

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0067 **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>	22/02/96	<b>Elevation:</b>	949 metres
<b>Map Ref.:</b>	Sheet No. : 8526 DGPS	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6023279 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	613175 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>	Lower-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	No Data
<b>Slope:</b>	42 %	<b>Aspect:</b>	135 degrees

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

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b>	N/A
Haplic Mesotrophic Red Kandosol Medium Gravelly Clay-loamy Clay-loamy Very deep	<b>Principal Profile Form:</b>	Um6.

<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; ;
A11	0.02 - 0.16 m	Very dark grey (5YR3/1-Moist); ; Clay loam; Strong grade of structure, 5-10 mm, Granular; 2-5 mm, Granular; Rough-ped fabric; Dry; Firm consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 10-20%, cobbly, 60-200mm, subrounded tabular, dispersed, Adamellite, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Smooth change to -
A12	0.16 - 0.44 m	Brown (7.5YR4/4-Moist); Biological mixing, 5YR31, 2-10% , Faint; Biological mixing, 7.5YR42, 2-10% , Faint; Clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 2-10%, cobbly, 60-200mm, subrounded tabular, dispersed, Adamellite, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6.5 (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 -
B21	0.44 - 0.8 m	Yellowish red (5YR4/5-Moist); Biological mixing, 5YR43, 2-10% , Faint; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 0-2%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 2-10%, coarse gravelly, 20-60mm, subrounded tabular, dispersed, Adamellite, coarse fragments; Few cutans, <10% 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; Few, coarse (>5mm) roots; Gradual, Smooth change to -
B22	0.8 - 1.62 m	Yellowish red (5YR5/5-Moist); ; Clay loam; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moderately moist; Weak consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; 0-2%, coarse gravelly, 20-60mm, subrounded tabular, dispersed, Adamellite, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Diffuse, Smooth change to -

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- B31      1.62 - 2.42 m      Reddish yellow (5YR6/8-Moist); ; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6 (Raupach); Diffuse, Smooth change to -
- B32      2.42 - 3.02 m      Reddish yellow (5YR6/8-Moist); ; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 6 (Raupach);

**Morphological Notes**

- A11      Very granular thick A horizon.
- B21      Max. B2 development - less coarse sand than layers 2 or 3.
- B31      Yellowing with some weathered adamellite soft areas.
- B32      Slight yellowing CF's but not a complete munsell chip colour.

**Observation Notes**

Moist SW aspect giving high OM and well structured A1 horizon. Very deep whole coloured B3 horizons. Deep colluvial footslope. Weakly developed B2 hor. Similar to other Dga profiles in local area.

**Site Notes**

COMP 39H,9936-1,25M FR RD/CK JCN

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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 - 0.02										
0.02 - 0.16	5.06C		15.1H	2.37	1.25	0.05	0.53J 0K		19.31E	
0.16 - 0.44	4.91C		4.99H	0.68	0.9	0.04	0.73J 0K		7.33E	
0.44 - 0.8	4.76C		2.24H	0.67	0.61	0.05	0.49J 0K		4.05E	
0.8 - 1.62	4.81C		1.43H	0.77	0.45	0.03	0.24J 0K		2.92E	
1.62 - 2.42	4.92C		1.4H	0.8	0.91	0.03	0.04J 0.02K		3.21E	
2.42 - 3.02	4.77C		0.87H	0.64	0.52	0.03	0.07J 0K		2.13E	

Depth m	CaCO3 %	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle		Size FS %	Analysis	
								GV	CS		Silt	Clay
0 - 0.02												
0.02 - 0.16		7.09B		1107.4B	0.35A		0.82		24.08			
0.16 - 0.44		1.66B		400.9B	0.1A		0.93		24.43			
0.44 - 0.8		0.57B		183.4B	0.04A		1.29		21.22			
0.8 - 1.62		0.22B		94.5B	0.01A		1.45		21.51			
1.62 - 2.42		0.11B		73.5B	0.01A				9.4			
2.42 - 3.02		0.08B		63.5B	0A				7.76			

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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