

**Project Name:** Soils of the Lower Macquarie Valley, New South Wales  
**Project Code:** Macquarie **Site ID:** 506 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

<b>Desc. By:</b>	N.J. McKenzie	<b>Locality:</b>	
<b>Date Desc.:</b>	30/11/85	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>	Sheet No. : 8434 1:10000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6472400 AMG zone: 55	<b>Runoff:</b>	Slow
<b>Easting/Lat.:</b>	577200 Datum: AGD66	<b>Drainage:</b>	Imperfectly drained

#### Geology

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

#### Land Form

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	Flat	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	No Data	<b>Slope Category:</b>	No Data
<b>Slope:</b>	%	<b>Aspect:</b>	No Data

**Surface Soil Condition (dry):** Cracking, Recently cultivated

#### Erosion:

#### Soil Classification

<b>Australian Soil Classification:</b>	N/A	<b>Mapping Unit:</b>	INFILLED CHANNELS
		<b>Principal Profile Form:</b>	Ug5.38
		<b>Great Soil Group:</b>	N/A

#### **ASC Confidence:**

Confidence level not specified

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A1p	0 - 0.1 m	Dark reddish brown (5YR3/3-Moist); ; Medium clay; Single grain grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Common (1-5 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Few (<1 per 0.01m <sup>2</sup> ) Medium (2-5mm) macropores, Moist; Weak consistence; Field pH 8.5 (Raupach); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
B1	0.1 - 0.3 m	Reddish brown (5YR4/4-Moist); ; Heavy clay; Strong grade of structure, 50-100 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Field pH 9 (Raupach); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.3 - 0.8 m	Reddish brown (5YR4/4-Moist); ; Heavy clay; Strong grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Field pH 9 (Raupach); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	0.8 - 1.35 m	Yellowish red (5YR4/6-Moist); ; Heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Many cutans, >50% of ped faces or walls coated; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Manganiferous, Coarse (6 - 20 mm), Nodules; Common (10 - 20 %), Ferruginous, Coarse (6 - 20 mm), Nodules; Field pH 9 (Raupach); Few, very fine (0-1mm) roots;

#### Morphological Notes

A1p Dark A1 is in B1 and B21 through falling down cracks.

#### Observation Notes

Buddah Soil Profile Class, Wheat crop

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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	0.118A	14.3E	6	0.7	0.6			21.6D	
0.3 - 0.35	9.2A	0.234A								
0.7 - 0.75	9.4A	0.63A	3.6E	11.1	1.2	6.1			22D	
1.3 - 1.35	9.3A	1.037A								

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							1.55		12.9A	30.5	9.7	47
0.3 - 0.35							1.47					
0.7 - 0.75							1.50		12.4A	29	12	46.6
1.3 - 1.35							1.43					

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	0.052A			0.23G				0.18D	
0.3 - 0.35	0.079A			0.28G				0.21D	
0.7 - 0.75	0.096A			0.27G				0.2D	
1.3 - 1.35	0.104A			0.27G				0.19D	

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**Laboratory Analyses Completed for this profile**

15C1_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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 <sup>3</sup>
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)