Project Name: **Improving Soil Survey Field Measurement and Interpretation. LWRRDC Project No. 90/R16**
Project Code: **Morphology** **Site ID:** **CP317** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 02/08/92
Map Ref.: Sheet No. : 9130Sydney
Northing/Long.: 1:100000
6290000 AMG zone: 56
Easting/Lat.: 349100 Datum: AGD66

Locality:
Elevation: No Data
Rainfall: No Data
Runoff:
Slow
Drainage: Well drained

Geology

ExposureType: Soil pit
Geol. Ref.: No Data

Conf. Sub. is Parent. Mat.: No Data
Substrate Material: No Data

Land Form

Rel/Slope Class: No Data
Morph. Type: Upper-slope
Elem. Type: No Data
Slope: 5 %

Pattern Type: No Data
Relief: No Data
Slope Category: Gently inclined
Aspect: 270 degrees

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Red Kandosol
ASC Confidence:
No analytical data are available but confidence is fair.

Mapping Unit: N/A
Principal Profile Form: Gn2.12
Great Soil Group: N/A

Site Disturbance: Limited clearing, for example selective logging

Vegetation: Low Strata - Tussock grass, 0.26-0.5m, Sparse. *Species includes - None recorded

Tall Strata - Tree, 20.01-35m, Mid-dense. *Species includes - Eucalyptus species

Surface Coarse Fragments: 0-2%, medium gravelly, 6-20mm, subangular, Ferricrete

Profile Morphology

A11	0 - 0.1 m	Dark reddish brown (5YR3/2-Moist); ; Loam; Weak grade of structure, 5-10 mm, Granular; Earthy fabric; Moderately moist; Weak consistence; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 6.5 (Raupach); Many, coarse (>5mm) roots; Gradual, Smooth change to -
A12	0.1 - 0.2 m	Reddish brown (5YR4/3-Moist); Biological mixing, 5YR32, 20-50% , 5-15mm, Faint; Sandy loam; Weak grade of structure, 5-10 mm, Granular; Earthy fabric; Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 6.5 (Raupach); Many, coarse (>5mm) roots; Gradual, Smooth change to -
A3	0.2 - 0.3 m	Reddish brown (5YR4/3-Moist); Biological mixing, 5YR56, 20-50% , 5-15mm, Distinct; , 5YR32, 20-50% , 5-15mm, Distinct; Loam; Weak grade of structure, 5-10 mm, Granular; Earthy fabric; Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 6.5 (Raupach); Common, fine (1-2mm) roots; Gradual, Smooth change to -
B1	0.3 - 0.4 m	Red (2.5YR4/6-Moist); Biological mixing, 5YR42, 20-50% , 15-30mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 6.5 (Raupach); Common, fine (1-2mm) roots; Gradual, Smooth change to -
B21	0.4 - 0.5 m	Red (2.5YR4/6-Moist); Biological mixing, 5YR42, 10-20% , 15-30mm, Distinct; Sandy clay loam; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 6.5 (Raupach); Few, fine (1-2mm) roots; Gradual, Smooth change to -
B22	0.5 - 0.6 m	Red (2.5YR4/6-Moist); Mottles, 7.5YR56, 2-10% , 15-30mm, Distinct; Clay loam, sandy; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, medium gravelly, 6-20mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 7 (Raupach); Few, fine (1-2mm) roots;
B22	0.6 - 0.75 m	Red (2.5YR4/6-Moist); Mottles, 7.5YR56, 2-10% , 15-30mm, Distinct; Clay loam, sandy; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 10-20%, coarse gravelly, 20-60mm, subangular, dispersed, Ferricrete, coarse fragments; Field pH 7 (Raupach); Few, fine (1-2mm) roots; Abrupt, Smooth change to -

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B23 0.75 - m ;

Morphological Notes

Observation Notes

Site Notes

Boudi Nursery (Morph16)

