Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed114** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	K.J. Smith	**Locality:**	north of Green Timbers
Date Desc.:	09/01/87	**Elevation:**	220 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6663200 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	763600 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): Surface crust, Trampled

Erosion:

Soil Classification

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

Mapping Unit: N/A
Principal Profile Form: Ug5.16
Great Soil Group: Grey clay

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

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; 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; Strong consistence; Field pH 6.7 (pH meter); Few, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.1 - 0.25 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; 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; Field pH 6.7 (pH meter); Few, fine (1-2mm) roots;
A13	0.25 - 0.5 m	Very dark grey (10YR3/1-Moist); ; Medium heavy clay; 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; Very strong consistence; Field pH 7.5 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
A14	0.5 - 1.1 m	Very dark grey (10YR3/1-Moist); , 10YR73, 0-2% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 20-50 mm, Lenticular; 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 strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Common, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	1.1 - 1.9 m	Dark reddish grey (5YR4/2-Moist); , 10YR31, 2-10% , 5-15mm, Distinct; , 10YR73, 2-10% , 5-15mm, Faint; Medium heavy clay; Moderate grade of structure, 50-100 mm, Lenticular; 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; Strong consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1.9 - 2.67 m	Dark reddish grey (5YR4/2-Moist); , 10YR31, 0-2% , 0-5mm, Distinct; , 10YR73, 2-10% , 5-15mm, Faint; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; 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 strong consistence; Few (2 - 10 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 8.5 (pH meter);

Morphological Notes

A11 Layer .04 represents the wedge-structure and slickensides A13 horizon. This profile is

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Observation Notes

Parent Rock: alluvial sediment, clay, mixed texture, with lime parna on third fan

Site Notes

Large deep open cracks.

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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	6.42A	0.277A	16.22B	9.41	2.31	0.4				
0 - 0.1	6.6A	0.442A	16.38B	9.38	2.28	1.17				
0.1 - 0.2	7.35A	0.186A	22.18B	11.4	1.25	1.52				
0.3 - 0.4	8.23A	0.13A	23.49B	11.94	0.69	1.87				
0.7 - 0.8	8.79A	0.208A	24.58B	13.86	0.67	3.73				
1.2 - 1.3	8.75A	0.292A	22.49B	13.74	0.78	3.78				
2.5 - 2.6	9.01A	0.32A	22.02B	12.7	0.67	4.24				

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	2.4C									22.2	47.3
0 - 0.1	<0.1B	1.74C	63.1J								22.1	46.9
0.1 - 0.2	<0.1B	0.94C	13.7J								22.2	50.9
0.3 - 0.4	<0.1B	0.74C	8.3J								23.5	50.6
0.7 - 0.8	0.1B	0.55C	18.4J								24.1	54.7
1.2 - 1.3	0.4B	0.28C	19J								24.1	52.8
2.5 - 2.6	0.8B	0.13C	5.1J								18.4	51.4

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