

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed184 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b>	K.J. Smith	<b>Locality:</b>	Peter Miller, Noelurma
<b>Date Desc.:</b>	23/06/86	<b>Elevation:</b>	215 metres
<b>Map Ref.:</b>	Sheet No. : 8837_N 1:50000	<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6653600 AMG zone: 55	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	763400 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>	Terrace flat	<b>Slope Category:</b>	Very gently sloped
<b>Slope:</b>	0 %	<b>Aspect:</b>	No Data

**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>	Ug5.15
		<b>Great Soil Group:</b>	Grey clay

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11p	0 - 0.08 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); , 10YR72, 0-2% , 0-5mm, Distinct; Light clay; Weak grade of structure, 5-10 mm, Subangular blocky; Moderate grade of structure, 2-5 mm, Granular; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Very fine (0.075-1mm) macropores, Moderately moist; Weak consistence; Field pH 6.8 (pH meter); Common, very fine (0-1mm) roots; Abrupt, Wavy change to -
A12	0.08 - 0.25 m	Dark brown (10YR3/3-Moist); ; Medium clay; Weak grade of structure, 20-50 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; Very firm consistence; Field pH 7.8 (pH meter); Few, very fine
A13	0.25 - 0.55 m	Dark brown (7.5YR3/2-Moist); ; Medium heavy clay; Weak grade of structure, 20-50 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; Firm consistence; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A14	0.55 - 1 m	Dark brown (7.5YR3/2-Moist); , 10YR43, 2-10% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 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; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter); Few, very fine (0-1mm) roots;
A15	1 - 2 m	Dark brown (7.5YR3/2-Moist); , 10YR53, 0-2% , 0-5mm, Faint; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Moderately moist; Very firm consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 9 (pH meter); Diffuse, Smooth change to -
B2	2 - 2.74 m	Dark brown (10YR3/3-Moist); , 10YR41, 2-10% , 0-5mm, Distinct; Light medium clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Smooth-ped fabric; Fine, (0 - 5) mm crack; Few (<1 per 100mm <sup>2</sup> ) Fine (1-2mm) macropores, Moderately moist; Very strong consistence; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 9 (pH meter);

#### Morphological Notes

A11p One fragment of 0-8 shows sand skin ?surface crust. Lime nodules start at 60cm. 70-80 has brownish tint coating aggregates. Carbonate at 150 has coat of manganese. At 110 is inwashed sand in worm burrow. Note depth of A horizon over B. Tops

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A12      oil is brownish to 50cm and then is grey, suggesting possibility of burial.

**Observation Notes**

Parent Rock: alluvial sediment, mixed texture, with lime, parna on third fan

**Site Notes**

Rough cultivated surface, so no handpen or shearvane. Surface has a brown appearance. Wheat planted into cultivated

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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 - 0.02	7.4A	0.087A	10.51B	12.35	1.29	1.24			
0 - 0.08	7.04A	0.129A	9.3B	15.76	1.36	1.41			
0.1 - 0.2	7.53A	0.1A	13.15B	17.88	0.84	2.07			
0.3 - 0.4	9.06A	0.235A	13.23B	19.9	0.4	3.52			
0.7 - 0.8	9.27A	0.349A	11.83B	25.13	0.6	6.5			
1.2 - 1.3	9.16A	0.387A	14.03B	25.67	0.78	5.51			
2.5 - 2.6	9.24A	0.335A	8.89B	26.58	0.77	4.82			

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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