

Project Name: Soils of the Lower Macquarie Valley, New South Wales
Project Code: Macquarie **Site ID:** 264 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (ACT)

Site Information

Desc. By:	N.J. McKenzie	Locality:	
Date Desc.:	19/10/85	Elevation:	No Data
Map Ref.:	Sheet No. : 8533 1:10000	Rainfall:	No Data
Northing/Long.:	6456000 AMG zone: 55	Runoff:	Moderately rapid
Easting/Lat.:	601200 Datum: AGD66	Drainage:	Moderately well 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:	Mid-slope	Relief:	No Data
Elem. Type:	No Data	Slope Category:	No Data
Slope:	%	Aspect:	No Data

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	GIN GIN AEOLIAN DEPOSITS
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Dr2.23
		Great Soil Group:	N/A

Site Disturbance: Cultivation. Rainfed

Vegetation:

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

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.11 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Moist; Weak consistence; Field pH 6 (Raupach); Many, very fine (0-1mm) roots; Many, fine (1-2mm) roots; Abrupt, Smooth change to -
A2	0.11 - 0.29 m	Yellowish red (5YR3/6-Moist); , 5YR66; Clay loam; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Very fine (0.075-1mm) macropores, Many (>5 per 100mm ²) Fine (1-2mm) macropores, Moist; Weak consistence; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Clear, Smooth change to -
B21	0.29 - 0.8 m	Red (2.5YR4/7-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; Many cutans, >50% of ped faces or walls coated; Field pH 8 (Raupach); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B22	0.8 - 1.05 m	Red (2.5YR4/6-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; 10-20%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; 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); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
BC	1.05 - 1.4 m	Red (2.5YR4/6-Moist); ; Medium clay; Weak grade of structure, 10-20 mm, Angular blocky; Firm consistence; 50-90%, medium gravelly, 6-20mm, subrounded, dispersed, coarse fragments; 50-90%, coarse gravelly, 20-60mm, subrounded, dispersed, coarse fragments; 50-90%, cobbly, 60-200mm, subrounded, dispersed, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 8.5 (Raupach);

Morphological Notes

Observation Notes

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Mitchell Soil Profile Class, Moderately Drained Phase, Vegetation - oats

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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	6.4A	0.021A	1.5E	0.4	0.4	0.1			2.4D	
0.3 - 0.35	7.9A	0.059A								
0.7 - 0.75	9A	0.136A	7.4E	9.4	0.5	2.9			20.2D	
1.3 - 1.35	8.9A	0.724A								

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							1.60		25.2A	41.4	10.5	23
0.3 - 0.35							1.35					
0.7 - 0.75							1.53		14.3A	20.8	6.3	58.6
1.3 - 1.35							1.64					

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	0.025A			0.14G				0.06D	
0.3 - 0.35	0.13A			0.3G				0.18D	
0.7 - 0.75	0.044A			0.25G				0.2D	
1.3 - 1.35	0.067A			0.21G				0.18D	

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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)