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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 - 0.1	5.1A	0.07A	2.6B	1.7	0.13	0.13		8A		1.63
0 - 0.2										
0 - 0.2										
0.1 - 0.2	5.46A	0.04A	1B	0.82	0.1	0.08		5.5A		1.45
0.2 - 0.3	5.67A	0.03A	0.66B	0.59	0.07	0.06		4A		1.50
0.2 - 0.4										
0.2 - 0.4										
0.3 - 0.4	5.8A	0.02A	0.43B	0.52	0.06	0.08		2.6A		3.08
0.4 - 0.5	5.9A	0.02A	0.51B	0.61	0.05	0.06		2.3A		2.61
0.5 - 0.6	5.96A	0.02A	0.35B	0.64	0.06	0.05		2.2A		2.27
0.5 - 0.7										
0.5 - 0.7										
0.6 - 0.75	5.64A	0.03A	0.32B	0.65	0.07	0.06		1.9A		3.16
0.75 -										

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 - 0.1		5.68B					1.30	0				
0 - 0.2							1.40					
							1.39					
							1.35					
							1.37					
0 - 0.2							1.40					
							1.39					
							1.35					
							1.37					
0.1 - 0.2		2.53B						0				
0.2 - 0.3		1.65B					1.61	0				
0.2 - 0.4							1.68					
							1.62					
							1.60					
							1.56					
0.2 - 0.4							1.68					
							1.62					
							1.60					
							1.56					
0.3 - 0.4		1.03B						2				
0.4 - 0.5		0.75B						2				
0.5 - 0.6		0.55B					1.75	3				
0.5 - 0.7							1.64					
							1.64					
							1.63					
							1.59					
0.5 - 0.7							1.64					
							1.64					
							1.63					
							1.59					
0.6 - 0.75		0.4B						22				
0.75 -												

Depth	COLE	Gravimetric/Volumetric Water Contents	K sat	K unsat

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m		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar		
				g/g - m3/m3					mm/h	mm/h
0 - 0.1	0B									
0 - 0.2		0.38E	0.32E	0.3E	0.22D		0.13F	0.12F	132.2D	73.6A
		0.44E	0.37E	0.34E	0.25D		0.13F	0.11F		
		0.39E	0.33E	0.3E	0.23D					
		0.4E	0.35E	0.32E	0.24D					
0 - 0.2		0.38E	0.32E	0.3E	0.22D		0.13F	0.12F	132.2D	73.6A
		0.44E	0.37E	0.34E	0.25D		0.13F	0.11F		
		0.39E	0.33E	0.3E	0.23D					
		0.4E	0.35E	0.32E	0.24D					
0.1 - 0.2										
0.2 - 0.3	0B									
0.2 - 0.4		0.34E	0.29E	0.27E	0.2D		0.13F	0.12F	234.6D	11.3A
		0.33E	0.28E	0.26E	0.2D		0.13F	0.12F		
		0.33E	0.24E	0.21E	0.2D					
		0.36E	0.25E	0.22E	0.2D					
0.2 - 0.4		0.34E	0.29E	0.27E	0.2D		0.13F	0.12F	234.6D	11.3A
		0.33E	0.28E	0.26E	0.2D		0.13F	0.12F		
		0.33E	0.24E	0.21E	0.2D					
		0.36E	0.25E	0.22E	0.2D					
0.3 - 0.4										
0.4 - 0.5										
0.5 - 0.6	0.004B									
0.5 - 0.7		0.3E	0.26E	0.24E	0.2D		0.15F	0.14F	104.4D	19.3A
		0.3E	0.26E	0.24E	0.2D		0.15F	0.13F		
		0.3E	0.25E	0.23E	0.19D					
		0.31E	0.25E	0.23E	0.18D					
0.5 - 0.7		0.3E	0.26E	0.24E	0.2D		0.15F	0.14F	104.4D	19.3A
		0.3E	0.26E	0.24E	0.2D		0.15F	0.13F		
		0.3E	0.25E	0.23E	0.19D					
		0.31E	0.25E	0.23E	0.18D					
0.6 - 0.75										
0.75 -										

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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
5A1	Chloride - 1:5 soil/water extract, potentiometric titration
6B2	Total organic carbon - high frequency induction furnace, volumetric
P10_GRAV	Gravel (%)
P10_S_0.20	0.20 micron (cumulative %) - Sedigraph
P10_S_1000	1000 micron (cumulative %) - Sedigraph
P10_S_125	125 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_31.2	31.2 micron (cumulative %) - Sedigraph
P10_S_500	500 micron (cumulative %) - Sedigraph
P10_S_63	63 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)