Project Name:
Project Code: **BGM_FSS** **Site ID:** **0022a** **Observation ID:** **1**
Agency Name: **CSIRO Land and Water (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	Upper Murray powerline Road
Date Desc.:	22/03/00	**Elevation:**	No Data
Map Ref.:	DGPS	**Rainfall:**	No Data
Northing/Long.:	6023735 AMG zone: 55	**Runoff:**	No runoff
Easting/Lat.:	621049 Datum: AGD66	**Drainage:**	Well drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	Auger boring, Adamellite

Land Form

Rel/Slope Class:	No Data	**Pattern Type:**	No Data
Morph. Type:	Upper-slope	**Relief:**	No Data
Elem. Type:	Hillslope	**Slope Category:**	No Data
Slope:	30 %	**Aspect:**	No Data

Surface Soil Condition (dry): Soft

Erosion:

Soil Classification

Australian Soil Classification: **Mapping Unit:** N/A
Brown Kandosol Thin Non-gravelly Clay-loamy Clay-loamy Very deep **Principal Profile Form:** N/A

ASC Confidence: **Great Soil Group:** N/A
No analytical data are available but confidence is fair.

Site Disturbance: Limited clearing, for example selective logging

Vegetation: Low Strata - Shrub, 0.51-1m, Mid-dense. *Species includes - None recorded
Tall Strata - Tree, 20.01-35m, Closed or dense. *Species includes - None Recorded

Surface Coarse Fragments: 0-2%, coarse gravelly, 20-60mm, subrounded,

Profile Morphology

O1	0 - 0.03 m	Organic Layer; Very dark grey (7.5YR3/1-Moist); ; Sandy (grains prominent) fabric; Dry; Very weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Field pH 4.5 (Raupach); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
A11	0.03 - 0.1 m	Very dark grey (7.5YR3/1-Moist); Biological mixing, 7.5YR44, 20-50% , 5-15mm, Distinct; Sandy loam; Moderate grade of structure, 2-5 mm, Granular; Sandy (grains prominent) fabric; Dry; Weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Field pH 5.5 (Raupach); Abundant, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.1 - 0.2 m	Brown (7.5YR4/2-Moist); Biological mixing, 5YR56, 10-20% , 5-15mm, Distinct; Sandy clay loam; Weak grade of structure, 5-10 mm, Granular; Sandy (grains prominent) fabric; Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Field pH 5 (Raupach); Abundant, medium (2-5mm) roots; Gradual change to -
B1	0.2 - 0.38 m	Yellowish red (5YR5/6-Moist); Biological mixing, 7.5YR42, 20-50% , 5-15mm, Distinct; Clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Field pH 4.5 (Raupach); Many, coarse (>5mm) roots; Gradual, Wavy change to -
B21	0.38 - 0.65 m	Strong brown (7.5YR5/6-Moist); Biological mixing, 7.5YR42, 10-20% , 5-15mm, Distinct; Clay loam, sandy; Massive grade of structure; Rough-ped fabric; Moderately moist; Firm consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Common, coarse (>5mm) roots; Gradual, Wavy change to -
B3	0.65 - 1.13 m	Reddish yellow (7.5YR6/8-Moist); ; Sandy clay loam; Massive grade of structure; Rough-ped fabric; Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Few, fine (1-2mm) roots; Clear, Smooth change to -

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C1	1.13 - 2.4 m	Pink (7.5YR8/4-Moist); Mottles, 2.5YR76, 10-20% , 5-15mm, Faint; Sandy clay loam; Massive grade of structure; Sandy (grains prominent) fabric; Dry; Weak consistence; 2-10%, medium gravelly, 6-20mm, subrounded, dispersed, Metamorphic rock (unidentified), coarse fragments; Field pH 4.5 (Raupach); Few, fine (1-2mm) roots; Diffuse, Smooth change to -
C2	2.4 - 3.8 m	Reddish yellow (7.5YR7/6-Moist); ; Clayey sand; Massive grade of structure; Moist; Diffuse, Smooth change to -
C3	3.8 - 4.5 m	Light brown (7.5YR6/4-Moist); ; Clayey sand; Wet;

Morphological Notes

C2	less weathered than c1
C3	less weathered than C2

Observation Notes

Water table probably corresponds with the base of the root zone. Couldn't get past 4.5m due to water. Unweathered rock is unlikely to-be much further. C horizon has abundant coarse quartz & orthoclase. More orthoclase with depth.

