Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed115** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	D. McGarry	**Locality:**	stock route, near Lockslea
Date Desc.:	01/09/85	**Elevation:**	226 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6663000 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	766300 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:**	Very gently sloped
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: Ug5.15
Great Soil Group: Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.12 m	Very dark grey (10YR3/1-Moist); Dark grey (10YR4/1-Dry); ; Light medium clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 6.8 (pH meter); Common, fine (1-2mm) roots; Clear, Smooth change to -
A12	0.12 - 0.25 m	Very dark grey (10YR3/1-Moist); Very dark grey (10YR3/1-Dry); ; Light medium clay; Weak grade of structure, 20-50 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; Field pH 7 (pH meter); Common, very fine (0-1mm) roots;
A13	0.25 - 0.7 m	Very dark greyish brown (10YR3/2-Moist); , 10YR63, 0-2% , 5-15mm, Distinct; Medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Quartz, coarse fragments; Field pH 8.3 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
B2	0.7 - 1.18 m	Dark brown (10YR3/3-Moist); , 10YR63, 2-10% , 5-15mm, Distinct; Light medium clay; Weak grade of structure, 50-100 mm, Subangular blocky; Rough-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 8.7 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
2B21	1.18 - 1.9 m	Brown (7.5YR4/4-Moist); , N40, 2-10% , 0-5mm, Distinct; , 10YR73, 2-10% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Fine (1-2mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Very few (0 - 2 %), Manganiferous, Fine (0 - 2 mm), Nodules; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
2B22	1.9 - 2.69 m	Strong brown (7.5YR5/6-Moist); , 7.5YR42, 2-10% , 0-5mm, Distinct; , N30, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 50-100 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; Field pH 7.8 (pH meter);

Morphological Notes

A11 It was not possible to sample an immediate surface horizon, though the surface had 1-2mm dispersed material of 10YR5/2. Differentiation of A11 and A12 layers on basis of

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A12	looseness. A12 being most dense. Dark clay stops abruptly at a shallow depth, i.e. 70cm. The buried B21b is very well structured. B22b appeeared more sandy than B21b but this was not evident in the texture.

Observation Notes

Parent Rock: , , parna on third fan

Site Notes

Surface seems a little dispersive and crusty.

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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	6.91A	0.068A	12.76B	7.48	1.77	0.53				
0 - 0.1	7.03A	0.1A	14.99B	9.75	1.62	0.63				
0.12 - 0.2	7.37A	0.081A	19.39B	13.26	1.06	1.27				
0.3 - 0.4	8.27A	0.106A	19.99B	15.56	0.82	2.26				
0.7 - 0.8	8.79A	0.251A	15.25B	14.52	0.69	2.44				
1.2 - 1.3	9.11A	0.205A	14.49B	13.73	0.6	2.58				
2.5 - 2.6	8.46A	0.112A	16.21B	13.29	0.5	2.66				

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	1.98C									16.3	36.2
0 - 0.1	<0.1B	1.49C	65.1J								16.4	40.7
0.12 - 0.2	<0.1B	1.07C	15.9J								15.8	49.5
0.3 - 0.4	<0.1B	0.94C	15.7J								16.6	53.9
0.7 - 0.8	4.9B	0.37C	25.7J								22.9	45.6
1.2 - 1.3	2.1B	0.18C	11.4J								23.4	41.2
2.5 - 2.6	<0.1B	0.13C	17.3J								20.4	44.2

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									
0.12 - 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