Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed012** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	A.V.(Alan) Albert, Nabra
Date Desc.:	07/07/86	**Elevation:**	250 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6677100 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	772200 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 flat	**Slope Category:**	Very gently sloped
Slope:	1 %	**Aspect:**	180 degrees

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

Erosion:

Soil Classification

Australian Soil Classification:
N/A
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Ug5.15
Great Soil Group: Brown clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

AC1	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
AC2	0.1 - 0.22 m	Dark brown (7.5YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 20-50 mm; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
2A1	0.22 - 0.7 m	Dark brown (7.5YR3/2-Moist); , 7.5YR44, 0-2% , 0-5mm, Distinct; , 10YR72, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 20-50 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, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
2B21	0.7 - 1 m	Dark reddish brown (5YR3/4-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; Medium heavy clay; Moderate 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; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter); Few, very fine (0-1mm) roots;
2B22	1 - 1.9 m	Dark reddish brown (5YR3/3-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; , 7.5YR32, 0-2% , 0-5mm, Distinct; Medium clay; Moderate 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; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter); Few, very fine (0-1mm) roots;
2B23	1.9 - 3.1 m	Dark reddish grey (5YR4/2-Moist); , 5YR46, 0-2% , 0-5mm, Distinct; , 7.5YR64, 0-2% , 0-5mm, Distinct; Medium clay; 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; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9.5 (pH meter);

Morphological Notes

AC1 0-10 has conchoidal fracture suggesting a recent deposit without soil structure. Ditto for 10-20. I accept this as recent fill or surface wash over prior soil mainly on evidence of inwashed sand from 20-30. Possibly just local redistributio

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AC2 n of surface soil. Prior soil resembles Q.

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, second (brown parna) terraced

Site Notes

This is the backslope of a levee related to a drainageway .75km N. Tendency to weak crust. Few large cracks to 40mm wide show through cultivated surface; 600mm deep. Slicks at bottom of core. Boggy Creek is a prior stream with low terrace s

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.02	8.73A	0.106A	30.48B	12.26	1.94	2.29				
0 - 0.1	8.84A	0.257A	26.59B	13.18	1.41	3.85				
0.1 - 0.2	9.13A	0.261A	26.27B	14.7	0.83	5.95				
0.3 - 0.4	9.28A	0.378A	21.96B	16.19	0.9899999	8.65				
0.7 - 0.8	9.11A	1.008A	17.12B	16.78	1.13	16.3				
1.2 - 1.3	8.95A	1.523A	15.27B	18.38	1.25	20.38				
2.5 - 2.6	9.23A	1.137A	11.46B	16.06	0.93	15.42				

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis				
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.02	<0.1B	1.56C									20.7	56.2
0 - 0.1	0.2B	0.63C	22.2J								20.2	53
0.1 - 0.2	0.6B	0.54C	8.9J								19.9	53.6
0.3 - 0.4	1.1B	0.54C	10.5J								20.8	55.1
0.7 - 0.8	1.3B	0.37C	18J								21.2	58.1
1.2 - 1.3	1.8B	0.12C	20.7J								16.7	65.4
2.5 - 2.6	5.1B	0.05C	17.8J								18.8	48.8

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.02									
0 - 0.1									
0.1 - 0.2									
0.3 - 0.4									
0.7 - 0.8									
1.2 - 1.3									
2.5 - 2.6									

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Laboratory Analyses Completed for this profile

15A2_CA	Exchangeable bases (Ca2+,Mg2+,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