Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed331** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	Peter Miller, Noelurma
Date Desc.:	13/02/87	**Elevation:**	218 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6654200 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): 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.
Great Soil Group: Brown clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR5/2-Dry); ; Fine sandy clay loam; Moderate grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Granular; Smooth-ped fabric; Fine, (0 - 5) 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 -
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Light medium 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; Field pH 8 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.6 m	Dark brown (7.5YR3/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Faint; Light clay; Weak grade of structure, 100-200 mm, Lenticular; Weak 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, Medium (2 -6 mm), Soft segregations; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots; Abrupt,
2A11	0.6 - 1.05 m	Very dark greyish brown (10YR3/2-Moist); ; Light medium clay; Weak grade of structure, 50-100 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, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2A12	1.05 - 2.1 m	Dark grey (10YR4/1-Moist); , 7.5YR54, 0-2% , 0-5mm, Faint; Light medium clay; Moderate grade of structure, 20-50 mm, Lenticular; Massive grade of structure; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; 0-2%, coarse gravelly, 20-60mm, rounded, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2B21	2.1 - 2.95 m	Brown (7.5YR5/4-Moist); , 10YR32, 2-10% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Lenticular; Weak 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; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter);

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2B22	2.95 - 3.4 m	Brown (7.5YR5/4-Moist); , 10YR32, 0-2% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, 100-200 mm, Lenticular; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter);

Morphological Notes

A11p At 60 cm there are some fragments of charcoal and reddish brown clay balls.

Observation Notes

Parent Rock: , , second terraced fan

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m				Cmol (+)/kg				%
0 - 0.1	6.67A	0.051A	8.940001B	8.26	1.3	0.65				
0.1 - 0.2	7.76A	0.072A	17.54B	16.39	1.13	1.4				
0.3 - 0.4	8.61A	0.129A	18.8B	17.46	0.51	2.25				
0.7 - 0.8	9.23A	0.269A	13.18B	19.59	0.58	7.48				
1.2 - 1.3	8.93A	0.395A	11.25B	23.25	0.8100001	8.51				
2.5 - 2.6	9.04A	0.464A	11.28B	26.96	1.02	8.4				
3.3 - 3.4	9A	0.462A	9.76B	26.01	0.9399999	8.36				

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 - 0.1	<0.1B	1.28C	51.8J								18.2	27.5
0.1 - 0.2	<0.1B	1.05C	18.1J								14.9	42.3
0.3 - 0.4	0.4B	1.09C	19.3J								16.3	38.9
0.7 - 0.8	0.3B	0.53C	20.1J								17.5	41.2
1.2 - 1.3	1.8B	0.46C	21.1J								14.9	47.3
2.5 - 2.6	3.4B	0.39C	13.5J								15.2	51.8
3.3 - 3.4	2.1B	0.17C	4.9J								14.7	51.1

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 - 0.1										
0.1 - 0.2										
0.3 - 0.4										
0.7 - 0.8										
1.2 - 1.3										
2.5 - 2.6										
3.3 - 3.4										

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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