Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed332** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	W.T. Ward	**Locality:**	Peter Miller, Noelurma
Date Desc.:	09/02/87	**Elevation:**	217 metres
Map Ref.:	Sheet No. : 8837_N 1:50000	**Rainfall:**	No Data
Northing/Long.:	6654100 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: N/A
Great Soil Group: Grey clay

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.1 m	Dark reddish brown (5YR3/2-Moist); Brown (7.5YR5/4-Dry); ; Light clay; Moderate grade of structure, 20-50 mm, Subangular blocky; Rough-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subrounded, Basalt, coarse fragments; Field pH 6 (pH meter); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); , 7.5YR54, 0-2% , 0-5mm, Distinct; 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 8.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.4 m	Dark brown (7.5YR3/2-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; 2-10%, medium gravelly, 6-20mm, rounded, Consolidated rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
C	0.4 - 0.6 m	Brown (7.5YR5/4-Moist); , 7.5YR32, 20-50% , 15-30mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Prismatic; 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; Strong consistence; 2-10%, coarse gravelly, 20-60mm, rounded, Consolidated rock (unidentified), coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth
2A11	0.6 - 1.05 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; Moderate 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; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Sharp, Smooth change to -
2A12	1.05 - 2.2 m	Dark grey (10YR4/1-Moist); , 7.5YR54, 0-2% , 0-5mm, Faint; Light medium clay; Weak grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Common (1-5 per 0.01m2) Medium (2-5mm) macropores, Moderately moist; Strong consistence; Field pH 9 (pH meter); Diffuse, Smooth change to -

Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed332** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

2B21	2.2 - 2.9 m	Brown (7.5YR5/4-Moist); , 10YR41, 2-10% , 5-15mm, Distinct; Light medium clay; Moderate 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) Fine (1-2mm) macropores, Moderately moist; Strong consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Very few (0 - 2 %), Calcareous, Medium (2 -6 mm), Nodules; Field
2B22	2.9 - 3.44 m	Reddish brown (5YR5/4-Moist); , 7.5YR52, 0-2% , 0-5mm, Faint; Medium clay; Moderate grade of structure, 100-200 mm, Lenticular; 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 firm consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 8.7 (pH meter);

Morphological Notes

A11	Very little sign of cultivated structure in top 10cm. Contrast between colours in top 10cm of core is perhaps enough to justify a second burial. Fine gravel and sand at 120cm mark the basal parent sediment of buried soil 2A1a. 120-130cm, so
A12	me effervescence in the fine earth. At 240cm a worm cast infilled with sand. Rock is alluvium over prior soil (below 220). 10cm surface wash over earlier alluvium to 40cm on prior alluvium to 105.
2A11	recent accumulation of alluvium, too thin to bury the soil effectively

Observation Notes

Parent Rock: alluvial sediment, mixed texture, with lime, second terraced fan

Site Notes

Project Name: Soil Studies in the Lower Namoi Valley
Project Code: EDGEROI **Site ID:** ed332 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

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 - 0.1	6.73A	0.06A	7.08B	7.77	0.82	1.28				
0.1 - 0.2	8.22A	0.071A	16.53B	17.49	0.83	2.75				
0.3 - 0.4	9.12A	0.198A	13.71B	17.03	0.48	4.12				
0.4 - 0.5	9.21A	0.219A	11.04B	15.43	0.38	4.79				
0.7 - 0.8	9.02A	0.441A	11.07B	19.03	0.65	7.98				
1.2 - 1.3	8.92A	0.459A	11.39B	19.65	0.8100001	7.36				
2.5 - 2.6	9.07A	0.463A	10.96B	25.73	1.06	8.33				
3.2 - 3.3	8.79A	0.364A	10.18B	26.4	0.93	9				

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	1.09C	42.9J								15.7	25.5
0.1 - 0.2	<0.1B	0.88C	7.3J								13	44.1
0.3 - 0.4	1.2B	0.76C	18.1J								16.3	36.9
0.4 - 0.5	0.7B	0.53C	24.3J								12.8	30.7
0.7 - 0.8	1.4B	0.56C	21.1J								18.1	40.6
1.2 - 1.3	1.2B	0.42C	18.4J								16.1	42.7
2.5 - 2.6	1B	0.42C	12.7J								18.5	55.2
3.2 - 3.3	0.4B	0.49C	1.9J								22.2	53.3

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										
0.4 - 0.5										
0.7 - 0.8										
1.2 - 1.3										
2.5 - 2.6										
3.2 - 3.3										

Project Name: **Soil Studies in the Lower Namoi Valley**
Project Code: **EDGEROI** **Site ID:** **ed332** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

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