

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 526 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By: N.J. McKenzie	Locality:
Date Desc.: 07/12/85	Elevation: No Data
Map Ref.: Sheet No. : 8434 1:10000	Rainfall: No Data
Northing/Long.: 6478680 AMG zone: 55	Runoff: Very slow
Easting/Lat.: 579150 Datum: AGD66	Drainage: Poorly drained

Geology

ExposureType: Soil pit	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: No Data	Substrate Material: No Data

Land Form

Rel/Slope Class: No Data	Pattern Type: No Data
Morph. Type: Lower-slope	Relief: No Data
Elem. Type: No Data	Slope Category: No Data
Slope: %	Aspect: No Data

Surface Soil Condition (dry): Cracking, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification: N/A	Mapping Unit: OLD ALLUVIUM BACKPLAIN
	Principal Profile Form: Ug5.39
	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, 0.26-0.5m, Sparse. *Species includes - None Recorded

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.2 m	Reddish brown (5YR4/4-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 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, Moist; Weak consistence; Field pH 8 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Gradual, Smooth change to -
A1	0 - 0.2 m	Reddish brown (5YR4/4-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Subangular blocky; 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, Moist; Firm consistence; Field pH 8 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Gradual, Smooth change to -
B21	0.2 - 0.65 m	Reddish brown (5YR4/4-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Polyhedral; Smooth-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Common (1-5 per 100mm2) Fine (1-2mm) macropores, Moist; Very firm consistence; Many cutans, >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); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Diffuse, Smooth change to -
B22	0.65 - 1.15 m	Reddish brown (5YR5/4-Moist); ; Heavy clay; Strong grade of structure, 50-100 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, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Soft segregations; Field pH 9 (Raupach); Common, very fine (0-1mm) roots; Gradual, Irregular change to -
B3	1.15 - 1.4 m	Reddish brown (5YR5/4-Moist); , 10YR6/3, 20-50% , 15-30mm, Distinct; Heavy clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Many cutans, >50% of ped faces or walls coated; Few (2 - 10 %), Calcareous, Medium (2 - 6 mm), Nodules; Few (2 - 10 %), Gypseous, Medium (2 - 6 mm), Crystals; Field pH 9 (Raupach); Few, very fine (0-1mm)

Morphological Notes

A1 Cracking clay on boundary with the red ridge.

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A1 Cracking clay on boundary with the red ridge.

Observation Notes

Buddah Soil Profile Class

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0.1 - 0.15	8.7A	0.145A	22.1E	6.9	2.1	0.3			31.4D	
0.3 - 0.35	8.9A	0.192A								
0.7 - 0.75	9.2A	0.376A	12.3E	14.6	0.9	4			31.8D	
1.3 - 1.35	8.3A	2.1A								

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0.1 - 0.15							1.21		10.5A	22.7	11.8	55
0.3 - 0.35							1.37					
0.7 - 0.75							1.35		9.7A	21.1	13.7	55.4
1.3 - 1.35							1.36					

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
m		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
				g/g	m3/m3				mm/h
0.1 - 0.15	0.081A			0.3G				0.19D	
0.3 - 0.35	0.092A			0.27G				0.2D	
0.7 - 0.75	0.12A			0.33G				0.24D	
1.3 - 1.35	0.094A			0.29G				0.24D	

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Laboratory Analyses Completed for this profile

15C1_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,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/cm ³
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)