Project Name: **BAGO-MARAGLE FOREST SOIL SURVEY**
Project Code: **BGM_FSS** **Site ID:** **0069** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 21/02/96
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6022310 AMG zone: 55
Easting/Lat.: 613273 Datum: AGD66
Locality:
Elevation: 875 metres
Rainfall: No Data
Runoff: No Data
Drainage: Rapidly drained

Geology

ExposureType: No Data
Geol. Ref.: Dga
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Adamellite

Land Form

Rel/Slope Class: No Data
Morph. Type: Upper-slope
Elem. Type: Hillslope
Slope: 12 %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: 45 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Dystrophic Red Kandosol Medium Moderately gravelly Clay-loamy Clayey Very deep
Mapping Unit: N/A
Principal Profile Form: Gn4.14

ASC Confidence:
All necessary analytical data are available.
Great Soil Group: N/A

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.03 m	Organic Layer; ;
A1	0.03 - 0.17 m	Very dark grey (10YR3/1-Moist); ; Medium sandy clay loam; Weak grade of structure, 20-50 mm, Polyhedral; 10-20 mm, Polyhedral; Rough-ped fabric; Dry; Weak consistence; 20-50%, fine gravelly, 2-6mm, subangular, dispersed, Quartz, coarse fragments; 10-20%, cobbly, 60-200mm, angular tabular, dispersed, Adamellite, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Wavy change to -
A2	0.17 - 0.36 m	Brown (7.5YR5/4-Moist); Biological mixing, 2-10% , Distinct; Clay loam; Weak grade of structure, 20-50 mm, Polyhedral; Earthy fabric; Dry; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Field pH 6 (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	0.36 - 0.68 m	Yellowish red (5YR4/6-Moist); ; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Very firm consistence; 10-20%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 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; Diffuse, Smooth change to -
B22	0.68 - 1.13 m	Yellowish red (5YR5/6-Moist); Substrate influence, 10YR66, 20-50% , Distinct; Light clay; Weak grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moderately moist; Very firm consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B31	1.13 - 1.88 m	Reddish yellow (7.5YR6/7-Moist); Substrate influence, 10YR82, 2-10% , Distinct; Light clay; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 4.5 (Raupach); Gradual, Smooth change to -
B32	1.88 - 2.53 m	Reddish yellow (7.5YR7/8-Moist); Substrate influence, 10YR78; Clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 5.5 (Raupach); Diffuse, Smooth change to -

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B33	2.53 - 2.98 m	Yellow (10YR7/8-Moist); ; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 5.5 (Raupach); Clear, Smooth change to -
BC	2.88 - 3.23 m	Brownish yellow (10YR6/8-Moist); Substrate influence, 10YR82, 20-50% , Prominent; Medium sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Very weak consistence; 2-10%, fine gravelly, 2-6mm, angular, dispersed, Quartz, coarse fragments; 2-10%, fine gravelly, 2-6mm, subangular, dispersed, coarse fragments; Field pH 5.5 (Raupach);

Morphological Notes

A1	Enrichment of quartz coarse fragments and larger ademllite cobbles.
A2	A2 with only moderate macropores.
B21	Dense B2 but with well developed macropores. Red max and min coarse fragments.
B31	Charactertic yellow B3 seen on other deep crests on Dga.
B32	Layer continues.

Observation Notes

Similar to the set of six circuit - yellow BC with some mottles in layer 8 - maybe near the weathering front.

Site Notes

COMP 41H,11785-5,B110D,700M FR 1125-1

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.03										
0.03 - 0.17	4.51C		9.22H	1.79	0.58	0.05	1.48J 0K		13.12E	
0.17 - 0.36	4.54C		1.97H	0.81	0.53	0.06	0.64J 0K		4E	
0.36 - 0.68	4.2C		0.8H	0.89	0.68	0.05	1.55J 0K		3.98E	
0.68 - 1.13	4.08C		0.3H	0.77	0.59	0.08	2.1J 0K		3.84E	
1.13 - 1.88	4.15C		0.32H	0.68	0.59	0.13	1.37J 0K		3.09E	
1.88 - 2.53	4.12C		0.2H	0.68	0.39	0.06	0.77J 0K		2.09E	
2.53 - 2.98	4.28C		0.12H	0.98	0.54	0.08	0.54J 0K		2.26E	
2.88 - 3.23	4.25C		0.12H	1.19	0.57	0.06	0.62J 0K		2.56E	

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.03												
0.03 - 0.17		5.16B		204.6B	0.22A		0.99	25.45				
0.17 - 0.36		1.14B		65.5B	0.04A		1.40	26.04				
0.36 - 0.68		0.43B		60.3B	0.02A		1.56	31.74				
0.68 - 1.13		0.21B		61B	0.01A		1.46	33.6				
1.13 - 1.88		0.13B		36.1B	0.01A			27.69				
1.88 - 2.53		0.06B		53.3B	0A			14.12				
2.53 - 2.98		0.04B		23B	0A			11.03				
2.88 - 3.23		0.07B		27.2B	0A			13.33				

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.03									
0.03 - 0.17									
0.17 - 0.36									
0.36 - 0.68									
0.68 - 1.13									
1.13 - 1.88									
1.88 - 2.53									
2.53 - 2.98									
2.88 - 3.23									

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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