Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed047** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G.M. Roberts	**Locality:**	Geoff Hall, New Acres
Date Desc.:	01/08/85	**Elevation:**	252 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6672100 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	772000 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, 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

A11p	0 - 0.08 m	Very dark grey (10YR3/1-Moist); Very dark greyish brown (10YR3/2-Dry); ; Light medium clay; Massive grade of structure; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12p	0.08 - 0.25 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Weak grade of structure, 20-50 mm, Subangular blocky; Earthy fabric; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8.7 (pH meter); Few, very fine (0-1mm) roots;
A13p	0.25 - 0.7 m	Very dark greyish brown (10YR3/2-Moist); ; Medium heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Moderate grade of structure, 5-10 mm, Lenticular; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Field pH 8.8 (pH meter); Few, very fine (0-1mm) roots;
B21	0.7 - 1 m	Brown (7.5YR4/4-Moist); , 10YR32, 10-20% , 15-30mm, Faint; , 10YR83, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Weak grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Clear, Smooth change to -
B22	1 - 1.38 m	Brown (7.5YR4/4-Moist); , 10YR32, 10-20% , 15-30mm, Faint; , 10YR83, 0-2% , 0-5mm, Distinct; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 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 (pH meter); Gradual, Smooth change to -
B23	1.38 - 2.68 m	Brown (7.5YR4/4-Moist); , 10YR32, 2-10% , 15-30mm, Faint; Medium clay; Massive grade of structure; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Firm consistence; Field pH 8.7 (pH meter);

Morphological Notes

A11p	Worm casts from 140-198. Visible crack depth is 29cm. Stubble retention site.

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Observation Notes

Parent Rock: alluvial sediment, clay, first terraced fan

Site Notes

Wheat stubble remains on the field.

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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	8.7A	0.131A	32.99B	11.93	2.11	0.48				
0 - 0.08	8.08A	0.202A	31.06B	12.54	1.91	0.79				
0.1 - 0.2	8.77A	0.095A	31.71B	15.03	1.28	1.41				
0.3 - 0.4	9.17A	0.19A	29.62B	18.92	1.08	3.79				
0.7 - 0.8	9.57A	0.337A	20.15B	21.51	0.91	9.38				
1.2 - 1.3	9.34A	0.596A	15.31B	20.24	0.88	9.3				
2.5 - 2.6	8.89A	0.938A	12.98B	17.5	0.69	6.77				

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	0.5B	1.36C									14.5	52.6
0 - 0.08	0.2B	2.12C	40.8J								14.8	51.4
0.1 - 0.2	0.1B	1.25C	24.8J								16	55.5
0.3 - 0.4	1.3B	1.18C	27.9J								17.5	56.9
0.7 - 0.8	2.3B	0.89C	40.1J								18.5	55.2
1.2 - 1.3	2.1B	0.33C	26.3J								22.5	51.4
2.5 - 2.6	0.7B	0.11C	16.9J								18.7	43.5

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 - 0.08									
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