Site Notes

Davisea sp ground cover, dense alpine ash regrowth. PMB12. 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 - 0.03										
0 - 0.2										
0.4 - 0.6										
1.15 - 1.35										

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 - 0.2							1.12					
							1.12					
							1.23					
							1.30					
							1.09					
							1.14					
0.4 - 0.6							1.35					
							1.35					
							1.27					
							1.33					
							1.18					
							1.18					
							1.30					
							1.27					
							1.46					
							1.39					
							1.51					
1.15 - 1.35							1.40					
							1.44					
							1.47					
							1.44					
							1.48					
							1.38					
							1.37					
							1.34					
							1.33					

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 - 0.2			0.35E	0.32E		0.17E		0.12F	230D	11.1B
			0.35E	0.32E		0.16E		0.11F	224D	11B
			0.35E	0.33E		0.17E		0.14F	25D	12.3B
			0.35E	0.33E		0.16E		0.12F	19.4D	
			0.3E	0.28E		0.15E		0.1F	362D	
			0.32E	0.29E		0.16E		0.11F	325D	

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0.4 - 0.6	0.35E	0.33E	0.22E	0.16F	35D	10.3B
	0.35E	0.33E	0.2E	0.15F	35D	6.9B
	0.37E	0.34E	0.21E	0.15F	7062D	11B
	0.37E	0.34E	0.19E	0.14F	4790D	2.9B
	0.37E	0.35E	0.17E	0.12F	25D	
	0.33E	0.31E	0.17E	0.11F	57D	
	0.35E	0.33E	0.17E	0.13F	58D	
	0.35E	0.32E	0.17E	0.13F		
	0.32E	0.31E	0.16E	0.12F		
	0.35E	0.33E	0.22E	0.15F		
	0.35E	0.33E	0.17E	0.15F		
1.15 - 1.35	0.31E	0.29E	0.13E	0.08F	489D	8.1B
	0.31E	0.29E	0.16E	0.1F	480D	9.1B
	0.29E	0.27E	0.13E	0.07F	109D	13B
	0.31E	0.29E	0.19E	0.13F	109D	
	0.25E	0.23E	0.2E	0.13F	99D	
	0.32E	0.3E	0.2E	0.14F	22D	
	0.33E	0.31E	0.2E	0.14F		
	0.34E	0.32E	0.17E	0.12F		
	0.34E	0.32E	0.18E	0.12F		

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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
P3B3VLb001	0.01 BAR Moisture m3/m3 - Volumetric using undisturbed 73mm diameter and 75mm height core on suction plate taken from center of large core (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)
P3B3VLb003	0.03 BAR Moisture m3/m3 - Volumetric using undisturbed 73mm diameter and 75mm height core on suction plate taken from center of large core (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)
P3B3VLb005	0.05 BAR Moisture m3/m3 - Volumetric using undisturbed 73mm diameter and 75mm height core on suction plate taken from center of large core (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)
P3B3VLb01	0.1 BAR Moisture m3/m3 - Volumetric using undisturbed 73mm diameter and 75mm height core on suction plate taken from center of large core (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)
P3B3VLb03	0.33 BAR Moisture m3/m3 - Volumetric using undisturbed 73mm diameter and 75mm height core on suction plate taken from center of large core (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)
P3B3VLb06	0.66 BAR Moisture m3/m3 - Volumetric using undisturbed 73mm diameter and 75mm height core on suction plate taken from center of large core (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)
P4_100DMcK	Unsaturated Hydraulic Conductivity - 100mm potential - Using disk permeameter with method CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996
P4_10DMcK	Unsaturated Hydraulic Conductivity - 10mm potential - Using disk permeameter with method CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996
P4_50DMcK	Unsaturated Hydraulic Conductivity - 50mm potential - Using disk permeameter with method CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996
P4_sat_McK	Saturated Hydraulic Conductivity (CSIRO Div of Soil, DR 125, McKenzie and Jacquier, 1996)