

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed330 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

**Site Information**

<b>Desc. By:</b>	W.T. Ward	<b>Locality:</b>	Peter Miller, Noelurma
<b>Date Desc.:</b>	19/02/87	<b>Elevation:</b>	218 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6654300 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	763200 Datum: AGD66	<b>Drainage:</b>	No Data

**Geology**

<b>ExposureType:</b>	Undisturbed soil core	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

**Land Form**

<b>Rel/Slope Class:</b>	No Data	<b>Pattern Type:</b>	No Data
<b>Morph. Type:</b>	No Data	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	No Data	<b>Slope Category:</b>	Very gently sloped
<b>Slope:</b>	0 %	<b>Aspect:</b>	180 degrees

**Surface Soil Condition (dry):** Self-mulching, Recently cultivated

**Erosion:**

**Soil Classification**

<b>Australian Soil Classification:</b>	N/A	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	Confidence level not specified	<b>Principal Profile Form:</b>	N/A
		<b>Great Soil Group:</b>	Brown clay

**Site Disturbance:** Cultivation. Rainfed

**Vegetation:**

**Surface Coarse Fragments:**

**Profile Morphology**

	0 - 0.1 m	; Loam;
A1	0.1 - 0.24 m	Brown (7.5YR4/4-Moist); ; Silty clay; Moderate grade of structure, 20-50 mm, Platy; Weak grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Medium, (5 - 10) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B2	0.24 - 0.55 m	Brown (7.5YR4/2-Moist); ; Light medium clay; Moderate grade of structure, 20-50 mm, Platy; Weak grade of structure, 2-5 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
C	0.55 - 0.82 m	Yellowish brown (10YR5/4-Moist); , 7.5YR42, 20-50% , 5-15mm, Prominent; Light clay; Weak grade of structure, 5-10 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Sharp, Smooth change to -
2A11	0.82 - 1.4 m	Dark brown (7.5YR3/2-Moist); , 7.5YR44, 0-2% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Medium (2 - 6 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
2A12	1.4 - 2.8 m	Very dark brown (10YR2/2-Moist); , 7.5YR44, 0-2% , 0-5mm, Distinct; Medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) 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 pH 9 (pH meter); Diffuse, Smooth change to -
2B2	2.8 - 3.44 m	Brown (7.5YR4/4-Moist); , 7.5YR32, 0-2% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 50-100 mm, Lenticular; Weak grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Strong consistence; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Field pH 9 (pH meter);

**Morphological Notes**

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2A11      Top 10cm was lost in transport. Coarse fragments at 250-260 are in-washed sand.  
recent accumulation of alluvium, too thin to bury the soil effectively

**Observation Notes**

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

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na	Acidity		%
						Cmol (+)/kg			
0 - 0.1		<0.1A	6.05B	6.54	0.24	6.54			
0.1 - 0.2	7.33A	0.074A	15.78B	12.55	0.63	0.66			
0.3 - 0.4	8.1A	0.066A	20.18B	16.19	0.47	1.47			
0.7 - 0.8	8.82A	0.192A	14.73B	16.56	0.43	3			
1.2 - 1.3	9.02A	0.258A	11.94B	21.97	0.59	5.94			
2.5 - 2.6	9.08A	0.277A	12.47B	24.17	0.87	7.8			
3.3 - 3.4	9.21A	0.388A	10.54B	25.94	0.98	8.34			

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**Laboratory Analyses Completed for this profile**

15A2_CA	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 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