

**Project Name:** Soil Studies in the Lower Namoi Valley  
**Project Code:** EDGEROI **Site ID:** ed153 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (QLD)

#### Site Information

<b>Desc. By:</b> W.T. Ward	<b>Locality:</b> Peter Wilson, Mayfield
<b>Date Desc.:</b> 29/01/86	<b>Elevation:</b> 258 metres
<b>Map Ref.:</b> Sheet No. : 8837_N 1:50000	<b>Rainfall:</b> No Data
<b>Northing/Long.:</b> 6658000 AMG zone: 55	<b>Runoff:</b> No Data
<b>Easting/Lat.:</b> 774400 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> Level
<b>Slope:</b> 0 %	<b>Aspect:</b> No Data

**Surface Soil Condition (dry):** Surface crust, 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> Ug6.1
	<b>Great Soil Group:</b> Grey clay

**Site Disturbance:** Cultivation. Rainfed

#### Vegetation:

#### Surface Coarse Fragments:

#### Profile Morphology

A11	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Dark brown (7.5YR3/2-Dry); ; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Weak 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; Firm consistence; Field pH 7 (pH meter); Few, very fine (0-1mm) roots;
A12	0.1 - 0.25 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; Weak grade of structure, 5-10 mm, Subangular blocky; Earthy fabric; Moderately moist; Firm consistence; Field pH 7.5 (pH meter); Few, very fine (0-1mm) roots;
A13	0.25 - 0.5 m	Dark brown (7.5YR3/2-Moist); ; Medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, subangular, Quartz, coarse fragments; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots; Gradual, Smooth change to -
B21	0.5 - 1 m	Dark reddish brown (5YR3/3-Moist); , 5YR32, 0-2% , 5-15mm, Faint; , 10YR84, 0-2% , 0-5mm, Distinct; Medium heavy clay; Weak grade of structure, 20-50 mm, Angular blocky; Moderate grade of structure, 2-5 mm, Cast; Earthy fabric; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, subangular, Sandstone, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Nodules; Field pH 8.5 (pH meter); Few, very fine (0-1mm) roots;
B22	1 - 1.6 m	Dark reddish brown (5YR3/3-Moist); , 5YR64, 0-2% , 0-5mm, Distinct; , 5YR32, 0-2% , 5-15mm, Faint; Medium heavy clay; Moderate grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 2-5 mm, Cast; Earthy fabric; 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, Basalt, coarse fragments; Very few (0 - 2 %), Calcareous, Fine (0 - 2 mm), Soft segregations; Field pH 8.7 (pH meter); Diffuse, Smooth change to -
C	1.6 - 2.63 m	Dark reddish brown (5YR3/4-Moist); ; Medium heavy clay; Moderate grade of structure, 20-50 mm, Prismatic; Smooth-ped fabric; Fine, (0 - 5) mm crack; Moderately moist; Strong consistence; 0-2%, medium gravelly, 6-20mm, rounded, Sandstone, coarse fragments; Field pH 8.5 (pH meter);

#### Morphological Notes

A11 Clayey sand with gravel from 200-230, very little carbonate in 250-260. 250-260 is a weathered band in parent material, stoneline above. This is a coarse textured (?) brown clay/"rbe" intermediate.

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

**Site Notes**

There are many, fine (0.2-1cm) surface cracks, none penetrate >2cm. Surface has weak crust, not moderate, quite dispersive.  
Q, extensive terrace, gravel in sandy material.

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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	7.46A	0.049A	9.86B	9.79	1.85	0.38			
0 - 0.1	7.61A	0.109A	9.84B	12.41	1.47	0.86			
0.1 - 0.2	8.09A	0.083A	12.36B	14.61	1.24	1.29			
0.3 - 0.4	8.81A	0.183A	11.37B	15.56	0.71	2			
0.7 - 0.8	9.12A	0.344A	9.42B	17.14	0.73	4.36			
1.2 - 1.3	9.17A	0.35A	8.23B	14.04	0.86	3.71			
2.5 - 2.6	8.81A	0.175A	9.74B	17.46	0.98	3.91			

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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