

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0145 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

<b>Desc. By:</b> P. Ryan	<b>Locality:</b>
<b>Date Desc.:</b> 10/03/97	<b>Elevation:</b> 1156 metres
<b>Map Ref.:</b> Sheet No. : 8526 DGPS	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6051227 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 599232 Datum: AGD66	<b>Drainage:</b> Well drained

#### Geology

<b>ExposureType:</b> Soil pit	<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> 30 %	<b>Aspect:</b> 135 degrees

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

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	<b>Mapping Unit:</b> N/A
Acidic Dystrophic Red Kandosol Medium Gravelly Clay-loamy Clay-loamy Very deep	<b>Principal Profile Form:</b> Gn2.21
<b>ASC Confidence:</b>	<b>Great Soil Group:</b> Red earth
All necessary analytical data are available.	

**Site Disturbance:** No effective disturbance other than grazing by hoofed animals

#### Vegetation:

**Surface Coarse Fragments:** 10-20%, stony, 200-600mm, rounded tabular, Granodiorite

#### Profile Morphology

O1	0 - 0.02 m	Organic Layer; ;
A1	0.02 - 0.16 m	Dark reddish brown (5YR2.5/2-Moist); Biological mixing, 7.5YR44, 2-10% , Faint; Coarse sandy clay loam; Weak grade of structure, 2-5 mm, Granular; Rough-ped fabric; Dry; Very weak consistence; 10-20%, medium gravelly, 6-20mm, subrounded tabular, Granodiorite, coarse fragments; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Abrupt, Smooth change to -
A3	0.16 - 0.28 m	Dark reddish brown (5YR3/2-Moist); Biological mixing, 5YR2.52, 2-10% , Faint; Mechanical, 7.5YR46, 0-2% , Distinct; Clay loam; Moderate grade of structure, 5-10 mm, Polyhedral; 2-5 mm, Polyhedral; Rough-ped fabric; Dry; Weak consistence; 2-10%, medium gravelly, 6-20mm, subangular, Granodiorite, coarse fragments; 2-10%, medium gravelly, 6-20mm, angular tabular, Coal, coarse fragments; Field pH 5.5 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Irregular change to -
B1	0.28 - 0.42 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 7.5YR2.52, 2-10% , Faint; Clay loam, sandy; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Dry; Weak consistence; Field pH 5.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Clear, Irregular change to -
B21	0.42 - 0.72 m	Yellowish red (5YR4/6-Moist); ; Clay loam; Weak grade of structure, 10-20 mm, Subangular blocky; 2-5 mm, Polyhedral; Rough-ped 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; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Gradual, Wavy change to -
B22	0.72 - 1.22 m	Yellowish red (5YR5/8-Moist); ; Clay loam, sandy; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, stony, 200-600mm, rounded tabular, Granodiorite, coarse fragments; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Clear change to -
B3	1.22 - 1.52 m	Strong brown (7.5YR5/8-Moist); ; Coarse sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Weak consistence; Field pH 4.5 (Raupach);

#### Morphological Notes

A3	Oblique line of discontinuous material from B2 horizon.
B1	Lower horizon boundary highly variable indicating possible past disturbance.

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B22      Two large boulders projecting into pit.

**Observation Notes**

Hardys sugarloaf summit. High K site.

**Site Notes**

HARDYS SUGARLOAF, SW SLOPE BELOW CRES

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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	4.64C		12.01H	2.51	0.91	0	1.38J 0.35K		17.16E	
0.16 - 0.28	4.61C		1.4H	0.22	0.18	0	1.27J 0K		3.07E	
0.28 - 0.42	4.7C		1.19H	0.27	0.39	0	1.51J 0K		3.35E	
0.42 - 0.72	4.33C		1.07H	0.56	0.59	0	2.29J 0K		4.5E	
0.72 - 1.22	4.07C		0.02H	0.02	0.11	0	1.21J 0K		1.36E	
1.22 - 1.52	4.03C		0.12H	1.33	0.51	0	4.5J 0K		6.45E	

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 - 0.02												
0.02 - 0.16		7.88B		537.2B	0.33A		0.75	40.86				
0.16 - 0.28		3.78B		426.8B	0.18A		1.23	13.87				
0.28 - 0.42		2.07B		501.9B	0.09A		1.24	5.94				
0.42 - 0.72		0.84B		398.1B	0.05A		1.27	2.98				
0.72 - 1.22		0.52B		538.6B	0.03A			7.51				
1.22 - 1.52		0.29B		159.7B	0.02A			8.64				

[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