Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed106** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	M.A. & L.A. Fromm, Longview
Date Desc.:	11/12/86	**Elevation:**	193 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6663600 AMG zone: 55	**Runoff:**	No Data
Easting/Lat.:	741600 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:**	Level
Slope:	0 %	**Aspect:**	No Data

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: Ug5.16
Great Soil Group: Brown clay

Site Disturbance: Cultivation. Irrigated, past or present, Cultivation. Rainfed,

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11p	0 - 0.1 m	Dark brown (10YR3/3-Moist); Dark greyish brown (10YR4/2-Dry); ; Heavy clay; Moderate grade of structure, 5-10 mm, Granular; 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; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; 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; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.75 m	Dark brown (7.5YR3/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; Medium clay; Moderate 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; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
B21	0.75 - 1 m	Dark reddish brown (5YR3/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Prismatic; 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 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
B22	1 - 1.9 m	Dark reddish brown (5YR3/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; Light medium clay; Weak grade of structure, 20-50 mm, Prismatic; 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 (pH meter);
B23	1.9 - 2.69 m	Dark reddish grey (5YR4/2-Moist); , 7.5YR64, 0-2% , 0-5mm, Distinct; , 5YR43, 0-2% , 0-5mm, Faint; Light medium clay; Weak grade of structure, 50-100 mm, Prismatic; 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 8.5 (pH meter); Few, very fine (0-1mm) roots;

Morphological Notes

A11p	Structure at 30-40cm is tending towards prismatic. Soil from red terrace Q. A thin discontinuous band of coarse fragments at 145cm ?marks a change in deposition?

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A12	There is possibly another subtle break around 230cm, going by darker appearance. Ug5.16 is closest key.

Observation Notes

Parent Rock: alluvial sediment, clay, second terraced fan, Namoi

Site Notes

Light reddish brown surface.

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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 - 0.02	8.08A	0.192A	30.17B	7.1	2.15	0.28				
0 - 0.1	8.13A	0.173A	25.74B	6.6	1.82	0.34				
0.1 - 0.2	8.45A	0.154A	27.8B	8.26	1.06	0.46				
0.3 - 0.4	8.57A	0.162A	25.07B	11.03	0.69	0.95				
0.7 - 0.8	8.72A	0.25A	20.49B	14.55	0.57	2.3				
1.2 - 1.3	8.6A	0.437A	20.97B	15.16	0.62	3.17				
2.5 - 2.6	8.62A	0.335A	19.78B	15.16	0.57	3.72				

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	0.3B	1.69C									23.7	58.1
0 - 0.1	1.5B	1.96C	62.9J								22.1	57.9
0.1 - 0.2	3.5B	1.23C	16.7J								22.5	56.9
0.3 - 0.4	4.4B	1.01C	10J								23.7	56.6
0.7 - 0.8	4.9B	0.69C	5.5J								24.7	57
1.2 - 1.3	1.9B	0.46C	9.1J								28.1	57
2.5 - 2.6	0.2B	0.27C	22.7J								28.3	61.1

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 - 0.02									
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