

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed133 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	W.T. Ward	Locality:	Paul White, Tarlee
Date Desc.:	12/12/86	Elevation:	232 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	Rainfall:	No Data
Northing/Long.:	6660600 AMG zone: 55	Runoff:	No Data
Easting/Lat.:	767600 Datum: AGD66	Drainage:	No Data

Geology

ExposureType:	Undisturbed soil core	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:	No Data	Relief:	No Data
Elem. Type:	Terrace plain	Slope Category:	Level
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Self-mulching, Recently cultivated

Erosion:

Soil Classification

Australian Soil Classification:	N/A	Mapping Unit:	N/A
ASC Confidence:	Confidence level not specified	Principal Profile Form:	Ug5.15
		Great Soil Group:	Brown clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Dark reddish brown (5YR3/3-Moist); Dark reddish grey (5YR4/2-Dry); ; Light medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Dark reddish brown (5YR3/2-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots;
A13k	0.25 - 0.6 m	Dark reddish brown (5YR3/2-Moist); , 7.5YR73, 0-2% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B21k	0.6 - 1 m	Reddish brown (5YR4/4-Moist); , 5YR32, 2-10% , 5-15mm, Faint; , 7.5YR64, 2-10% , 5-15mm, Prominent; Light medium clay; Weak grade of structure, 20-50 mm, Prismatic; Weak grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B22k	1 - 2 m	Reddish brown (5YR4/3-Moist); , 5YR33, 2-10% , 5-15mm, Faint; , 7.5YR52, 0-2% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, 10-20 mm, Prismatic; Weak grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -
D	2 - 2.25 m	Brown (7.5YR5/4-Moist); , 5YR33, 10-20% , 15-30mm, Distinct; , 7.5YR64, 0-2% , 0-5mm, Faint; Light clay; Weak grade of structure, 20-50 mm, Prismatic; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular tabular, Sandstone, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Sharp,

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2A1	2.25 - 3 m	Dark reddish brown (5YR3/2-Moist); , 7.5YR42, 2-10% , 5-15mm, Prominent; , 5YR54, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter); Diffuse, Smooth change to -
2B2	3 - 4.69 m	Brown (10YR4/3-Moist); , 7.5YR64, 0-2% , 5-15mm, Prominent; Light medium clay; Weak grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm ²) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

A11p	From 40cm to 70cm the soil is quite compact. The tensile strength for 250-260cm is on a 3 inch core. From 200-228cm there is a sandy facies. The sandy facies represents the bedload of a new deposit. This sand also appears as infills in the
A12	clay horizon below, as well as being mixed by faunal activity. This burial might represent the prior groundsurface.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, second terraced fan

Site Notes

Patches of dark and light brownish red in paddock. Topography to very gently undulating.

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
							(+)/kg		
0 - 0.02	6.84A	0.118A	11.7B	8.87	1.82	0.51			
0 - 0.1	6.64A	0.14A	8.73B	7.72	1.26	0.6			
0.1 - 0.2	8.33A	0.127A	13.47B	13.44	0.51	1.51			
0.3 - 0.4	9.35A	0.276A	13.67B	15.77	0.35	4.18			
0.7 - 0.8	9.61A	0.332A	7.84B	12.39	0.4	5.77			
1.2 - 1.3	9.56A	0.293A	7.55B	11.43	0.38	5.51			
2.15 - 2.25	9.47A	0.182A	3.83B	6.6	0.28	4.12			
2.5 - 2.6	9.54A	0.457A	8.41B	14.36	0.46	8.41			
3.5 - 3.6	9.33A	0.593A	8.45B	16.66	0.68	9.76			

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle	Size	Analysis	
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt Clay
		%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.02	<0.1B	1.48C									20.7 36.9
0 - 0.1	<0.1B	1.32C	30.7J								17.1 33
0.1 - 0.2	<0.1B	0.83C	5.8J								19.2 42.5
0.3 - 0.4	2.7B	0.64C	2.2J								16.4 48
0.7 - 0.8	3.3B	0.32C	12.3J								16.8 35.7
1.2 - 1.3	0.7B	0.18C	14.1J								13.4 27.5
2.15 - 2.25	<0.1B	0.18C	11.3J								10.2 20.7
2.5 - 2.6	3.2B	0.32C	15.3J								24.3 42.7
3.5 - 3.6	2B	0.19C	22.4J								19.3 51.7

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
19B1	Carbonates - manometric
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6B3	Total organic carbon - high frequency induction furnace, infrared
7B1	Water soluble nitrate - automated colour
9B1	Bicarbonate-extractable phosphorus - manual colour
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method