Project Name: **Soils of the Lower Macquarie Valley, New South Wales**
Project Code: **Macquarie** **Site ID:** **335** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 03/08/85
Map Ref.: Sheet No. : 8434 1:10000
Northing/Long.: 6470100 AMG zone: 55
Easting/Lat.: 591700 Datum: AGD66

Locality:
Elevation: No Data
Rainfall: No Data
Runoff: Very slow
Drainage: Imperfectly 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: Closed Depression
Elem. Type: No Data
Slope: %

Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: No Data

Surface Soil Condition (dry): Hardsetting

Erosion: Partial, Minor or present (wind);

Soil Classification

Australian Soil Classification:
N/A

Mapping Unit: TRANGIE
COWAL ALLUVIUM

Principal Profile Form: Ug5.15
Great Soil Group: N/A

ASC Confidence:
Confidence level not specified

Site Disturbance: Complete clearing. Pasture, native or improved, but never cultivated

Vegetation:

Tall Strata - Tussock grass, 0.26-0.5m, Very sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Brown (7.5YR4/3-Moist); ; Light clay; Moderate grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moist; Firm consistence; Field pH 7.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Many, medium (2-5mm) roots; Clear, Smooth change to -
B1	0.1 - 0.4 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Field pH 7 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Common, medium (2-5mm) roots; Gradual, Smooth change to -
B21	0.4 - 0.76 m	Brown (7.5YR4/3-Moist); ; Medium heavy clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Gradual, Smooth change to -
B22	0.76 - 1.35 m	Brown (7.5YR4/3-Moist); , 7.5YR44, 10-20% , 5-15mm, Faint; Medium clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (Raupach); Few, very fine (0-1mm) roots;

Morphological Notes

A1 A few faint brown mottles in B22. Heavy end member from 332. A1 is probably wind blown.

Observation Notes

Ellengerah Soil Profile Class

Site Notes

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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							%
0.1 - 0.15	6.5A	0.064A	2.4E	3.1	1.6	0.4			7.5D	
0.3 - 0.35	8.1A	0.094A								
0.7 - 0.75	8.1A	1.275A	11.6E	11.8	0.5	3.5			27.4D	
1.3 - 1.35	7.7A	2.98A								

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			%		
0.1 - 0.15							1.43		0.8A	16.7	34.9	47.7
0.3 - 0.35							1.49					
0.7 - 0.75							1.54		0.9A	8.6	33.2	57.2
1.3 - 1.35							1.51					

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
0.1 - 0.15	0.029A			0.23G				0.15D	
0.3 - 0.35	0.074A			0.23G				0.18D	
0.7 - 0.75	0.061A			0.21G				0.17D	
1.3 - 1.35	0.045A			0.22G				0.17D	

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Laboratory Analyses Completed for this profile

15C1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_K	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_MG	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_NA	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15J_BASES	Sum of Bases
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P3A1	Bulk density - g/cm3
P3B1GV_15	15 BAR Moisture g/g - Gravimetric of ground sample (<2mm) using pressure plate
P3B4GV_01	0.1 BAR Moisture g/g - Gravimetric of soil clods (Soil Survey Staff,1967)
P5_COLE	Coefficient of Linear Extensibility (Grossman et al. 1968)