Project Name: **Improving Soil Survey Field Measurement and Interpretation. LWRRDC Project No. 90/R16**
Project Code: **Morphology** **Site ID:** **CP330** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By:	N.J. McKenzie	**Locality:**	
Date Desc.:	05/04/93	**Elevation:**	1009 metres
Map Ref.:	Sheet No. : 9237-3-S 1:25000	**Rainfall:**	800
Northing/Long.:	6631400 AMG zone: 56	**Runoff:**	Very slow
Easting/Lat.:	371600 Datum: AGD66	**Drainage:**	Poorly drained

Geology

ExposureType:	No Data	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	No Data	**Substrate Material:**	Granite

Land Form

Rel/Slope Class:	Undulating low hills 30-90m 3-10%	**Pattern Type:**	Low hills
Morph. Type:	Lower-slope	**Relief:**	90 metres
Elem. Type:	Footslope	**Slope Category:**	Gently inclined
Slope:	5 %	**Aspect:**	340 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Grey Chromosol
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Dy5.81
Great Soil Group: N/A

Site Disturbance: Complete clearing. Pasture, native or improved, cultivated at some stage

Vegetation: Low Strata - Tussock grass, 0.51-1m, Sparse. *Species includes - None recorded

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.05 m	Dark greyish brown (10YR4/2-Moist); Light brownish grey (10YR6/2-Dry); ; Sandy loam; Weak grade of structure, 10-20 mm, Subangular blocky; Sandy (grains prominent) fabric; Dry; Very weak consistence; Field pH 6.5 (Raupach); Many, fine (1-2mm) roots; Clear, Smooth change to
A12	0.05 - 0.15 m	Dark greyish brown (10YR4/2-Moist); Pale brown (10YR6/3-Dry); ; Sandy loam; Weak grade of structure, 10-20 mm, Subangular blocky; Sandy (grains prominent) fabric; Dry; Very weak consistence; Field pH 6.5 (Raupach); Common, very fine (0-1mm) roots;
A21	0.15 - 0.3 m	Greyish brown (10YR5/2-Moist); Light grey (10YR7/2-Dry); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Dry; Very weak consistence; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
A22	0.3 - 0.5 m	Pale brown (10YR6/3-Moist); White (10YR8/2-Dry); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Dry; Weak consistence; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
A23	0.5 - 0.75 m	Pale brown (10YR6/3-Moist); White (10YR8/2-Dry); ; Sandy loam; Massive grade of structure; Sandy (grains prominent) fabric; Dry; Firm consistence; Field pH 6.5 (Raupach); Few, very fine (0-1mm) roots; Clear, Smooth change to -
B1	0.75 - 0.85 m	Light brownish grey (10YR6/2-Moist); , 10YR72, 10-20% , 30-mm, Faint; Sandy clay loam; Massive grade of structure; Rough-ped fabric; Moderately moist; Rigid consistence; Few (2 - 10 %), Ferromanganiferous, Medium (2 -6 mm), Concretions; Field pH 6 (Raupach); Gradual, Smooth change to -
B21	0.85 - 1 m	Pale olive (5Y6/3-Moist); , 2.5YR63, 10-20% , 30-mm, Faint; , 2.5YR64, 10-20% , 30-mm, Faint; Medium clay; Weak grade of structure; Rough-ped fabric; Moderately moist; Strong consistence; Many (20 - 50 %), Ferromanganiferous, Coarse (6 - 20 mm), Concretions; Field pH 6 (Raupach); Gradual, Smooth change to -
B22	1 - 1.3 m	Olive (5Y5/3-Moist); ; Medium heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Rough-ped fabric; Moderately moist; Strong consistence; Many (20 - 50 %), Ferromanganiferous, Medium (2 -6 mm), Concretions; Field pH 5.5 (Raupach); Clear, Wavy
C	1.3 - m	; Weak grade of structure, 20-50 mm, Angular blocky;

Morphological Notes

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Observation Notes

Site is 10m from Rob Scott (Site 1). Numerous large worm throughout despite the very tough indurated pan and dense dispersive massive clay. Large variablility in B horizon.

Site Notes

JinsGully, Newholme (Morph 29)

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Project Code: Morphology **Site ID:** CP330 **Observation ID:** 1
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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations Ca	Mg	K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.05	6.18A	0.03A	1.7B	0.55	0.18	0.01		2.8A		0.36
0.05 - 0.15	6.2A	0.02A	1.4B	0.38	0.1	0.03		2.3A		1.30
0 - 0.2										
0 - 0.2										
0.15 - 0.3	6.4A	0.01A	1.2B	0.29	0.05	0.03		1.6A		1.88
0.3 - 0.5	6.92A	0.01A	0.66B	0.21	0.05	0.04		1.1A		3.64
0.5 - 0.75	6.49A	0.02A	0.59B	0.25	0.05	0.09		0.88A		10.23
0.5 - 0.7										
0.5 - 0.7										
0.75 - 0.85	6.75A	0.01A	1B	1.3	0.08	0.18		2.6A		6.92
0.85 - 1	6.28A	0.02A	1.8B	3.6	0.13	0.37		6.5A		5.69
1 - 1.3	5.9A	0.02A	4.1B	8.6	0.34	0.89		15.7A		5.67
1.1 - 1.3										
1.1 - 1.3										
1.3 -										

