Project Name:
Project Code: **BGM_FSS** **Site ID:** **0164a** **Observation ID:** **1**
Agency Name: **CSIRO Land and Water (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	289 deg and 26m from compart 9A centre post. Stan's trail Maragle state forest.
Date Desc.:	23/03/00	**Elevation:**	No Data
Map Ref.:	DGPS	**Rainfall:**	No Data
Northing/Long.:	6034095 AMG zone: 55	**Runoff:**	Very slow
Easting/Lat.:	617069 Datum: AGD66	**Drainage:**	Well drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	Soil pit, Metamorphic rock (unidentified)

Land Form

Rel/Slope Class:	No Data	**Pattern Type:**	No Data
Morph. Type:	Mid-slope	**Relief:**	No Data
Elem. Type:	Hillslope	**Slope Category:**	Moderately inclined
Slope:	12 %	**Aspect:**	96 degrees

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification:
Red Kandosol Medium Non-gravelly Clay-loamy Clayey Very deep

Mapping Unit: N/A
Principal Profile Form: N/A

ASC Confidence:
No analytical data are available but confidence is fair.

Great Soil Group: N/A

Site Disturbance: Limited clearing, for example selective logging

Vegetation:
Low Strata - Fern, 0.26-0.5m, Mid-dense. *Species includes - None recorded
Mid Strata - Shrub, 1.01-3m, Closed or dense. *Species includes - None recorded
Tall Strata - Tree, >35.01m, Closed or dense. *Species includes - Eucalyptus delegatensis

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

O1	0 - 0.05 m	Organic Layer; , 0-0% ; Moderately moist; Firm consistence; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; Clear, Smooth change to -
A1	0.05 - 0.22 m	Very dark grey (5YR3/1-Moist); , 0-0% ; Silty clay loam; Strong grade of structure, 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Weak consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Abundant, coarse (>5mm) roots; Gradual, Smooth change to -
A3	0.22 - 0.38 m	Dusky red (2.5YR3/1-Moist); Biological mixing, 2.5YR32, 20-50% , 5-15mm, Faint; Silty clay loam; Moderate grade of structure, 5-10 mm, Granular; Rough-ped fabric; Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, faint; Field pH 5.5 (Raupach); Abundant, coarse (>5mm) roots; Gradual, Smooth change to -
B21	0.38 - 0.7 m	Red (2.5YR4/6-Moist); Biological mixing, 2.5YR51, 10-20% , 5-15mm, Distinct; Light clay; Weak grade of structure, 10-20 mm, Polyhedral; Earthy fabric; Moist; Very firm consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Many, coarse (>5mm) roots; Gradual, Smooth change to -
B22	0.7 - 0.95 m	Red (2.5YR4/8-Moist); , 0-0% ; Light clay; Massive grade of structure; Earthy fabric; Moist; Very firm consistence; Field pH 4.5 (Raupach); Few, medium (2-5mm) roots; Diffuse, Smooth change to -
B3	0.95 - m	Red (2.5YR4/8-Moist); Substrate influence, 7.5YR56, 0-2% , 15-30mm, Distinct; Light clay; Massive grade of structure; Earthy fabric; Moderately moist; Field pH 4.5 (Raupach); Few, medium (2-5mm) roots;

Morphological Notes

Observation Notes

Classic deep red Bago profile. V.earthy at depth, very gradational.

Site Notes

The profile description is from Maragle State Forest, Compartment 9A, plot BMP9 and the cores are from BMP9A (50m away). Hydraulic properties site.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m				Cmol (+)/kg				%
0 - 0.05										
0.07 - 0.145										
0.22 - 0.295										
0.4 - 0.475										
1.02 - 1.095										

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 - 0.05												
0.07 - 0.145							0.69					
							0.67					
							0.60					
							0.70					
							0.72					
0.22 - 0.295							0.97					
							0.97					
							1.13					
							1.11					
							1.08					
							0.95					
0.4 - 0.475							1.05					
							1.00					
							1.08					
							0.89					
							1.00					
1.02 - 1.095							1.46					
							1.56					
							1.35					
							1.71					
							1.71					

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 - 0.05										
0.07 - 0.145		0.5F	0.43F	0.39I		0.29E		0.21F		
		0.47F	0.42F	0.39I		0.28E		0.21F		
		0.58F	0.49F	0.46I		0.32E		0.24F		
		0.54F	0.44F	0.41I		0.32E		0.24F		
		0.42F	0.41F	0.39I		0.28E		0.2F		
0.22 - 0.295		0.5F	0.43F	0.4I		0.3E		0.25F		
		0.52F	0.46F	0.43I		0.33E		0.26F		
		0.47F	0.43F	0.41I		0.33E		0.27F		
		0.46F	0.42F	0.4I		0.33E		0.27F		
		0.44F	0.41F	0.4I		0.35E		0.27F		
		0.48F	0.43F	0.4I		0.35E		0.26F		

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0.4 - 0.475	0.52F	0.41F	0.37I	0.28E	0.21F	305.7E
	0.55F	0.39F	0.36I	0.27E	0.2F	422.3E
	0.54F	0.43F	0.39I	0.29E	0.23F	948.3E
	0.57F	0.42F	0.37I	0.24E	0.19F	351.6E
	0.56F	0.4F	0.37I	0.25E	0.21F	
1.02 - 1.095	0.41F	0.34F	0.31I	0.26E	0.2F	80.2E
	0.39F	0.34F	0.32I	0.25E	0.19F	10.8E
	0.41F	0.34F	0.31I	0.25E	0.19F	0.6E
	0.35F	0.33F	0.31I	0.27E	0.21F	0.9E
	0.34F	0.32F	0.31I	0.28E	0.22F	

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Laboratory Analyses Completed for this profile

P3A1	Bulk density - g/cm3
P3B2VL_1	1 BAR Moisture m3/m3 - Volumetric using disturbed sample on pressure plate
P3B2VL_15	15 BAR Moisture m3/m3 - Volumetric using disturbed sample on pressure plate
P3B3VLc003	0.03 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc005	0.05 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc01	0.1 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc03	0.3 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLc06	0.6 BAR Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate
P3B3VLcSAT	Saturated Moisture m3/m3 - Volumetric using undisturbed 98mm diameter core on suction plate
P4_sat_LOV	Saturated Hydraulic Conductivity - Modified (no de-aired water) Loveday falling head method using 98mm diameter cores