Project Name: **Soils of the Lower Macquarie Valley, New South Wales**
Project Code: **Macquarie** **Site ID:** **533** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (ACT)**

Site Information

Desc. By: N.J. McKenzie
Date Desc.: 08/12/85
Map Ref.: Sheet No. : 8434 1:10000
Northing/Long.: 6480478 AMG zone: 55
Easting/Lat.: 580900 Datum: AGD66
Locality:
Elevation: No Data
Rainfall: No Data
Runoff: Slow
Drainage: Moderately 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: Flat
Elem. Type: No Data
Slope: %
Pattern Type: No Data
Relief: No Data
Slope Category: No Data
Aspect: No Data

Surface Soil Condition (dry): Hardsetting, Surface crust

Erosion:

Soil Classification

Australian Soil Classification:
N/A

Mapping Unit: TRANGIE
COWAL ALLUVIUM

Principal Profile Form: Gn4.83
Great Soil Group: N/A

ASC Confidence:
Confidence level not specified

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

Vegetation:

Tall Strata - Tussock grass, 0.51-1m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1p	0 - 0.22 m	Reddish brown (5YR4/4-Moist); ; Silty clay; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Many (>5 per 100mm2) Very fine (0.075-1mm) macropores, Many (>5 per 100mm2) Fine (1-2mm) macropores, Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 6.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.22 - 0.65 m	Yellowish red (5YR5/6-Moist); ; Medium 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, Many (>5 per 0.01m2) Medium (2-5mm) macropores, Moist; Weak consistence; Many cutans, >50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 8.5 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.65 - 1.1 m	Yellowish red (5YR4/6-Moist); , 7.5YR44, 20-50% , 15-30mm, Distinct; Medium 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, Many (>5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Weak consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -
B3	1.1 - 1.4 m	Brown (7.5YR5/4-Moist); , 5YR56, 20-50% , 15-30mm, Distinct; Medium clay; Weak grade of structure, 5-10 mm, Polyhedral; Rough-ped fabric; 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, Wet; Weak consistence; Common cutans, 10-50% of ped faces or walls coated; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots;

Morphological Notes

A1p Pedol development maximal in B21, gradually becomes less with depth - colour is less red (less clay translocation). CaCO3 very shallow; may be due to a tree or to surface crust reducing infiltration. Many infilled tree roots at depth.

Observation Notes

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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	7.5A	0.107A	6.3E	1.1	2.3	0			9.7D	
0.3 - 0.35	8.6A	0.146A								
0.7 - 0.75	8.5A	0.126A	10.8E	6.7	0.7	0.1			18.3D	
1.3 - 1.35	8.7A	0.132A								

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							1.31		3.5A	35	37.7	23.7
0.3 - 0.35							1.41					
0.7 - 0.75							1.78		0.9A	17.4	40.7	41.1
1.3 - 1.35							1.48					

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	0.027A			0.22G				0.1D		
0.3 - 0.35	0.042A			0.21G				0.11D		
0.7 - 0.75	0.011A			0.19G				0.14D		
1.3 - 1.35	0.058A			0.24G				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)