> Poorly drained

#### Geology

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

#### Land Form

<b>Rel/Slope Class:</b> No Data	<b>Pattern Type:</b> No Data
<b>Morph. Type:</b> Open depression (vale)	<b>Relief:</b> No Data
<b>Elem. Type:</b> Drainage depression	<b>Slope Category:</b> No Data
<b>Slope:</b> 8 %	<b>Aspect:</b> 0 degrees

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b> N/A
Acidic Kandosolic Redoxic Hydrosol Medium Non-gravelly	<b>Principal Profile Form:</b> Um5.52
Clay-loamy Clay-loamy Very deep	
<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

A1	0 - 0.18 m	Very dark grey (10YR3/1-Moist); ; Medium sandy clay loam (Sapric); Rough-ped fabric; Wet; Weak consistence; Field pH 5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
B21	0.18 - 0.48 m	Grey (10YR5/1-Moist); Substrate influence, 10YR54, 2-10% , Distinct; Substrate influence, 7.5YR46, 0-2% , Distinct; Clay loam, sandy; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.48 - 0.8 m	Grey (10YR5/1-Moist); Substrate influence, 10YR54, 0-2% , Distinct; Clay loam, sandy; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Diffuse, Smooth change to -
B23	0.8 - 1.4 m	Grey (10YR6/1-Moist); Substrate influence, 10YR72, 20-50% , Faint; Substrate influence, 7.5YR68, 10-20% , Prominent; Clay loam, coarse sandy; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Abrupt, Smooth change to -
2A	1.4 - 1.5 m	Grey (10YR5/1-Moist); Substrate influence, 10YR63, 20-50% , Faint; Substrate influence, 7.5YR68, 10-20% , Prominent; Medium sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Wet; Very weak consistence; 20-50%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Smooth change to -
2B	1.5 - 1.7 m	Grey (10YR6/1-Moist); ; Medium clay; Rough-ped fabric; Wet; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (Raupach);

#### Morphological Notes

A1	Very organic, saturated with gentle overland flow.
B21	Gleyed, gritty adamellite, colluvial origin.
B22	Same as layer 2.

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B23      Medium clay prisms, with gritty clay loam material in between clay having more mottles.  
Is this hexagonal pattern periglacial? Coarse material has colluvial origin, med. clay  
alluvial.

2A      Medium clay base connected to medium clay in layer 4.

2B      Layer continues - equipment refusal. Very coarse sandy layer - may be very thin but very  
difficult due to slurry in the auger hole.

**Observation Notes**

Edge of swamp with overland and throughflow in upper part of the profile

**Site Notes**

COMP38H,76921-1,BRG199,325M FR 76618-1

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.18	3.98C		1.43H	1.55	0.41	0.1	1.84J 0.02K	5.35E	
0.18 - 0.48	3.79C		0.13H	0.37	0.26	0.05	1.32J 0K	2.13E	
0.48 - 0.8	3.75C		0.11H	0.26	0.24	0	1.38J 0K	1.99E	
0.8 - 1.4	3.88C		0.13H	0.32	0.21	0.02	1.45J 0K	2.13E	
1.4 - 1.5	3.82C		0.69H	0.91	0.46	0.06	2.62J 0K	4.73E	
1.5 - 1.7	4C		1.35H	1.25	0.53	0.09	1.27J 0K	4.5E	

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
		%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.18		3.32B		194.1B	0.15A							
0.18 - 0.48		0.8B		69.9B	0.04A		0.92					
0.48 - 0.8		0.54B		75.5B	0.03A		1.50					
0.8 - 1.4		0.41B		39.2B	0.02A		1.50					
1.4 - 1.5		0.48B		75.3B	0.02A							
1.5 - 1.7		0.24B		49.3B	0.01A							

[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