

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed335 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: W.T. Ward	Locality: Peter Miller, Noelurma
Date Desc.: 10/02/87	Elevation: 218 metres
Map Ref.: Sheet No. : 8837_N 1:50000	Rainfall: No Data
Northing/Long.: 6654400 AMG zone: 55	Runoff: No Data
Easting/Lat.: 763200 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: No Data	Slope Category: Very gently sloped
Slope: %	Aspect: 180 degrees

Surface Soil Condition (dry): Hardsetting, Recently cultivated

Erosion:

Soil Classification

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

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Dark reddish grey (5YR4/2-Moist); Brown (7.5YR5/4-Dry); ; Light clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 10-20 mm, Granular; Rough-ped fabric; Medium, (5 - 10) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2A11	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 7.5YR54, 2-10% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 6 (pH meter); Few, very fine (0-1mm) roots;
2A12	0.25 - 0.6 m	Dark brown (7.5YR3/2-Moist); , 7.5YR54, 0-2% , 0-5mm, Faint; Light medium clay; Weak grade of structure, 10-20 mm, Subangular 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, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
2A13	0.6 - 1 m	Dark brown (7.5YR3/2-Moist); ; Light medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped 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, subrounded, Calcareous, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
2A14	1 - 2.25 m	Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Weak grade of structure, 10-20 mm, Subangular 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Soft segregations; Field pH 9 (pH meter); Diffuse, Smooth change to -
2B2	2.25 - 2.96 m	Brown (10YR4/3-Moist); , 10YR32, 2-10% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 100-200 mm, Lenticular; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) 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 -

Morphological Notes

A1 The carbonate nodules at 30-40 cm are very small. Large fragment of charcoal at 105 cm. B2 colour is 5YR4/4 at 290.

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2A11 recent accumulation of alluvium, too thin to bury the soil effectively

Observation Notes

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

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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		%
						Cmol (+)/kg			
0 - 0.1	6.28A	0.086A	5.5B	6.42	0.85	1.5			
0.1 - 0.2	6.93A	0.092A	11.7B	13.53	0.9	3.56			
0.3 - 0.4	8.74A	0.195A	14.75B	16.09	0.59	4.8			
0.7 - 0.8	9A	0.307A	15.63B	19.36	0.75	8.04			
1.2 - 1.3	8.96A	0.314A	14.1B	19.87	0.87	6.98			
2.5 - 2.6	9.15A	0.357A	11.32B	27.35	1.09	7.54			

Depth m	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size		Analysis	
	%	%	mg/kg	%	%	%	Mg/m3	GV	CS	FS	Silt Clay
0 - 0.1	<0.1B	1.01C	50.6J								24.3 24.8
0.1 - 0.2	<0.1B	1.06C	19.7J								19.4 40.4
0.3 - 0.4	0.1B	0.87C	2.3J								14.8 39.6
0.7 - 0.8	2.1B	0.5C	24.5J								17.9 47.9
1.2 - 1.3	2.4B	0.44C	25.8J								16.7 46.5
2.5 - 2.6	3.9B	0.2C	9.2J								15.4 54

[illegible]

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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