Project Name: **BAGO-MARAGLE ESM**
Project Code: **BGM_ESM** **Site ID:** **1013** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: P. Ryan
Date Desc.: 24/01/95
Map Ref.: Sheet No. : 8526 DGPS
Northing/Long.: 6056107 AMG zone: 55
Easting/Lat.: 606569 Datum: AGD66
Locality:
Elevation: 1214 metres
Rainfall: No Data
Runoff: Moderately rapid
Drainage: Well drained

Geology

ExposureType: Soil pit
Geol. Ref.: SGGH
Conf. Sub. is Parent. Mat.: Probable
Substrate Material: Granodiorite

Land Form

Rel/Slope Class: No Data
Morph. Type: Mid-slope
Elem. Type: Hillslope
Slope: 24 %
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 Mesotrophic Red Kandosol Medium Slightly gravelly Clay-loamy Clayey Very deep

ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Um7.11
Great Soil Group: Red earth

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments:

Profile Morphology

O1	0 - 0.02 m	Organic Layer; ;
A1	0.02 - 0.12 m	Dark reddish brown (5YR3/3-Moist); Biological mixing, 5YR44, 10-20% , Faint; Clay loam; Moderate grade of structure, <2 mm, Granular; 100-200 mm, Lenticular; Rough-ped fabric; Moderately moist; Weak consistence; 2-10%, fine gravelly, 2-6mm, angular tabular, dispersed, Coal, coarse fragments; Field pH 5.5 (pH meter); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Clear, Smooth change to -
B1	0.12 - 0.27 m	Reddish brown (2.5YR4/4-Moist); Biological mixing, 5YR33, 10-20% , Faint; Clay loam; Moderate grade of structure, 2-5 mm, Polyhedral; Rough-ped fabric; Moderately moist; Firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5.5 (pH meter); Few, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Many, medium (2-5mm) roots; Common, coarse (>5mm) roots; Clear, Smooth change to -
B21	0.27 - 0.57 m	Reddish brown (2.5YR4/4-Moist); Biological mixing, 2-10% , Distinct; Light clay; Weak grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; 0-2%, fine gravelly, 2-6mm, angular tabular, dispersed, Coal, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Gradual, Smooth change to -
B22	0.57 - 0.92 m	Red (2.5YR4/6-Moist); Biological mixing, 0-2% , Distinct; Light clay; Massive grade of structure; Earthy fabric; Moist; Weak consistence; Field pH 5 (pH meter); Gradual, Irregular change to -
B3	0.92 - 1.42 m	Red (2.5YR4/6-Moist); ; Light clay; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 2-10%, medium gravelly, 6-20mm, subangular platy, dispersed, coarse fragments; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Clear change to -
C1	1.42 - 2.02 m	Brown (10YR5/3-Moist); ; Medium sandy clay loam; Field pH 5.5 (pH meter); Gradual change to -
C2	2.02 - 2.57 m	Light yellowish brown (2.5Y6/4-Moist); ; Medium sandy clay loam; Sandy (grains prominent) fabric; Moist; Field pH 6 (pH meter); Clear change to -
C3	2.57 - 2.92 m	Brownish yellow (10YR6/6-Moist); ; Medium sandy clay loam; Sandy (grains prominent) fabric; Moist; 2-10%, fine gravelly, 2-6mm, angular platy, dispersed, Quartz, coarse fragments; 10-20%, medium gravelly, 6-20mm, subrounded tabular, coarse fragments; Field pH 5.5 (pH meter);

Morphological Notes

B3 Gravel is schistose.

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C3 Colour and coarse fragments indicate schistose origin.

Observation Notes

Site Notes

PGP2, BAGO S.F., COMPT 10

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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							%
0.02 - 0.1	3.84C		2.71H	1.41	1.21	0.12	6.06J		11.51E	
	4.62A						0K			
0.15 - 0.25	3.95C		0.68H	0.82	0.97	0.07	4.13J		6.66E	
	4.97A						0K			
0.32 - 0.4	3.95C		0.64H	0.96	1.15	0.08	3.57J		6.39E	
	5.01A						0K			
0.67 - 0.77	3.9C		0.41H	1.02	0.87	0.07	4J		6.37E	
	4.88A						0K			
1.02 - 1.22	3.82C		0.1H	0.52	0.58	0.05	4.14J		5.38E	
	4.85A						0K			
1.62 - 1.82	4.02C		0.04H	0.17	0.26	0.04	0.8J		1.31E	
	5.23A						0K			
2.22 - 2.42	4.05C		0.04H	0.16	0.3	0.06	0.62J		1.18E	
	5.12A						0K			
2.72 - 2.92	3.98C		0.05H	0.17	0.37	0.08	0.96J		1.63E	
	5.08A						0K			

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			%		
0.02 - 0.1		7.05B		353B	0.25A		0.82	5.27				
0.15 - 0.25		1.79B		325.9B	0.1A		1.16	0.07				
0.32 - 0.4		1.39B		448.3B	0.06A		1.22	0.03				
0.67 - 0.77		0.32B		212.9B	0.02A		1.49	0.13				
1.02 - 1.22		0.23B		147.8B	0.02A			1.15				
1.62 - 1.82		0.05B		101.2B	0.01A			2.93				
2.22 - 2.42		0.06B		214.1B	0.01A			1.78				
2.72 - 2.92		0.08B		234.9B	0.01A			15.79				

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
0.02 - 0.1										
0.15 - 0.25										
0.32 - 0.4										
0.67 - 0.77										
1.02 - 1.22										
1.62 - 1.82										
2.22 - 2.42										
2.72 - 2.92										

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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
4A1	pH of 1:5 soil/water suspension
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