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		0.86B						0				
0.05 - 0.15		0.51B						0				
0 - 0.2							1.43					
							1.44					
							1.37					
							1.42					
0 - 0.2							1.43					
							1.44					
							1.37					
							1.42					
0.15 - 0.3		0.23B					1.42	1				
0.3 - 0.5		0.09B						2				
0.5 - 0.75		0.05B					1.72	10				
0.5 - 0.7							1.65					
							1.58					
							1.72					
							1.67					
0.5 - 0.7							1.65					
							1.58					
							1.72					
							1.67					
0.75 - 0.85		0.07B						9				
0.85 - 1		0.07B						28				
1 - 1.3		0.07B					1.88	3				
1.1 - 1.3							1.85					
							1.78					
							1.81					
							1.77					
1.1 - 1.3							1.85					
							1.78					
							1.81					
							1.77					

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1.3 -

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										
0.05 - 0.15										
0 - 0.2		0.38E	0.24E	0.18E	0.11D		0.05F	0.04F	485.8D	193.5A
		0.38E	0.25E	0.19E	0.11D		0.05F	0.04F		
		0.37E	0.23E	0.18E	0.11D					
		0.36E	0.22E	0.17E	0.11D					
0 - 0.2		0.38E	0.24E	0.18E	0.11D		0.05F	0.04F	485.8D	193.5A
		0.38E	0.25E	0.19E	0.11D		0.05F	0.04F		
		0.37E	0.23E	0.18E	0.11D					
		0.36E	0.22E	0.17E	0.11D					
0.15 - 0.3	0B									
0.3 - 0.5										
0.5 - 0.75	0B									
0.5 - 0.7		0.33E	0.22E	0.18E	0.09D		0.03F	0.03F	70.3D	19.8A
		0.31E	0.19E	0.15E	0.09D		0.03F	0.03F		
		0.28E	0.2E	0.17E	0.09D					
		0.29E	0.2E	0.16E	0.09D					
0.5 - 0.7		0.33E	0.22E	0.18E	0.09D		0.03F	0.03F	70.3D	19.8A
		0.31E	0.19E	0.15E	0.09D		0.03F	0.03F		
		0.28E	0.2E	0.17E	0.09D					
		0.29E	0.2E	0.16E	0.09D					
0.75 - 0.85										
0.85 - 1										
1 - 1.3	0.083B									
1.1 - 1.3		0.24E	0.24E	0.22E	0.19D		0.15F	0.12F	1.7D	0.1A
		0.28E	0.27E	0.26E	0.23D		0.25F	0.21F		
		0.31E	0.29E	0.29E	0.27D					
		0.31E	0.3E	0.29E	0.27D					
1.1 - 1.3		0.24E	0.24E	0.22E	0.19D		0.15F	0.12F	1.7D	0.1A
		0.28E	0.27E	0.26E	0.23D		0.25F	0.21F		
		0.31E	0.29E	0.29E	0.27D					
		0.31E	0.3E	0.29E	0.27D					
1.3 -										

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_CEC	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
6B2	Total organic carbon - high frequency induction furnace, volumetric
P10_GRAV	Gravel (%)
P10_S_0.20	0.20 micron (cumulative %) - Sedigraph
P10_S_0.48	0.48 micron (cumulative %) - Sedigraph
P10_S_1	1 micron (cumulative %) - Sedigraph
P10_S_1000	1000 micron (cumulative %) - Sedigraph
P10_S_125	125 micron (cumulative %) - Sedigraph
P10_S_15.6	15.6 micron (cumulative %) - Sedigraph
P10_S_2	2 micron (cumulative %) - Sedigraph
P10_S_20	20 micron (cumulative %) - Sedigraph
P10_S_2000	2000 micron (cumulative %) - Sedigraph
P10_S_250	250 micron (cumlative %) - Sedigraph
P10_S_3.9	3.9 micron (cumulative %) - Sedigraph
P10_S_31.2	31.2 micron (cumulative %) - Sedigraph
P10_S_500	500 micron (cumulative %) - Sedigraph
P10_S_53	53 micron (cumulative %) - Sedigraph
P10_S_63	63 micron (cumulative %) - Sedigraph
P10_S_7.8	7.8 micron (cumulative %) - Sedigraph
P3A1	Bulk density - g/cm3
P3B2VL_15	15 BAR Moisture m3/m3 - Volumetric using disturbed sample on pressure plate
P3B2VL_5	5 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)
P3B3VLb05	0.5 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)
P3B3VLbSAT	Saturated 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_50_McK	Unsaturated Hydraulic Conductivity - 50mm potential (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)
P5_LS_MOD	Modified linear shrinkage (McKenzie, Jacquier and Ringrose-Voase, AJSR, 1994, 32, 931-8)